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THE

CYCLOPÆDIA;

OR.

Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

VOL. VII.

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CYCLOPÆDIA:

OR, A NEW

UNIVERSAL DICTIONARY

OF

ARTS and SCIENCES.

CASTRAMETATION.

ASTRAMETATION is, in its strict and limited fenfe, the art of tracing out and disposing of, advantageously and regularly, the different parts of a camp on the ground. But taken in its more indefinite and unlimited acceptation, it extends to and is connected with all the ordinary operations of the campaign, as well as the conducting and management of fieges. Under the first of these confiderations, an able officer, in choofing fituations for the encampment of his troops, will endeavour to derive advantages from every fituation, of which the variety is almost endless and indefinite, that nature prefents to his view, as plains, mountains, passes, hollow ways, ponds, marshes, rivers, particularly fuch as are navigable and commodious for the transportation of stores and provisions, rivulets fit for forming inundations, woods convenient for making abattes and furnishing abundance of palifades and fire-wood; politions advantageoully fituated for works, for commanding and keeping open his communications with those tracts or districts of country from which he draws his supplies of forage and provisions; for covering and protecting his convoys; for fecuring a fufficiency of ground commodious for drawing up his troops on in order of battle, if necessary, and for their facile and expeditious performance of all the requilite movements without diforder or confusion even in the face of the enemy; and posts well calculated for bridling the enemy's operations, and checking his inroads into his country, whilft they facilitate his incursions into the enemy's. He should not only be capable of discerning these advantages, but should also be able to turn them immediately to account without fuffering the opportunity of profiting by them to escape him. And under the last of these considerations, when the besieging army is unavoidably fo encamped, as is indeed oftener the cafe than otherwife, that the different parts of it are separated from one another by rivers, great or small, ravines, or other obstacles and obstructions, he should know how to open and esta-Vot. VII.

blish such communications between them, in the most expeditious manner, as will render their co-operations, in either covering, forwarding, and protecting the different branches of the approaches, or in checking and curbing the fallies of the belieged, as convenient, easy, and efficient as possible. He should not only be able to discern, almost immediately, the positions in the environs of the place most advantageously fituated for facilitating these purposes, but ought to occupy them whether they be a little too near to or too far from the enemy's works, taking care to keep the rear of his camp (the form or figure of which he must change or vary from what is cultomary, but, at the same time, fecundum artem to make it fuit his fituation and circumstances) out of the reach of their cannon. He should know how to determine without lofs of time the precife diffance from the works of the place he invelts, necessary for the safety and security of his camp against annoyance from them, that he may avoid the unnecessary labour, clay, and trouble of throwing up too extensive lines of circumvallation. He should carefully guard against his camp's being looked into by commanding ground near any part of it in front, on either flank, or in the rear. For it is better to occupy such eminences with good redoubts or to make the lines themselves communicate with them, than to leave the camp exposed to danger or molestation. And in the disposition or arrangement of the line of circumvallation for its defence, he ought to avail himfelf of heights. rivers, ravines, theep banks, and flopes, dikes, ditches, pits, walls, buildings, fences, abattes, thickets, &c. and, in fhort, every thing that can be embraced by it, and from which any additional strength or advantage can be derived to it.

In every country its quarter-mafter general ought to be a man of the most extensive military knowledge and information, as ruinous consequences may result from his being a person of a different description. And the officers under him ought also to be men of the first intelligence. They

ough

ought not only to understand how to trace out ground for troops to encamp in the usual or customary manner, but they ought also to be so far conversant in geometry and in the doctrine of ratios or relations, as to be able without confining themselves to the rules prescribed by any writer on castrametation, none of which are applicable to every fituation, with promptitude and readiness to vary the form of an encapment in such a manner as to make it suit the circumstances they are placed in, preserving, at the same time, in the different parts of it order, regularity, and due proportion. They should possess showledge enough to enable them to differ immediately which of two positions, apparently in other respects alike advantageous for an encampment, is capable of being secured and defended with the principles of fortification, and particularly of irregular construction, without which the coup deal itself cannot be carried to much perfection. And they should, in short, be well acquainted with the doctrine of positions and the combinations of attack and defence, which, united, form the sublime vertical carried.

Every nation, or tribe of people, even the most savage and uncivilized, has had a particular mode of encamping. But by whom a regular method of forming an encampment was first introduced, cannot with certainty be determined. As some knowledge, however, of geometry, was necessary tracing out a camo regularly, it is more than probably, but regular eastrametation was first made use of in Egypt. The great numbers of people affembled together, and camplayed in digging the immense canais, and on other prodigions public works in that country, must have been encamped, as they could not return home daily. The stractice, shower they left Egypt, must have been often and long encamped, and, of course, after the manner of the Egyptians. Moses gives us no account of the way in which they encamped, either in Etham, or near Pi-habiroth, in front of Baal-zephon, before he carried them across the Red Sea. But in the second chapter of the book of Numbers he delivers a general one of what he was commanded to observe in regard both to their cultivametation and order of march. They were ordered to pitch their tents, every man by his own empt, and by his own standard, throughout their feveral holds.

Those, who were under the standard of Judah, viz. the tribes of Judah, Islachar, and Zebulun, to the amount of 185 aco is the inguity of the fun. These, on decumping, were to set from Netherlands of the fun. These, on decumping, were to set from Netherlands of the van, and were commanded by Nahaban, Nethenseel, and Elvah.

Thate under the flandard of Reuben, viz. the tribes of Reuben, Simeon, and Gad, amounting to 151,450 warriors, formed the fouth fide of the camp. There, on decamping, for first in the frond rank, and were commanded by Elizur, Saelumich, and Elistaph.

Those under the standard of Ephraim viz. the tribes of Ephraim. Manaffels, and Benjamin, amounting to 125,105 combatonts, formed the west fide, and were commanded by Etishrana. Gamaliei, and Abidan. These, however, on a march, did not follow immediately those that formed the fourth fide of the camp, but the Levites, who with the tabernacle followed the warriors under the standard of Reu-

These under the standard of Dan, viz. the tribs of Dan. Asher, and Naphtali, to the number of 157,000 fighting men, formed the north side, and were commanded by Ahiezer, Pagiel, and Ahira. These, on a march, brought up the rear.

In the middle of that immense encampment, the Levites, to the number of 22,000, encamped with the tabernacle of the congregation afar off from the fides of the camp, with Moses and Aaron and his sons in front of it, towards the east.

It is probable, may almost evident, that this huge camp was a square, or nearly so. For although the number of fighting men that pitched their tents under the standard of fighting men that pitched their tents under the standard of Judah, on the cast is lee of the camp, amounted to 186,400, exceeding the number of those who encamped towards the well, or on the opposite side of the camp, under the standard of Ephraim, by 78,300, yet the number of warriers encamped on the north side of it, under the standard of Dan, amounting to 157,600, exceeded the number of those encamped on the fourth side, under the standard of Reuben, by 6,150 only. Now had they encamped in the same manner as we must reasonably suppose they did, and with the same depth in each front or side, their camp would have been a trapezium, having its sides to one another as the numbers 186,400, 157,600, 154,450, 128,100. This, however, would have been a very awkward and inconvenient signer for it: but by making the depth of the encampment on the east side to that on the north side as 180 to 157, and the depth of it on the well and sonth sides respectively as 108 and 151 to 157, they might easily have made their camp a square. And it is more than probable, that it was a peried square. And it is more than probable, that it was a peried square when the ground admitted of it, for Mose was skilled in all the knowledge and learning of the Egyptians, and they were fessionally acquainted with geometry to know that of all rectilinear squares with the same perimeter, the square contains the greatest area.

'Mofes neither informs us how their tents were arranged, nor whether they furrounded their camp with an intremehment. That fanciful French writer, however, M. de Folard, in his "Traité de l'Attaque et de la Defenfe des Places des Anciens," article third, roundly afferts, that Mofes always intremehed his camps. In freaking of lines of circumvallation and countervellation, he uses the following words: "On ignore que des Egyptiens, des Juifs, des Affyriens, ou des Medes, Pen eft fervi le premier. Je pencherois plutot pur les premiers que pour les autres, parce que je les crois plus anciens. Mosfe fe retrancha toujours dans ses campeners. L'ecriture ne dit pas qu'il été le premier, qui se soit fevi de ces sortes de precautions; et lorsqu'elle parle de l'invelture des villes on ne voit rien, que puisse marquer ou fei e coui édurer oue c'ettl nour la premier feis:"

Mofes tells as that the firaelites, on quitting their camp, moved in four large bodies, of three tribes each, with the Levites and the tabernacle of the congregation between the forond and third of their divitions.

The Romans alfo, on quitting their camp, marched in five principal bodies or divitions; for the extraordinaries led the van; next after them marched the allies of the right wing, who were followed by the baggage of both; after them marched the fielt of the two Roman legions, with its own baggage behind it; then followed the feeoud legion with both its own baggage behind it, and that of the allies of the left wing, who closed the rear. The cavalry marched fometimes in the rear of the respective bodies to whom they belonged, and fometimes on the flanks of the beads of burden loaded with the baggage, keeping them together, and covering them from infult. When any attack was expected to be made upon the rear, the extraordinaries of the alies were placed there, instead of leading the van. The two legions and the two wings of the allies changed their places daily on a march, which the four principal bodies of the Ifraelites do not appear to have done, that they

might

and forage. When they were threatened with any immediate danger, and were marching through an open country, they advanced in three parallel lines behind one another, with il e baggage of each line in its front.

Before the end of a march, and the approach of the army to the place of encampment, a tribune, accompanied by fome centurions, advanced to examine and furvey the ground, to determine the fituation of the confular tent, and on which fide of it the legions could be most conveniently en-

camped.

As to the castrametation of the Romans, according to Polybius, and during the commonwealth, fee the article CAMP. The French Encyclopedifts, following Justin Lipfins, chiefly make it nearly an equilateral quadrangle or fquare; but Polybius makes it a perfect fquare.

As to the calframetation of the Greeks, we understand from Polybius that they had no invariable, fixed, or determinate method of encamping. Xenophon, in treating of the Lacedæmonian republic, delivers Lycurgus's fertiments respecting castrametation, and informs us, that that lawgiver regarding the four angles of a quadrangle, or fquare, as ufeless, enjoined the circular form for a camp, unless it were fecured by a mountain, or had its rear covered by a wall or river. His words are thefe: " Epw de wal n spatomedeusodas ενομισε χρηνάι Λυκουργος δία μέν γας το τας γωίας το τετραγωνου άχρητους ειναι, κυκλον ετρατοπεδευσατο, ελ μη όρος ασφαλές έίη, ή TOXXXX TITLE V CONTENT X 101."

Even this mode of caltrametation, delivered by Lycurgus, was not fixed or determinate, but might vary with the circumstances of ground and fituations; and we have the authority of Polybius for afferting, that the Greeks in general, when they encamped, confidered chiefly the natural firength of the polition they chole for that purpole, and accommodated to it the admeasurement and disposition of the different parts of their camp, partly from anxiety to avoid the labour of throwing up an intrenchment round it, and partly from the perfusiion that works raifed by art are lefs fecure than those that are made by nature. In compliance with what the nature of the ground demanded, they were accordingly obliged not only to give their camp occasionally every kind of figure, but also to vary the positions and dimenlions of its feveral parts, as the place for each was favourable or otherwife. Hence, this judicious historian tells us, arose that great inconvenience, namely, that the Grecian soldier never knew either his own place in the camp, or that of the body to which he belonged. On the other hand, he fays, the Romans willingly submitted to the task of throwing up an intrenchment, and to other painful labours, for the fake of the advantage they found in employing a method of caltrametation that was never changed, and which rendered all the parts of the camp familiar to the army.

The Romans also, on their marches, cheerfully underwent much greater fatigue for the fecurity of their camps than the Greeks were willing to fubmit to, each foldier frequently carrying three or four palifades for the intrenchment. This was a labour, Polybius tells us, which in the discipline of the Grecian armies was regarded as impracticable; whereas the Romans performed it without much difficulty. The Greeks, he fays, on their marches, were hardly able to fupport the toil of moving along their own bodies. But the Romans, after flinging their flields with the leathern braces behind their shoulders, took their javelins in their hands, and were at the same time able to carry the palifades. They also discovered more judgment both in the choice and shape of their palifades than the Greeks, whose aversion from labour

might enjoy by turns the advantage of arriving first at water and fatigue must have frequently left their camps in a flate of great infecurity.

Befides the account given by Polybius of the Roman method of encamping, there is a description of their castrametation, given on a mutilated feroll or label by Hyginus, who appears to have been a camp and land measurer in the time of Trajan and Hadrian, when the empire was in its highest gris on one fide, and beyond the Danube on the other. Hygious's fragment was first published in 1606, but in a form to defective and mutilated, as to be hardly intelligible. In 1660, it was published at Amsterdam, with a very curi-

In the time of Marius, the military affairs of the Romans without doubt underwent a confiderable change, which prowhat extent it is impossible to determine. But the alterations then introduced gradually occasioned a great departure from their former rules and regulations. It is no wonder then that their callrametation, according to Hyginus, differs fo materially as it does from that of Polybius. Though the empire of the Romans was at its utmost extent, and existed in full force and vigour, their language was on the decline, and its purity in a great measure lost. The legions, by refiding long in the conquered countries, adopted by degrees the barbarisms of the natives, and became familiar to their manners and customs. The attaching of large bodies of mercenaries to them gave rife to a different establishment, both for their national and auxiliary troops; in the latter of whom they could not always place fo much confidence as formerly, and occasioned the creation of many new officers and appointments, which rendered a new method of castrametation necessary. Hence, this writer makes use of terms that are not to be found in any other author, and feem to have been unknown in the time of Polybius. The feroll or label containing his rules of castrametation is entitled " Hygini Gromatici de Castrametatione Liber."

He informs us, that a complete army confifted of three legions, with their fupplementa, or auxiliaries, making use of this number for the purpole of exemplifying or illustrating his castrametation, and observing at the same time that the largest army was composed of no more than five or fix such legions. He tells us, that every camp, as often as circumflances will permit, should be one half longer than it is broad, or have its length to its breadth in the ratio of three to two. Such a camp he calls castra tertiata. He accordingly makes the length of a camp for three legions equal to 2,400 Roman feet, and its breadth equal to 1,600 feet. General Roy, however, fays that the particular measures as given by him do not correspond exactly with these general dimensions, and makes the sum of them, as he has collected them from the original, give the length of the camp equal to 2,310 feet only, and the breadth equal to 1,620 feet, the one falling thort of 2,400 feet by 90, and the other exceeding 1,600 by 20.

When the camp was longer in proportion to its breadth, than in the ratio of three to two, it was called caftra claffica, because a general founding of all the martial inflyuments together became necessary, as the buccinum or bugle-horn founded in front of the prætorium could not then be dif-

tinctly heard at the dittant parts of the camp.

Hyginus divides the length of his camp into three unequal parts, by fireets extending across the whole breadth of it. The first of these, lying in front of the prætorium, he calls the pratentura. The second, lying between the principal firect and the quintan firect, and in the middle of which flands the practorium, he calls the latera practorii; and to the third, fituated beyond the quintan firect and behind the prac-

torium, he gives the name of retentura.

The principal threet, according to him, was 60 feet broad, and had the middle of it before the centre of the prætorium diffinguished by the name of groma, from the cross-staff, or fome fimilar instrument, which was used for tracing out the right angles of the camp. And those employed in this bufinels, or in making allotments of lands in the conquered countries for the veterans, were probably called gromatici. The prætorian street, leading from the groma perpendicularly to the principal street, is also 60 feet wide. The breadth of the quintan street is 30 feet as well as that of the fagular street, which runs quite along the four fides of the camp, dividing the interior part of it from the exterior, or that which lies between the faid threet and the intrenchment. But when an army confifted of five or fix legions, the breadth of each of thefe fireets was equal to 40 feet. The intervallum between the tents on the outfide of the fagular street, and the intrenchment making part of the exterior division of the camp, is every where Go feet wide. This camp commonly had only four gates, viz. the right and left principal gates, the decuman gate, and the pretorian gate. Hyginus says, that the decuman gate received its name from the tenth cohort of the legion's being encamped near it. General Roy, however, places this gate differently from Hyginus, and differs also from Schelius in feveral particulars in regard to the interior divitions and arrangement of the camp.

It was the practice of the Romans during the commonwealth to place their own legions in the centre, both in the camp and when drawn up in order of battle. Hyginus, however, places the most of the legionary troops in the exterior part of the camp without the fagular threet, and nearest to the rampart, for the defence of which they were more to be depended on than the mercenaries, in whom they did not confide to much as they formerly used to do in their focii or allies. He alleges that the foreign troops, by being kept thus within, or furrounded by the Roman legions, were more easily rendered obedient and attentive to their duty. They certainly had it less in their power to defert, or carry intelligence to the enemy, than they would had they been encamped next to the intrenchment. The form of his camp must in a great measure have depended on the proportion which the number of the legionary troops bore to that of the mercenaries, or auxiliaries, fince when the last was but small, the Roman cohorts could encamp with a greater depth and less extended front, leaving more space between

the fagular street and the rampart; and when it was great, with a smaller depth and a more extended front, leaving less

space between the faid street and the rampart. Hyginus tells us, that a complete century of foot confifted of eighty men, and that one tent held eight men. When all the men of a century then were off duty, they would have required ten tents. But as part of each century was always on duty, they pitched only eight tents, leaving thereby sufficient room for that of the centurion. For every tent a space of 12 feet in length was allowed. The length of the ground then occupied by the men of the century and the centurion was equal to 120 feet. The breadth of the space allowed for each tent was equal to 10 feet. Five feet more were allotted for the arms, and nine for the bat-horles, or beafts of burden. The whole breadth therefore of the hemistrigium, or half-striga, amounted to 24 feet; and the length of it was what Hyginus terms intalulino. Another hemistrigium lying contiguous to this, but in an order reverfed, that the horfes might front those in the other, and feed at the same manger, made a breadth of 48 feet for one striga, to which, if a width of 12 feet along the whole length of the space occupied by it for a street, between it and the next striga be added, we get 60 feet. The whole space then, including the faid street of 12 feet wide, allotted for one striga, or two hemistrigium, consisting of two centuries or 160 men, contained 120 multiplied by 60 feet, or 7200 square feet. And a cohort, which confilled of fix centuries, occupied of course 21,600 square feet. For the Hyginian camp of a Roman army, composed of three legions, with their supplementa or auxiliaries, consisting of 42,626 men, fee Plate of Castrametation, figs. 1, 2, 3.

It is evident that in the Hyginian camp the same number

of troops occupied a much smaller space than they did in the Polybian camp. The Roman armies under their emperors were more impatient of labour and fatigue than they were under the commonwealth, which led to the shortening of the length of the intrenchment and the crowding of as many men as possible into a given space. They also got into the practice of employing a much greater proportion of cavalry to their number of infantry than they did before their government became imperial. And the cavalry were commonly exempted from working on the intrenchments. These and other causes made them depart gradually from their ancient system of castrametation, as described by Polybius, and make their camps sometimes rectangular, sometimes triangular, fometimes circular, fometimes oval, and, to avoid. labour, give it different forms to fuit the circumftances ofadvantageous ground, and the necessity of their situation.

CASTRAMETATION.

Distribution of the troops in the Hyginian camp, containing three legions; with their fupplementa, or auxiliaries.

	foot.	ary or other foot.	Total infan- try.	Horse.	Total.	Gene- ral to- tal.
Ten legionary cohorts of 480 each, placed without the fagular street Three legionary cohorts of the same number within that street One first cohort of the legion double in number to the ordinary cohorts The vexillarii of one legion attached to and encamped with this cohort Marines of Misenum Marines of Ravenna Attached to the hospital for the men, the veterinarium for the horses, including artificers and labourers of all forts Exploratores, or scouts Moorish horse Pannonian veredaries Four alæ milliariæ, or wings of horse, of 1000 each, from which, deducting 96 supernumerary horses belonging to the officers, there remain 904 for the effective establishment of each ala	4,800` 1,440 560 500`	500) 800	7,700	200) 600 800 3,616)	5,216	× 15,216
In the Prætorian, or Central Division of the Camp. Six legionary cohorts of 480 each, without the fagular itreet. Two first cohorts of the legions within the fagular street, on the right and left, each consisting of 960 men. The vexiliarii of these two legions, encamped with their respective first cohorts, at 500 each. Four prætorian cohorts, reckoned only at the establishment of the ordinary legionary cohorts, 480 each. The primipilarii and evocati, who encamped with them, might amount to Five quingenarian alæ of 500 each, from which deducting 64 supernumerary horses, belonging to the officers, and their establishment is reduced to 436 horsemen in each ala Prætorian horse In the Prætotrers of Perr Division of the Server.	2,880) 1,920 1,000)	1,920	5,800	2,180 400 450	8,720]	11,750
In the Retentura, or Rear Division of the Camp. Eight legionary cohorts of 480 each, without the fagular fireet Three milliarian cohorts of foot of 960 each Three quingenarian cohorts of foot of 480 each Two milliarian pedestrian equestrian cohorts, each confisting of 760 and 240 horse Four quingenarian pedestrian equestrian cohorts, each consisting of 380 foot and 120 horse Statores Palmyreni Daci	3,840	2,880 1,440 1,520 1,520 200 500 700 900	3,840	480 480		· 15,660

N.B. Hyginus does not give the number of the comitts imperatoris, or chief attendants on the emperor; neither are we told howmany camele there were with their epidates, (riders or drivers), which, when they were to go out against the enemy, used to encamp in the pretentura near the marrines; but when defined to bring in booty, were piaced in the retentura, or rear division of the camp.

Though general Roy makes threets of feparation or diftinction between the different cohorts, Hygiaus does not

ments n anv.

thyginus places 24 of the 30 coborts, that composed three Lightnes, without the fagular firect, or in the exterior

part of the cheampment.

General Roy thinks that Hyginus by the figura meant the front of the cohort, and by tidulisizan its depth. In regard to the rows of tents he differs from Schelius, who makes them run parallel to the figurer firest, whereas he places them perpendicularly to it. He fays that the width of the camp within the fagular firest was every where equal to 1260 feet; that the length of the pratentina within the fame firest was equal to 720 feet; that the diffance acrofs the practorian, from the principal to the quintan firest, was also equal to 720 feet; but that the diffance acrofs the retentura was only equal to 480 feet, or two thirds of the diffance of either of the other two parts. See figs. 1, 2, and 3.

Of modern Castrametation

The invention of gunpowder and the application of it to military purpofes, have needfarily rendered modern caftrametation very different from that of any nation among the ancients. The principal object of Europeans in forming their encampments is the convenience or facility of drawing up their troops at the heads of them. Hence it follows that we flould encamp them in fuch a manner as to be able with expedition and without confusion, to affemble and parade them in the very disposition which is regarded as the belt for fighting in the fituation we happen to be in. The order of battle therefore should determine and regulate the order for encampment. Confequently, the place of each regiment in the line of battle should be at the head of its own encampment, and the extent of the line of battle from the right to the left of the camp should be equal to the front of the troops formed in line of battle, with the fame intervals in the one as in the other. The front or principal line of the camp is commonly directed or laid out in such a manner as to face or look towards the enemy.

It being once admitted that troops should be encamped in the order in which they ought to hight, it is no difficult matter to deliver general rules for the admensurement and

he tracing of camps.

A camp does not always funnole a polition, though a

polition occupied necessarily supposes a camp.

The dispositions and the orders of battle unavoidably vary with the nature of the ground and fituations. The arrangement of the troops in their camp will of course varyaccordingly. The order of battle also frequently depends on the views and intentions, genius and capacity of the general, and on his fertility in stratagems and refources. That wonderful man and extraordinary general, Annibal, the son of the no less celebrated Annibar Barcas, made use of a different order of battle and arrangement of his troops in almost every engagement with the Romans. Whenever the ground and weather admitted of his employing stratagem against his enemies, he was sure to practise it, as at Trebia and the Thrasymene lake. And when he found no circumstances of ground, situation, or weather, that he could convert to his advantage, he changed the disposition of his troops and his order of battle, as at Cannue.

Were there but one fixed and determinate order of battle, or method of arranging troops for action, there need fore, never engaged the Romans on ground uneven and irman arms and mode of fighting were alike futted both to army in close action, when its fire becomes useless, required and rivulets, &c. The troops in it loft all their firength companies, or man with man. A Roman foldier, on the other hand, when once armed and ready for fervice, was fame capability of action, whether he engaged with the whole army, or only with a part of it, whether in a fepawith them, the fmoke would only increase their contution bodies they would certainly perith. They would therefore

CASTRAMETATION.

them; for they could not carry their musquets along with them and retire with half the celerity that troops armed in the other way could follow them. Were there any reason for apprehending an invasion of this country, ten thousand active men armed in this manner would be of more use for the purposes of defence than fixty thousand of either sharpshooters, or common infantry. But custom and prejudice, and perhaps ignorance too of the proper mode of defending it, may possibly prevent the adoption of such a measure. As to cavalry, it is manifest that they can be of but little use in either attacking or defending it, since there are but few fituations in it where they could be brought to act with advantage and effect.

As the men in the phalanx had shields, or bucklers, as well as spears, the width or breadth of a file in it was equal to three feet. A Roman soldier standing under arms also occupied three feet, but in order of battle he necessarily occupied fix feet, in order to have the free use of his large shield on his left arm, and the gladius in his right hand in

action.

Though the arrangement of troops in a camp must vary with the nature of the ground, it is customary to suppose for each corps of an army such a fixed or determinate order of battle as can be made as of on a plain or level ground. Such an order serves for forming the tableau, delineation, picture, or description of the force of the army, and for regulating the order of service in regard both to the superior officers, and the troops that they command.

The number of men that forms a battalion varies in different countries of Europe, and has varied at different times. The space necessary for constituting the breadth of a file also varies: some make it equal only to 22 inches, but others, perhaps with better reason, allow two feet for it, as the three ranks are thereby less confined in their firings.

Troops are divided not only by battalions and fquadrons,

but also by regiments and brigades.

An army generally confilts of infantry, cavalry, and artillery, and may be called or denominated the union or function of the battalions, fquadrons, and artillery. The formation or arrangement of these three corps constitutes the order of battle. And this name or appellation for the said arrangement comes from the principal design or intention of making it, which is always to give battle.

The number of lines, on which an army ought to engage, is not at all fixed or determined; for the ground, the difposition of the enemy, the number of troops, &c. may render material changes or alterations necessary. It is a point, indeed, that no determination can be come to, which will

fuit every circumflance of ground or fituation.

An army, however, when drawn up in order of battle, is generally ranged in two lines with a corps of referve behind them, and confifting like them of battalions and fquadrous, to fuccour those parts that may be hard pressed and in danger of yielding or giving way. This corps is thronger or weaker as occasion requires. For the most part the infantry is posted in the centres of these lines, and the cavalry on the wings. The ground, however, makes it necessary fometimes to place the cavalry in the centre and the infantry on the wings, and fometimes part of the infantry on the flanks of the polition, and the greatest part of the cavalry on one wing with the remainder of it behind the infantry. The common proctice of polling the cavalry on the wings of the infantry, and in a line with it, feems to be in various respects improper and injudicious. It cannot advance quicker than the infantry without leaving its flanks of both uncovered and exposed. It cannot in such a position either protect the infantry or receive protection from it. Disposed of in this manner it therefore renders the movements of the whole flow and tardy. It is ufually alleged that the cavalry is posted on the wings of the infantry in order to cover its slanks. This, however, is a very bad reason, for cavalry cannot form a slank for itself, but infantry may. The arrangement of our different species of troops, and the forming of them in files after the manner of the phalanx, excludes every idea of quickness or celerity, which is the very life and foul of military manœuvres, and alone can render them successful.

It is generally a maxim in the order of battle to place the fecond line goo feet at leaft, or 1000 feet behind the first, to prevent the enemy's balls or shot from reaching it. This distance may, and most probably will change during the course and progress of an engagement. Attention, however, should be paid to it in placing the troops in order

of battle

It is cultomary to place fewer battalions and fquadrons in the fecond line than in the first, when the first is full, in order that the first, if routed or thrown into confusion, may have sufficient intervals to pass through for the purpose of recovering from their disorder, and regaining regularity and order.

All the infantry of Europe commonly fight en lignes pleines, or in continuous lines, without any intervals between the battalions, but such as are necessary for the guns, for each of which about 20 feet are usually allowed. When intervals are admitted between regiments that confile each of more than one battalien, or between brigades, an additional al-

lowance of 40 feet is generally made.

Sometimes huffars and dragoons are placed out of the line to cover the flanks of the cavalry. This, however, is for the molt part a bad and injudicious disposition; for cavalry never can be so disposed of as to associate an effectual cover and protestion to the flanks of cavalry, though infanctury may. They are said to be out of the line, because they ought to be posted a little behind the lines. All troops indeed, or bodies detached for any service, are said to be bors de ligne, or out of the line.

In the camp, the same distance or interval of 20 feet for each piece of artillery is allowed between the battalions, or ought to be, as in order of battle; and when the divisions are admitted between regiments, or brigades, 40 feet more

are allowed.

The fituation of the park of artillery is not precifely fixed or afcertained. It is cultomary, however, to place it for the most part either behind the centre of the fecond line of infantry at the distance of about 1000 feet from the fame, and in a line with the referve; or behind the referve, at the fame distance of about 1000 feet. On other occasions, as circumstances make it advisable, or necessary, it is placed towards the centre at a greater or less distance from the first line of infantry. For the form of a park of artillery, fee Plate, Costrametation, fig. 4.

When an army then encamps in three lines, and the park of artillery is in a line with the referve, the depth of the camp cannot well be lefs than from 2500 to 2750 feet; and when the park of artillery is about 1000 feet behind the referve, the depth of the camp mult be from about 3500 to

3750 feet.

The depth of the tents of a battalion depends on the manner in which the companies composing it are encamped, whether by a whole company, a half-company, or a quarter-company, in each row of tents perpendicular to the front of the encampment. But, including the tents of the officers, fullers, and fervants, the depth is usually about 200 feet, and that of a fquadron is about 400 feet.

The privies, or necessary houses, of the first line, are usually about 200 feet beyond the front de bandiare du camp, or in front of the line, which determines the extent or length of the camp, and on which are placed the colours and Randard; of the troops that occupy it; and those of the second sine are commonly about 150 feet behind the officers' tents. There ought to be nothing, however, in front of the camp that can in the smallest respect interfere with the movements and the formation of the troops in order of battle.

The intervals between fquadrons of cavalry are different in different countries. And their depth, when encamped, will, of courfe, be influenced by that of the camp, which, itfelf, is not regulated but by certain rules and arrange-

ments founded on cultom or ulage.

If n be supposed to represent the number of men in a battalion, d, the number of men in a file, and b, the breadth or width of the file, the front of the battalion will be generally.

rally expressed by $\frac{n \times b}{d}$. Thus, if b=2 feet, and d=3, the

front of the battalion in feet will be equal to $\frac{2n}{3}$, which, when n=600, gives 400 feet for the front of the battalion; when n is =800, or the battalion is 800 ftrong, gives 533! feet for its front; and when n is =900, or the battalion is 900 itrong, gives 600 feet for its front; and fo on. But if the width of the file be fupposed equal only to 22 inches, or $\frac{n}{3}$ feet, and d be equal to 3, the front of the battalion

will be expressed by $\frac{11 \times n}{18}$ feet. And if, in this case, n be = 600, or the battalion 600 strong, its front will be equal to $\frac{11 \times 600}{18}$ feet = $\frac{1100}{3}$ feet = 366 feet 8 inches. If the battalion be 800 strong, its front, in this case, will be equal to $\frac{4100}{9}$ feet = 488% feet; and if it be 900 strong, its front will be = 550 feet; and so on. And whatever is the

length of its front in order of battle, the fame ought to be the front of its encampment, when the ground

and circumstances will permit.

If d be supposed equal to 2, or the files to be only two men deep, which is as deep, perhaps, as they ever should be, when it is intended that all the men should see without hurting or wounding one another, the length of the front of a battalion in each of the foregoing supposed cases will be just one-third greater. When the number of men in it is given, the length of its front will be as the breadth of the file directly, and the depth of the same in number of men inversely. When the number of men in it and the breadth of the slie are given, the length of its front will be inversely as d, the depth of the file. And when both the breadth of the file, and its depth in men are given, the length of the front of the battalion will be directly as the number of men in it.

The breadth or width of a file of cavalry is generally equal to three feet. The Macedonians allowed three feet of their measure for the width of a file in their phalaux, when drawn up in order of battle; and the Romans allowed also three feet of their measure to a soldier when standing under arms, but fix feet to him when in order of battle. If n then be supposed to denote the number of men in a squadron of cavalry, and d, as before, the depth of the file in men, its front will be expressed generally in feet, by

 $\frac{3^n}{d}$, which, when d=3, is simply equal to n. Hence, then, it

appears, that the front of a fquadron, drawn up three deep, is equal to as many feet as there are men in it, and that its

front, when it is drawn up only two deep, is equal to half as many more feet as there are men in it.

The width of the large firects in a camp depends also, in a great measure, on the node of encamping the companies. For, if f denote the front, l, the length of a tent, n, the number of the rows of teats, r, the width of each of the small firects, m, their number, q, the number of the large streets, and m, the variable width of one of them, we shall

have $=\frac{1-\frac{n-n}{q}}{q}$.

The camp maxims most commonly delivered are the following:

To give the camp the fame length of front that the troops occupy, when drawn up in order of battle, whatever be

the width or depth of the file

To make the troops encamp by battalions and fquadrone, except the royal artillery, who usually encamp on the right and left of their parts, wherefoever it is placed, with the train horfes in the rear of the lame.

To place the bread-waggons in the rear of the camp, and as near as possible, for the convenience of distributing the

bread eafily.

That the commander in chief should encamp in the centre of his army, or, at least, at such a convenient distance from it, that a speedy and easy communication may be kept up at all times between head-quarters and every part of the camp.

To pay particular attention to the convenience of winter fuel and forage, and to cleanliness, for the preservation of

health among the troops.

The highest and most important branch of castrametation, however, consists in the choice of situations proper for encampments and for engagements. The doctrine of positions, indeed, and the combinations of attack and defence, form the sublime part of war. And in illustrating this subject, we conceive we cannot do better than adopt the concile observations of marshall Saxe, who, in point of natural endowments, genius, and talents as a commander, as well as of military information, acquired by experience, study, and restlection, was certainly inferior to no general that has appeared in modern times.

Of situations proper for the encampment of armies, and for engagements.

It is the part of an able general, to derive advantages from every different fituation which nature prefents to him; from plains, mountains, hollow ways, ponds, rivers, woods, and an infinite number of other particulars, all which are capable of rendering great fervices, when they are converted to proper purpofes: but although they make for material an alteration, both in fituation and circumstance, wherever they happen to be, yet, as fuch advantages are frequently overlooked, till the opportunity of profiting by them is loft, it may not be unfeafonable to exter into tome detail upon the folicity.

Let us then, in the first place, suppose a piece of ground didded by a rivulet, and a chain of ponds. See Plate, Cystrametailen, fig. 5 and 6. AA represents the army marching up to attack BB, whose infantry is at first drawn up in one line to cover the ponds: but, as soon as the enemy arrives within reach, my infantry in the front of these ponds, (says the marshall,) marches back by the intervals or banks between them, to form a second line; and my cavalry is at the same time advanced upon the right, to keep in awe the enemy's left wing; which movement alone is sufficient to disconcert him; if he attempts to attack this cavalry, it is to repass the intervals between the ponds, which are guarded by bodies of infantry, that are pulted immediately behind them.

This manœuvre will have fo long engaged the enemy's attention upon his left, that he will not have fufficient time to change his disposition, or to reinforce his right; because the moment my cavalry is arrived upon my right, I attack all that part of the enemy's line that lies between me and the rivulet, which very probably I shall throw into confufion. His right wing being thus defeated, the rest of his army will be affaulted in front and rear by my two wings of cavalry, and in flank by all my infantry. If he inclines in the least to the right, in order to present a front to my infantry, he will thereby expose his left flank to the troops which I have posted upon my right, and upon the intervals between the ponds: under these circumliances, therefore, it will be impossible for him to make any movement, without being thrown into confusion.

According to this disposition, I suppose the enemy's army to confitt of double the thrength of mine: and although it may be imagined, that the cavalry upon my right is in danger of being cut to pieces, yet the more the attention of the enemy is taken up with an object in his front, the more he will be entangled in the fnare that is laid before him; for I shall thereby be furnished with a better opportunity of falling upon his rear; after which my cavalry mult be more than commonly unfortunate, if it be not able to make good its retreat by the intervals between the ponds, where the enemy will certainly not dare to purfue it.

Fig. 7, represents the two armies in another fituation, where AA is to attack BB: C, C, C, are three strong redoubts thrown up at the distance of three hundred paces in the front of BB, furnished each with two battalions, and every thing else that may be necessary for their defence : D represents some detached cavalry: E, E, are two flanking batteries: F, F, two battalions posted in two redoubts to cover the batteries. I suppose the enemy's army AA to be twice as powerful in numbers as BB; nevertheless, in what manner is he to attack me in this disposition? It is imposfible for him to march up in line of battle, without being broken and disordered, till he has first rendered himself mafter of my redoubts; in attempting to do which, he will be exposed to a fevere flanking fire from my two battalions; and to pass the redoubts, and leave them in his rear, will be impracticable: if then he refolves to attack them by detachments, I shall in like manner make others to maintain them; in which I must have confiderably the advantage, on account of the damage that he will unavoidably fuftain from my cannon: if he advances with his whole army against them, I give the figual for my cavalry, which is concealed behind the wood, to move up at full speed, and fall upon his rear; at which time I also march up, and charge him in front; being, therefore, at once embarraffed by the redoubts, thrown into fome diforder, and attacked in rear, there is all the appearance of my obtaining an eafy victory

This is an excellent disposition, where you can be certain that the enemy is either inclined, or obliged to attack you; for one cannot possibly be too careful in avoiding every step that may correspond with any hopes or expectations of his. This is a maxim in war never to be departed from, but in extraordinary cases, where no fixed rules can be given. A good opportunity for engaging should never be neglected, merely because the situation may happen not to be strictly agreeable to your fancy; for you must form your disposition according as you find it, and decline the attack altogether, unless you can make it with advantage; by which I mean, unless your flanks are well covered; unless you can engage a fmall part of his army with a large part of yours; can amuse, or keep a check upon him, by the means of any

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small river, marsh, or other obstacle that may lie between you; supported by circumttances of which nature, you can attack him with confidence, although confiderably inferior in numbers, because you will risk nothing, and may obtain

a great deal.

Suppose, for instance, his army, BB, to be divided by a river, in the manner represented in fig. S, and that I am to attack him with AA in that fituation; I shall, therefore, make the following disposition for it. With my right wing I shall keep in awe his left, and with my left try all efforts to defeat his right: according to appearances, I shall be able to pierce him in the part marked C, upon the bank of the river; for it is but reasonable to suppose, that the throng must overpower the weak; in confequence of which advantage, as the communication between the two divisions of his army will be thereby cut off, and the left, in which his principal through confifted, be no longer able to futtain the right, he must be rendered incapable of maintaining his ground; and, finding himfelf exposed both in front and flank, will undoubtedly retire.-Let us proceed to another

A is the enemy's army which I am to attack with B: the rivulet between us is supposed to be every where fordable; and the encampment of A to be made upon its banks, as is usually the custom in such situations, as well on account of the protection which it naturally affords, as for the convenience of the water: the enemy being in this disposition, I arrive towards the evening, and encamp with B on the opposite side. As he will not be inclined to trust to the uncertain event of an immediate engagement, he will undoubtedly, therefore, not pass the rivulet, or quit the advantage of his post, to attack me in the night-time; on the other hand, I rather imagine that he will be altogether taken up in providing for the defence of it : on my fide, I shall only leave one weak line opposite to him, and marching all night with the remainder, gain the polition, C. I have nothing to fear from the enemy, in making this movement; for he will certainly not venture to pass the rivulet, or to leave his post unguarded, on bare furmife or conjecture only. The day arriving he discovers me upon his left flank. as well as in front; after which it will be impossible for him to make any disposition, or to form any order of battle, without being thrown into confusion; for I shall fall upon him before he can have sufficient time to finish it: but his attention will principally be taken up, in fustaining his post upon the rivulet, which I shall attack at the same time, with the troops that were left on the opposite fide for that purpose: he will detach some brigades to oppose me upon the left, which, arriving en detail, and having to engage with a large body, drawn up in good order, will eafily be repulfed; infomuch that he will be in a manner totally defeated, before he can be even able to persuade himself, that the real attack was made on this fide; and, after having thus at length discovered his mistake, he will cease to be in any kind of capacity to remedy it.

Fig. 9, represents another fituation, in which the enemy's army, AAA, is supposed to be formed in separate bodies, and extended to a confiderable diffance all along a large river, in order to cover a province, as is frequently the cafe. AAA is, therefore, to defend the river, and BBB is the offentive army, endeavouring to pass it; and extended in like manner upon the opposite borders. These large rivers have generally plains on both fides, bounded by mountains, out of which iffue small ones, or rivulets, that are sometimes of a confiderable fize, and that discharge themselves into the greater: by the means, therefore, of such a rivulet, one must endeavour to build a bridge, unknown to the enemy; for in this lies the great difficulty of paffing all rivers; after having then prepared your bridge all along the rivulet, you are to throw it over that part of the river marked C, where you are to force your paffage; in which, I take it for granted, you will be able to facesed, especially if you make at the fame time two fulfe attacks at the places marked D and E: the enemy will not dare to vacate any of his pulls, neither will the general officers, fituated in different quarters, execute any orders they may receive to that effect; for time the grand effort is making at the centre between the cut off his communications, he can hardly hope to time his fides at once; and although he even does, he will, neverthelefs, be eafily demolished: the circumstance of your being possessed of these advantages, without having suffered any loss in the obtaining of them, will add to his confusion; for, notwithstanding your passage should be disputed, yet the opposition you meet with can never be considerable enough to permit it; especially when you have used proper precautions, and made your disposition with judgment. After you have once taken post, and erected your bridge, for which four hours are a fufficient space of time, and as much more will be required for the passage of 30,000 men, you may allow the enemy twenty-four hours to penetrate into half of his army, at the place in which he has attacked you: but even this will be rendered impracticable, because I suppole you to be effectually covered, after you have paffed, by the rivulet on the one fide, and by the mountain on the other.

All the large rivers that I have feen produce a great variety of fituations where paffages of this kind may be executed; and finaller ones afford likewife the fame; but they are follow quite to commodious, because the plains and mountains which furround them are usually not to advantageous, nor the rivulets to confiderable. In short, by differnment one may reap advantages from a thousand different forts of fituations; and a commander void of that cannot possibly be expected to do any great things, even

with the most numerous armies.

The marshall concludes these remarks on the choice of fituations for encampments and engagements with the following observations upon the battle of Malplaquet. If, instead of posling the French troops in bad entrenchments, the three woods over-against the hollow ground had been only cut down, and three or four redoubts thrown up in it, supported by a few bridges, I am of opinion (he fays) that things would have taken a different turn: for, had the allies attacked them, they must have lost an infinite number of men, without ever being able to carry them. It is the property of the French nation to attack: but when a general is unwilling to depend altogether upon the exact discipline of troops, and upon that great order which, according to the prefent fyltem, is always necessary to be observed in actions. he ought, by throwing up redoubts, to introduce the method of engaging en detail, and of attacking by brigades; in which he might certainly succeed very well. The first shock of the French is scarcely to be resisted; nevertheless it is the part of a general to be able, by the prudence of his disposition, to renew it: and no means can facilitate this fo much as redoubts; for you can always

fend fress troops to fealish them, and to oppose the enemy. Nothing can pulsibly erecte such distraction, or tend to dispirit him to so great a digree, because he will be arraid, at every attack, of being exposed in flank; while, on the other hand, your own troops become thereby encouraged; for they are confeired that the tenemy will not dare to pursue them in your the redoubts. It is upon such as occasion that you might be able to reap the greatest advantages from their vigour and impetuosity; but to post them behind entreighbrachs, is, in a manner, to occasion their defeat; or, at least, to deprive them of the means by which they neight have conquired. That would have been the event of the day at Manslaquet, it maribal Villars had taken the greated part of his army, and attacked the one half of that of the alikes, which had been so imprudent, as to form a disposition in which it was totally separated from the other by a wood, without having any communication at the same time made between them; the slarks and erar, moreover, of the French army would have been under cover, as may be feen in the fituation of it, represented in fig. 10.

There is more addrefs required in making bad dispositions than may at first be imagined, provided they be seen as are intentional, and so formed as to admit of heing instantaneously converted into good ones. Nothing can confound an enemy more, who has perhaps been anticipating a victory, than a stratagem of this kind; sow he perceives your weakness, and draws up his army in the order in which he expects to benefit the nest from it; but the attack is no fooner begun, than he discovers the imposition. I must repeat it, therefore, that nothing can possibly discovered an energy so much, or plunge him into errors so dangerous; sor, if he does not change his displiction, he must infallibly be defeated; and the alternative, in the presence of his adversary, will be attended with the same satal consequences.

If the marshall had abandoned his entrenchment at the approach of the allies, and made his disposition in the manner represented in f_S . 11. it appears to me that he

would have fucceeded much better.

CASTRATING a book, among Bookfellers, is the talsing out of fome leaf, sheet, or the like, which renders it imperfect, and unit for sale. The word is asso applied to the taking away of particular passages, on account of their obfecinity, too great freedom with respect to government, &c.

CASTRATING is also used among Gardeners, in speaking of melons at d cucumbers; where it figuities the same with

PRUNING OF PINCHING of other plants

CASTRATION, in Surgery, from eaftro, "quia castum facit;" the operation of rendering any animal incapable of generating, by the excision of the testicles in male subjects, and of the ovaries in semales. This operation is commonly named Gelding and spaying among farriers, who are in the constant practice of thus mutilating various brutes for domestic uses, &c. Even several of the watery tribe of animals have sometimes been castrated, for the purpose of rendering them more fat and suscesses for the table of epicures!

This operation has been performed by the Turks, Perfians, Egyptians, and Hebrews, time immemorial, efpecially upon their flaves, from motives of jealoufy: nor was it unknown to the Greeks and Romans, as appears from the writings of certain ancient medical and fatyrical authors; and, even to the prefent day, the Italians are so barbarous as to caltrate great numbers of male children, with a view to preserve their shrill voice for singing! See Eunuch.

The effect on the physical continuition of a man is the fame, whether the tellicles be injured by contustion, so as to break down their natural texture; whether the spermatic vessels be obliterated, till leaving the telles entire; or, when

the

ther those organs be wholly removed by excision. In any of these cases, the offence was regarded as so atrocious, by the old laws of England, as to amount to felony; "et fequitur aliquando pœna capitalis, aliquando perpetuum exilium, cum omnium bonorum ademptione," (Biact. fol. 144.); and this, fays judge Blackstone, although the crime of mayben was committed upon the highest provocation: (Comment. vol. iv. b. iv. c. 15.) See MAYHIM. But, WE prefume, the law cannot affect regular-bred Surgeons who perform the operation, only with a view to the good of their patients; notwithstanding, a different opinion has been held by certain writers, who affirm, "that it is penal in Phyficians and Surgeons to custrate even with confent of the party :" (See Encyclop. Brit. vol. v. p. 250, edit. ult.) It becomes, however, a dubious and nice point, on fome occasions, to decide upon the necessity and probable advantages of castrating a man.

We shall here say nothing of the corresponding more cruel mutilation in worren, as it is very properly exploded from furgical practice: and although we are told by Athenœus, Hefychius. Suidas, Galen, Arillotle, and others, that the female ovaries (formerly called tefficles) have been actually retrenched by some barbarians, it is doubtful whether most of the cases alluded to did not rather confist in padlocking, or INFIBULATION; which Cornelius Celfus describes, as having been exercised also on boys. But, for a more detailed hittory of the origin and extension of this practice, as an act of policy or refinement, we refer to vol. i. of M. Dujardin's Hill. de la Chirurgie, Introd. pp. 36-44, 4to. Paris, 1774; and to M. Mahon's posthumous work, entitled "Médecine Légale et Police Médicale," 8vo. vol. 1ft. Paris, 1801. We now shall offer a few remarks on this operation, as it concerns the practical furgeon.

Caltration is advisable in any case, where the life of a person is considerably endangered by a change of structure and loss of function in the telticle; as well as in many other cases, where the removal of an indurated and greatly enlarged teltis would materially contribute to the relief or accommodation of a patient. It can very rarely be requisite to extirpate a tellicle for the existence merely of an abscess, or for varicose vessels of the speciment chord; though this operation has been sometimes reforted to, under such circumstances. But, when it has been resolved on as proper to be done, the following are the most approved modes of

After having shaved the hair from the affected side of the fcrotum and pubes, the patient is placed upon a table of a proper height, with his head and shoulders somewhat elevated, his legs and thighs at some distance from each other, and his knees a little bent; and in this pollure he must be fecured by two affiliants. Or, as Mr. Murfinna advifes, the patient may be placed upon a high and strong chair, whilit the operator fits upon a low one, or kneels down before him. The skin of the anterior surface of the scrotum is then drawn into a fold, in fuch a manner, that the incifion by which this fold is to be separated, shall reach from the top to the bottom of the fcrotum. The operator holds this fold at one end with the fingers of his left hand, whill an affiliant holds it at the other, and cuts it at once completely through with a biftory. Mr. Theden draws the fold of the scrotum, with the aid of an affiliant, as tight as the skin will admit; after which he thrusts his bistory through this fold, with its edge turned upwards and the back directed towards the diseased testicle: he then raises the knife upwards, and thus cuts through the whole fold of the skin in the quickest manner, whereby he thinks the patient is spared a great deal of pain.

This incition may be fo long, that its upper extremity shall reach above the abdominal ring, whilst the lower extremity terminates an inch higher than the base of the scrotum. Should the incision be found too small, it must immediately be enlarged either at its upper or lower extremity, as it ought to extend over the whole tumor, in order that the tunica vaginalis may also be cut through in the same direction. Although it is defirable that this incifion should be made precisely in the middle of the fold, this is in some rare cases impracticable, on account of the distended blood velfels being fituated there, the division of which would produce a violent hæmorrhage, when another place must be chosen for making the incision. But should these vessels occupy a very large extent, we are obliged to cut them through, in which case the bleeding arteries must be secured or compressed by an affiltant, whilit the operator is making his fecond incition.

The lips of the wound are now drawn afunder at both fides, to the distance of some inches from each other, or the operator diffects them away from the tunica vaginalis, in order that he may gain more room. When there is any fluid contained in the tunica vaginalis, this must be divided from top to bottom, with the same knife, as in the hydrocele. If we now find the difeafed tefficle for the greater part detached, we lay hold of it with the left hand, separate it here wherever it is attached, and divide its stronger pofterior adhesion, with the scalpel, in such a manner as at the fame time to separate all the diseased substance that may be found there; after which the spermatic cord is separated above from all its adhesions, and the whole of the cellular fubstance dissected away from it. The spermatic cord being thus laid bare, the operator accurately examines it, and if it be in its natural condition, he immediately ties it very firmly, (with many throng waxed threads, twifted together), an inch above the difeafed part, and then cuts off the tefficle half an inch below the ligature. After this, the spermatic cord will be immediately retracted towards the abdominal ring, in which fituation it must be kept without stretching it, and consequently the ligature, the end of which is fastened over the offa pubes by means of adhefive plaster, must not be drawn tight, but held loofe. By this means, and by the application of a little lint under the end of the spermatic cord that has been cut, it is prevented from having too much threfs laid upon it, as well as from forming its adhesion too

In most cases, however, it might be advisable to detach the spermatic cord from above down to the place where it is intended to divide it, and not to disengage the testicle till after the cord has been tied. For the excision of the testicle is always combined with some degree of pain and spasm of the spermatic cord, which may be avoided by tying and dividing the spermatic cord, before we cut out the testicle.

Mr. Theden having (he fays) observed various nervous aftections, such as spasins and epileptic symptoms, to supervene upon the tight application of ligatures, adopted the Tamponade, the advantage of which he maintains upon the following grounds: After some hours the artery contracts for strongly that no hamorrhage is any longer to he apprehended; the pain and irritation of the spermatic cord is avoided; a swelling of the spermatic cord, and a congestion of sluids in the cellular substance fituated on the outside of the peritoneum, and at the back, which may frequently give rise to statal consequences, never take place when this method is adopted, as they do when ligatures are employed. He performs the operation in the following manner: he first lays a piece of agaric, equal in fize to the circumference of the spermatic cord, upon its divided extremity, and over

that a larger, which he preffes chiefly upon that part where the spermatic artery lies, and then pushes them, with a very gentle preffure, towards the abdominal ring, so as not to occasion the smallest pain to the patient. He then applies close to the divided spermatic cord several bunches of scraped lint, covers all the wounded parts with the same substance, wets the whole with his arquebusade diluted with water, and again directs the affishant to place his singer upon the spermatic cord. I inally, he covers the whole of the dreftings with compresses, which are also wetted with the arquebusade. For security's take, he directs the spermatic cord to be kept constantly gently compressed, for the space of twenty-four hours, by affishants who relieve each other.

Mr. Le Blane also believes, that the fatal consequences, which so frequently follow castration, generally depend upon the too great tightness with which the spermatic cord is tied. On this account, he directs that the ligatures should be drawn only moderately tight, and instead of drawing them tight, to apply agaire, and fecure it upon the part for several hours, by a gentle pressure with the hand.

Mr. Warner flops the hemorrhage after caftration, by applying gentle preffure to the velfels, by means of his thumb and fore-finger, with which he lays hold of the velfel for the fpace of feveral minutes; he has also found the application of a finall piece of liren to the orifice of the velfels, to answer his purpose without occasioning the flightest

degree of pain.

But though the tamponade has been also used by other practitioners with fuccefs, it is, however, juftly confidered by the greater part as not perfectly fafe. For reasons, which, though well known, are however very important, Mr. Marshall condemns it in the strongest terms, and recommends tying as the fafelt remedy; but the method according to which he performs this operation, has fomething peculiar to itself, which will scarcely come into general use. He considers the prevention of the retraction of the spermatic cord into the abdominal ring, as the principal cause of all the troublesome symptoms. He therefore always separates the spermatic cord as high as the abdominal ring, loofening both it and the tellicle from all its adhesions with the neighbouring parts, by means of his finger or a sharp instrument. He then divides the spermatic cord, an inch below the abdominal ring, and ties it, applying under the ftring, which confifts of four waxed threads, two small compresses, in order to prevent its cutting the parts; besides which, he considers it to be very useful, to push the spermatic cord into the abdominal ring, which confequently cannot be done without making an incision into the ring.

Mr. Loder concludes from his experience, that the spermatic cord may be tied, without there being reason to apprehend dangerous confequences, provided we use the precaution first to separate it from the neighbouring parts to which it adheres, and tie it, with a broad ligature, grahe uses a ligature, consisting of five or fix strong threads, which he applies loofe round the spermatic cord, after having separated both that and the tellicle completely from all the furrounding cellular fubstance; he then draws the spermatic cord gently forwards, cuts it through with a pair of feiffars, and gradually tightens the ligature till the hamorrhage ceases, upon which he makes a second knot, and cuts of the ends of the ligature fo as still to leave some inches of the threads hanging out of the wound. For the fake of greater fecurity, he applies, belides this ligature, fometimes another narrower one in a fimilar manner.

Mr. Murfinna, however, is of a contrary opinion. The ligature, which with him is formed of three throug waxed

threads, he introduces at the proper place under the exposed spermatic cord, and fastens it anteriorly, with a double knot, in such a manner, as to draw the whole string as tight as possible, in order that all the parts included in the ligature may be, in a manner, crushed. The double knot he further secures by a fingle one, in order that it may not get loofe. This violent method of tying, he fays, at first produces exquifite pain; but that is only momentary, and afterwards nothing of it is felt. By this means almost all the violent fymptoms, which generally fucceed the operation. may be avoided, and the cure will be greatly accelerated. Only when the ligature has not been drawn fufficiently tight, or when, in confequence of the spermatic cord being much loaded with fat, or not fufficiently detached from the cellular substance, it again becomes loofe before the nerve has been destroyed, the pain, and fometimes also the hæmorrhage, returns, which is frequently followed by nervous

In order to prevent fuch accidents, he always applies a fecond fimilar ligature loofe round the first, fastening the ends of the firing, with a piafter, upon the patient's belly, in order that in case of necessity, particularly if a hamorthe patient, after the application of the ligatures, flill feels pain in the spermatic cord, extending to the abdominal ring, the furgeon may conclude, that the ligatures have been applied too loofe, or at least that the nerve has not been completely deftroyed. In this case, he must renew the ligature, by applying a fecond string at the same place, and in order to prevent hamorrhage and all the other fymptoms, he should continue to tighten it, till the pain entirely remits. Mr. Richter entirely concurs in this opinion, and appeals to experience in proof of the affertion, that a ligature drawn which is only moderately tight, and merely irritates, inflead of altogether suppressing the vital actions. Mr. Pearson, of the Lock hospital, whose instructions will be hereafter ad-

The method of ftopping the hamorrhage employed by Mr. Sibold, is done without including the nerve in the ligature, whereby he thinks all the dangerous fymptoms may be obviated; as the ftopping of the hamorrhage is the only purpose for which the ligature is applied. He draws the spermatic artery forwards, with Bromfeild's tenaculum, and ties it, without including any other part of the spermaric cord in the ligature, and without giving the least pain to the patient by the operation. Applying the ligature round the whole spermatic cord, he entirely condemns, and expresses his surprise that surgeons, notwithstanding all the dangerous consequences that have been sound to arise from it, titll hesitate to the the spermatic artery quite separate from all the surrounding parts; an operation, which has not only always succeeded with him, but has likewise been always performed with overal facility.

But after the excision of the testicle and the application of the ligature, should some other artery, bestices the spermatic, either in the internal or external coats of the scrottun, bleed profusely, it is proper either to draw it forward with a needle and tie it also, or when this cannot be done, to

apply preflure and ftyptic remedies.

When the feretum is perfectly found, or when we are fure that all the indurated parts have been entirely removed from it, we ought, as Mr. Fearon advices, to endeavour to effect the healing of the wound by the first intention; for which purpose the divided parts must be gently drawn together, in order to bring the lips of the wound in as accourate contact as possible, in which situation they must be

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secured by means of adhesive plaster; or, as Mr. Loder advises, two sutures may be appied, and between these long

flips of adhelive platter.

In other cases the wound is to be filled up with dry lint, and the lips of the wound drawn fomewhat nearer together by means of long flips of adhefive plafter, which are covered with a pledgit spread with ointment; over this is laid, a thick, foft and dry compress, and the whole is secured with the T bandage. After the dressings have been applied, the patient is put in bed, where he should lie with his feet conflantly firetched out. Mr. Schmucker directs us to lay the patient, after the operation, in a horizontal posture upon mattreffes stuffed with horse hair, in order that the divided portion of the spermatic cord may always keep the same polition, and not contract when the knees have first been drawn upwards, and are afterwards extended. This horizontal polition which is adopted by most practitioners, Mr. Murlinna conceives to be inconvenient, and therefore places the patient on his back, with his head and shoulders somewhat elevated, and his thighs moderately bent.

The lint, that has been introduced into the wound, must be suffered to remain there, till it spontaneously separates in consequence of suppuration, which generally happens on the fourth or fifth day; till which period the renewal of

the dreffings must also be deferred.

After every thing that can eafily be separated has been extracted out of the wound, it must be carefully cleansed of the blood and matter, again loosely filled up with dry lint, and we must continue to draw the lips of the wound gently together, by means of adhesive plaster, without however exciting pain. Afterwards the dressings are to be renewed daily, or, should the suppuration be very copious, twice a day, till a complete cure is obtained. The upper part of the wound, in which the spermatic cord is situated, must not be suffered entirely to close till the ligature has been drawn out; however, we must here also endeavour to prevent too violent a suppuration. After the ligature has been drawn out, the small wound must be cicatrized by the ap-

plication of dry dreffings and gentle preffure.

Upon this subject Mr. Pearson has offered some judicious observations. He says, "I. It is seldom necessary to recover any part of the servour meet any part of the ferotum when the disease has not arrived at the ulcerated state. I have never seen the mere bulk of the part form a valid objection against leaving the whole of the integuments; for the ferotum will generally contract within very moderate dimensions. But where the skin adheres to the testicle; where it has undergone a morbid alteration; or when the person has formerly been punctured several times for a hydrocele; the integuments will be found in such an indurated state, that it will be generally prudent to remove the altered and callous parts. However, the removal even of a considerable portion of the diseased scrotum will not necessarily prevent us from healing the wound by the first intention; for the skin of this part distates for readily, that the lips of the wound can be easily detained in contact by employing a few ligatures.

" 2. Of all the methods that have been devifed for the fupprefilion of hamorrhage, the application of a ligature round the bleeding veffel is the least painful, and the most certain; and in the operation of which we are now speaking, it is the easest and most expeditious method, to tie the whole spermatic cord. It has frequently been delivered as the opinion of very respectable surgeons, that the most dangerous consequences are to be apprehended, from including the spermatic cord in the ligature. Some have forbidden us to include the cremaster muscle; others have advised the separation of the nerve; and some have only di-

rected us to avoid the vas deferens. Heister and other eminent furgeons, have declared the separation of the nerve from the blood-veffels, to be both unneceffary and impracticable; and they who advife fuch a practice, are charged with being ignorant of anatomy. It is however probable, that in Mr. Bromfeild's method of fecuring the spermatic artery, the nerve may be generally avoided. I think this mode of proceeding is not entirely free from objection: for as the cord is divided at the beginning of the operation, it must be trusted to the singers of an assistant till the diseased tefficle be removed from the fcrotum: but it has more than once happened, that the cord has retracted, fo as to escape from the fingers of the affiltant; and the operator has confequently found great difficulty in fecuring the veffels under fuch unfavourable circumstances. Mr. Pott has directed us to tie the spermatic cord, after the operator has separated the vas deferens from the blood-veffels with his finger and thumb. When the spermatic cord is in a natural state, there will be little difficulty, or loss of time, in complying with this direction; but where it has been for some time diseased. the cellular membrane lofes its mobility, fo that the feveralparts are not eafily feparable: in fuch cafes, it is of confequence to know whether the feparation of the vas deferens be a part of the operation, which cannot be omitted with-out danger to the patient. It is the refult of my experience hitherto, that no danger nor inconvenience whatever will enfue from including the was deferens in the ligature: I am farther of opinion, that by following a contrary rule, the operation is made more complex, without being rendered either less painful or hazardous; and in this opinion I am supported by the authority of the most respectable writers on furgery.

"Some practitioners have thought it advisable to interpole a piece of lint, or fome other foft substance between the ligature and the spermatic cord; and this was probably devifed, either to prevent the waxed fills from cutting the veffels; or by thus increasing the lateral pressure, to render it unnecessary to draw the ligature so tight as to give much pain. When the spermatic artery is perfectly free from disease, and the cord is small and slexible, a very small degree of pressure, thus applied, will no doubt be sufficient to prevent a hæmorrhage. But where the spermatic artery is much enlarged, and the cord has become unnaturally denfe and elastic, a very gentle pressure will be insufficient to close the bleeding vessels: and if the ligature be drawn very tight, we shall in a great measure forego the advantages that were proposed. Among the reasons that have been offered against including the whole spermatic cord in the ligature, it has been urged : 1st. That the patient always fuffers exquifite pain when the cord is ticd; and 2dly. inflammation, great diforder of the contents of the abdomen, and even alarming convultions, are among the fymptoms that supervene to this mode of treatment. I do not pretend. to deny, that violent pain, and fometimes dangerous confequences have attended the usual way of tying the spermatic cord; but I would beg leave to fuggest, that these confequences may probably depend lefs upon including the whole cord in the ligature, than upon tying it too gently. If we merely proposed to restrain the hæmorrhage from the divided spermatic artery, a very moderate degree of pressure would be fussicient; but as a nerve, a muscle, &c. are also to be included, there ought to be the farther intention of intercepting all communication between the brain and the part below the ligature : if a fufficient force be exerted to produce this effect, the vitality, and confequently the fenfibility of that portion of the cord will be quickly destroyed. therefore always draw the knot as tight as poslible; and al-

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though the patient may complain at the moment, yet the pain very foon goes off; fo that in no one instance where this method was followed, have I ever known the least sub-fequent inconvenience. All imperfest and partial pressure must necessarily be followed by the alarming symptoms which different practitioners have recorded. It would therefore be much better not to tie the cord at all, than to fail of drawing the ligature to fuch a degree of tightness, as immediately to kill the included part; and this additional reafon for the observation may likewise be subjoined, that when the knot is left comparatively loofe, the separation will not be completed as foon, as when the life of the parts that are compressed by it is instantly destroyed. When the cord is found at any time fo dense and elastic, that the ligature applied in the usual way, proves insofficient to restrain the hemorrhage, we are advited to carry a needle with a double ligature through the middle of the cord, and tie it on both fides; this method will certainly be effectual, but the operator ought to be careful left he puncture the artery, when he passes the needle into the spermatic cord." See Pearson

on Cancerous Complaints, p. 71. &c.
In most cases that require castration, the testicle is not only entirely diseased, but also so large as to fill the whole tunica vaginalis, which is itself either partly, or entirely difeafed, or has only formed close adhesions with the tellicle in various parts. This may generally be discovered before the operation, both by the eye and the touch, from the fize, the weight, and especially the hardness of this part. When the tumor has befides a rugged furface, and occafions pain, we are enabled to diftinguish the nature of the difease with still greater certainty; namely, that there is little or no water contained in the tunica vaginalis, and that this is for the greater part adhering to the tellicle, and difeafed. In this cafe, after having divided the external integuments, and fufficiently laid bare the tumor, an incifion, Several inches in length, should be made into the tunica vaginalis, below the abdominal ring and over the spermatic cord, the fluid that may be contained in it discharged, the spermatic cord detached as much as possible from all its connection with the furrounding parts, and if it be free from difease, tied in the manner above-mentioned. The whole tunica vaginalis, with the difeafed tetlicle, is then to be cut out of the cellular fubliance of the ferotum, after which the whole mass under the ligature is cut away with the fealpel.

Only it is necessary, in performing this operation, that we flould take care not to injure either the feptum feroti or the scrotum itself. In order that this accident may be avoided, we must draw the tunica vaginalis tight, by means of a double tenaculum, and direct the affirmant to draw tight the external skin, in order that we may be able to cut as much as possible within the cellular substance. When, as happens in some rare cases, the tumor has formed adhesions with the ferotum, we must feparate it with the feelpel, but not cut through the fcrotum, as the indurated parts of the fkin may be healed and preferved during the suppuration. In the still rarer case, when the tunica vaginalis adheres not only to the tefficle, but also to the external skin, on its whole anterior fide, in fuch a manner as to render it impossible to draw the skin into a fold; we must divide the external skin, by a perpendicular incision, lay bare the tunica vaginalis, and then perform its excision, as well as that of the tellicle, after the manner above described.

Should the spermatic cord be indurated or diseased, which may readily be discovered by the sight and touch, it must be tied an inch above the diseased part. But should the cord be diseased as high up as the abdominal ring, it must

also be laid bare higher, the abdominal ring itself enlarged, the spermatic cord drawn tight, separated from all its connection with the parts in the abdominal ring, and tied as tight as possible above the diseased part in order to prevent the subsequent renewal of the disease, and effect a radical cure. As it is not to be expected that the disease will extend higher than the abdominal ring, we may also tie the cord, with hopes of a fuccessful event, even though it should be diseased as high up as the abdominal ring.

This indurated and difeased state of the spermatic cord may also probably be discovered before we undertake the operation, as the larger size of the tumor, the manner in which it has been produced, and the length of time during which it has continued, will direct our attention to it. When therefore we find the tumor to extend into the abdominal ring, and that it is preternaturally hard and painful to the touch, without the patient's having previously been affected either with an ome-tal or intestinal hernia; the spermatic cord is in all probability diseased. As even in this case the operation has sometimes been successfully performed, and the patient's life preserved, by widening the abdominal ring, separating the spermatic cord, and then twing it; the surgeon ought also in such a case, provided the other circumstances be favourable, to perform that operation.

CASTRATION, in Rural Economy. See Galding and Spaying.

CASTRATION is a term which has been fometimes used by the older phylicians to fignify the correcting of violent medicines, especially purgatives. See CORRECTION and COR-RECTORS.

CAST ATION also denotes the art of retrenching, or cut-

CASTRATO, Ital. a male finger, with a foprano or female voice, occasioned by a cruel act, which needs no further explanation than what is given under the article great. Italy is the only country, perhaps, on the globe where the inhuman cuttom has prevailed of gratifying the auricular fenfe at the expence of humanity. The Italians pretend to have very fevere laws against this inhuman practice; but evirati have been employed in the pontifical chapel to fing the foprano, or treble parts, ever fince the ellablishment of the opera, in the beginning of the 17th century; till which period the treble parts were fung by which some of the cathrati have obtained by their voice, tatte, and talents in finging, have thimulated fordid and unchange at the time of puberty; and as not one boy in a 100 has a fine voice, though all boys have a farill and effeminate voice previous to manhood; yet of all the unthere is a voice, the want of genius, diligence, figure, and intelligence, will prevent their ever acquiring the favour or the pity of the public; and though they merit the utmost commiferation for the inhumanity of their barbarous parents, they are always treated with foorn and derision by the grofs and vulgar part of fociety. See EURUCH; where we

finall refume the fibject, and detail the history and use of enumers from the most remote antiquity to the establishment of the musical drama in Italy.

weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds and different species of fine; and among the weeds are species of specie

CASTREDE d'Alva, in Geography, a town of Portugal, in the province of Trus los Montes, on the Duero; 4 leagues S.E of Espadacinta.

CASTREL, or rather KESTRIL, in Ornithology, falco

tinnunculus of Linnaus, which fee.

CASTRENSES, Morli. See Camp Difenfes.

CASTRENSIANI, or CASTRENSES, in Antiquity, an order of fervants in the Greek emperor's housels old, to whom belonged the care and fervice of what related to his table and cloathing. They were thus called either on account of their attending the emperor, when in camp, or because they observed a fort of camp-discipline in the court; or rather because they were considered as foldiers, were paid as such, and had the privileges belonging to the military body.—The castrensiani were also called "castrenses ministri," and "ministeriani."

To this order belonged the bakers, butlers, waiters, fullers, tailers, &c. They had a head, or fuperior, who was called "comes castrensis," which was a palatine dignity

under the chamberlain.

CASTRES, in Geography, a city of France, and principal place of a diffrict, in the department of the Tarn; before the revolution, the fee of a bishop, fusfragan of Alby. In the reign of Lewis XIII, the inhabitants were chiefly Protestants, and formed within themselves a kind of republic; but fince that time the walls have been demolished, and the place laid open. It is a town of good trade, containing 15,385 inhabitants; those of the canton amount to 17,266; the territory comprehends 142½ killometres, and 7 communes. Turquoties thoses have been sound in its neighbourhood. It is distant 34 miles from Toulouse. N. lat. 43° 40′. E. long, 2°.—Also, a town of France, in the department of the Gironde, and district of Cadilhac; 10 miles S.E. of Bourdeaux.

CASTREZZATO, a town of Italy, in the Breffan;

11 miles W. of Brescia.

CASTRI, a town of European Turkey, in Livadia, built on the fite of the ancient Delphos, but has little remains of its former fplendour. It contains about 200 houses, and the inhabitants are miterally poor; 14 miles N.W. of Livadia.

CASTRIES, a town of France, in the department of the Hérault, and chief place of a canton, in the diltrict of Montpellier; 2 leagues N.E. of Montpellier. The place contains 500, and the canton 4934 inhabitants: the terri-

tory includes 165 kiliometres, and 20 communes.

CASTRIES, Bay of, to called by Peroufe, is fituated in the North Pacific ocean, at the top of a gulf about 200 leagues from the strait of Sangaar, on the coast of Tartary; it affords deep water, and a fafe commodious anchorage. N. lat. 51° 32'. E. long. 142° 28'. In this bay the foutherly winds are more iteady, more constant, and more obstinate than in the seas of China, from which they proceed; because, being confined between two lands, their greatest variation cannot exceed two points to the eastward or westward. With a fresh breeze the sea rises to an alarming and dangerous height. The bay of Callries alone, says Perouse, of all those we visited on the coast of Tartary, deferves that name. It affords a fecure afylum against bad weather, and it would even be possible to winter there. The bottom is muddy, and shoals gradually from 12 to 5 fathoms, in approaching the shore, from which the breakers extend to three cables' length, fo that it is very difficult to land, even in a boat, when the tide is low. No fea abounds more with

vail quantities of falmon are caught, to the number of 2000 in a day, which are found in a rivulet that discharges itself at the top of the bay. The inhabitants of this coast are described as a very worthy and hospitable people. Their chief fubfiltence is falmon, prepared on the fire with a fmall grain, which is their most valued food. This grain is brought to them from the country of the Mantchous, who dwell feven or eight days' journey from them, up the river Segalien, and who have a direct communication with the Chinefe. Befides this grain they also bring from their country nankeens, both which they probably receive in exchange for oil, dried fith, and perhaps for some skins of bears or elks, which, together with dogs and fquirrels, were the only quadrupeds whole exuving were observed. The Tartar village of the Orotchys, for to a nation of this name they belong, was composed of four huts, strongly built of the trunks of firtrees throughout their length, and properly notched to fit each other at the corners. A frame supported the roof, which was composed of the bark of trees, and the fire was fituated in the middle, under an aperture fufficiently large to give vent to the smoke. These four huts were inhabited by four different families, who feemed to live in the closest union, and the most perfect mutual confidence. Such were the inviolable fidelity of these people and their respect for property, that the French navigators left in the middle of their huts, and under the feal of their probity, their bags full of manufactures, beads, iron utenfils, and, in short, all the articles exchanged with them; nor was their confidence in any inflance abused. Each but was furrounded by a place for drying falmon, which was exposed by the women, to whom the operation is committed, on poles to the heat of the fun, after having been smoaked two onthree days round the fire in the middle of their houses. The people of this bay, as well as those of Segalien, wear on their thumbs a thick ring of lead or bone, against which they cut in stripping the falmon with a sharp knife, worn by each of them at his waist. Their village flood on a neck of low and marshy land, exposed to the north, and appeared uninhabitable during the winter. But on the opposite side of the gulf, on a more elevated spot open to the fouth, and near a wood, was another village, confifting of eight huts, larger and better constructed than the former. Above these, and near them, were subterraneous houses, like those of Kamtschatka, described in the 3d volume of Cook's last voyage. They were large enough to contain, during the rigour of winter, the inhabitants of eight huts. At one extremity of this village were feveral tombs, better constructed, and equally extensive with the houses; each of which contained four or five biers, properly formed and adorned with Chinese manufactures. Bows, arrows, nets, and, in general, the most valuable articles, were suspended within these monuments, of which the wooden doors were fecured by a bar supported at each extremity. Their houses were also filled with their effects in the fame manner. Their clothes, furs, fnow-shoes, bows and arrows, and pikes, remained in this deferted village, which they inhabit only during the winter. They pass the fummer on the other fide of the gulf. In their interment of the dead, they proportion the expence of their maufolea to their respective wealth. Whilst a relative kind of magnificence is manifested in the monuments of the more affluent, those of the poorer class are exposed on a bier, which is placed on a stage supported by stakes four feet high. All have their bows, their arrows, their nets, and some pieces of cloth round their tombs, and we may well conceive, from the veneration which these people pay to their ancestors, that it would be deemed facrilege to rob their tombs. Thefe

These people, like the inhabitants of Segalien, feem to acknowledge no chief, and to fubmit to no government. Nevertheless, the gentleness of their manners, and their respect for old age, may give this apparent anarchy a character of mildness. We never witnessed, fay the French navigators, the flightest quarrel; and their mutual affection However, these people are filthy and offensive to a difgusting degree; and there is not, perhaps, a race of perfons more feebly constituted, and whose countenance is more inconfistent with all our ideas of beauty. Their average height is under 4 feet 10 inches, French measure; their form is flender, and their voice weak and shrill, like that of children. They have prominent cheek-bones, and fmall blue eyes in diagonal directions. Their mouth is large, nofe flat, fhort chin, almost without beard, and skin olive, varnished, as it were, with oil and smoke. They let their hair grow, and braid it in treffes, fomewhat in the European manner. That of the women falls loofe upon their shoulders, and they have the same cast of countenance with the men. It would not be easy to diffinguish them, if it were not for a flight difference in their drefs, and in their leaving their necks entirely open. All the cares of the female fex are limited to cutting and fewing their clothes, disposing the fish for drying, and nurfing their children, whom they fuckle till they are three or four years old. Females feem to be much respected in this part of the globe. The men never conclude any bargain without the confent of their wives. The filver ear-rings and copper jewels which adorned their drefs, are entirely referved for women and little girls. The men and little boys are dressed in jackets of nankeen, dog's skin, and fish skin, in the form of carters' frocks. If these extend below the knees, they wear no drawers; otherwife they have fuch as are used by the Chinefe, and which extend to the calf of the leg. They have all boots of feal skin, which they reserve for winter; and they wear at all times, and at all ages, a leathern girdle, to which are suspended a knife and sheath, a flint, steel, a little bag for tobacco, and a pipe. The women are covered with a large nankeen gown, or one of falmon-skin, which they have the art of tanning, and of rendering extremely flexible. This drefs extends to the ancle, and is fometimes adorned with a fringe of small copper ornaments, which make a noise like little bells. As to their religion, they feem to have neither temple nor priests; but they appear to have some idols of rough sculpture, suspended from the roofs of their cottages. These images, however, may only serve as memorials of some child devoured by the bears, or fome hunter whom these animals may have wounded. They are represented as a people whose delicacy and refinement of manners indicate a degree of civilization, not exceeded by any who have neither flocks nor agriculture. Dogs are their most valuable property. These they harness to little sledges, very light, and extremely well made, and exactly fimilar to those of Kamtichatka. These dogs are of the wolf kind; and though fmall in fize, are very strong, docile, and gentle, and feem to possess the character of their masters; while those of Port des Français, which are much finaller and of the same breed, are wild and ferocious. The bay of Castries abounds with islands; the soil of which confilts of lava and other volcanic fubitances. Among the latter, the cruption of which appeared more ancient, were discovered various crystallizations; but no craters of volcanoes could be perceived. Vegetation in the month of July was nearly such as it is in the environs of Paris in the middle of May. Strawberries and raspberries were still in bloom; gooseberries began to redden,

and celery and water-creffes were very fearce. Several fine foliated oyfter-shells of a vinous and black colour, were found flrongly attached to the rock, and separated from it with difficulty; and their valves were fo thin that it was very difficult to preferve them entire. With the dredge were taken up fome whelks of a fine colour, fome pectines, fmall muscles of the common kind, and some varieties of the cockle. Several species of birds, such as pullets, wild refuge to bald eagles and other birds of prey. The martin mate. The earth feems to continue in a frozen flate throughout the fummer, as the water taken into the ship was only t_{2}^{10} above the freezing point, and that of the freezing never above four degrees. The mercury, however, was constantly at 59°, even in the open air. This momentary heat penetrates but a little way; it only quickens vegetation, which begins and ends in the short interval of three months, and infinitely multiplies gnats, mufketoes, and other troublesome infects. No plants are cultivated by the natives; and yet they are fond of vegetable substances. The grain of the Mantchous, which is probably a fmall shelled millet, is their greatest luxury. They gather with great care some spontaneous roots, which they dry for their winter provision; among others the yellow lily, or faranna, which is a species of onion. They are unaccustomed to the use of the shuttle, and are only dressed in the most ordinary of the Chinese manufactures, or the exuvix of some terestrial animals and feals. Voyage of La Péroufe, vol. ii. Engl. Tranil.

CASTRIMONIUM, in Ancient Geography, a fmall town of Italy, in Campania, rendered municipal by a law of

CASTRIOT, George, in Biography. SeeScanderbeg. CASTRO, Pietro di, an eminent painter of those subjects that are comprehended under the denomination of shill life, such as vases, shells, musical instruments, gems, vessels of gold, silver, and crystal, books, and rich bracelets. He was well acquainted with all the true principles of perspective, and the chiaro-scuro; and none of his contemporaries were superior to him in transparence and truth. His colouring was peculiarly excellent, and he manifested peculiar judgment in grouping a variety of objects, so as to give union and harmony to the whole. This artist died in 1663. Pilkington.

Catrro, Alphonso de, a Franciscan friar, was a native of Zamora, in Spain, celebrated as a preacher, and much etteemed by the emperor Charles V. and his son, Philip II. He accompanied the latter into England, when he came hither to marry queen Mary. His principal residence was in the Low Countries; and though nominated to the archbishopric of Compostella, he never took possession of it, but died at Brusels in 1558, at the age of 63 years. As a writer he is principally known by his work "Against Herefies," consisting of 14 books, partly historical and partly polemical. An enlarged edition of this work by Feuardent, a Franciscan, was published at Paris, in 1570. Castro was also the author of a commentary on the 12 minor prophets and of several homilies. Du Pin's Eccl. Hist.

CASTRO, JOHN DE, an eminent Portuguese commander, was born at Lisbon, in 1500, and first served at Tangier. He then accompanied Stephen de Gama to the straits of the Red Sea, which he accurately described. On his return to Portugal, he was appointed to the command of a squadron for guarding the coast; and he soon asterwards attended

Charles

Charles V. in his expedition to Tunis. He strengthened the fortifications of Diu, the fiege of which the Turks, after great loss, had been obliged to abandon; and then took a number of towns: but in 1548, he expired in the arms of St. Francis Xavier, after having been very recently advanced to the vicerovalty of the Indies. His description of all the coasts from Goa to Diu is preserved in the Jesuits' college, at Evora. His life was written in Portuguese by Hyacinth Freyre d'Andrada, and has been translated into Latin.

CASTRO, PAUL DE, a celebrated lawver of the 15th century, was born at the place from which he took his name, in the kingdom of Naples, and received his education in part from Christopher da Castiglione. From an obscure original, he rose, by assiduous application, to several stations of eminence, and diflinguished himself as a professor of jurisprudence at Avignon. Florence, Sienna, Bologua, and Padua. At the latter place, where he was teacher of the law for 45 years, he died about the year 1436. His reputation was fuch, that it was proverbally faid, "If there had been no Bartolus, Paul would have held his place;" and Cujacius faid, "He who has not Paul' de Castro, let him sell his coat, and buy him." His works are principally commentaries on the code and digeft, and have been printed at Venice, Franckfort, and other places. Gen. Biog.

CASTRO, in Geography, a town of Spain in Arragon; 10

miles N.E. of Balbattro.

CASTRO, a strong town of South America, in the island of Chiloe near the coast of Chili, in the South Pacific ocean; 180 miles S. of Baldivia, and subject to Spain. S. lat. 43°.

W. long. 82°.

CASTRO, anciently called Mitylene, a fea-port town of the island of Metelin, and the capital, situate on the north-east coast, facing the gulf of Adramiti, with two harbours; one of which is capable of receiving large vessels. It was formerly a place diftinguished by its grandeur and magnificence, of which fome veftiges still remain. It has two castles, one ancient and another modern, each of which is furnished with a Turkish garrison and commander. The inhabitants are chiefly Greeks, among whom are some Armenians: the forther have four churches and a metropolitan. The chief trade is ship-building. It is 30 miles S.W. of Adramiti. N. lat.

39° 14'. E. long. 26°, 29

CASTRO, a duchy of Italy, in the state of the church, bounded on the north by the Orvictan, on the east by the Patrimonio, on the fouth by the fea, and on the west by the Siennese; 25 miles long, and from 8 to 13 wide. duchy of Caltro, together with the earldom of Ronciglione, was conferred by Pope Paul III. on his natural son, Peter Aloysius Farnele, who afterwards became duke of Parma and Placentia: it was mortgaged by one of his descendants to the Monte di Pieta at Rome; but upon his paying neither principal nor interest, it was sequestered by Pope Urban VIII. and in the year 1661 was annexed to the papal dominions. The town of Caltro, from which it derives its name, which was formerly a bishop's fee, was demolished by Pope Innocent X. and the fee removed to Aquapendente, because the inhabitants had murdered a bishop whom he had fent to them.

CASTRO, a town of Naples, in the province of Otranto, the fee of a bithop, fuffragan of Otranto; which has been frequently plundered by the Corfairs; four miles S.S.W. of

CASTRO de Caldulas, a town of Spain, in the province of

Galicia; 9 leagues N.E. of Orense.

CASTRO Dayro, a town of Portugal, in the province of Beira; 5 leagues S.S.W. of Lamego.

CASTRO Giovanni, a town of Sicily, in the valley of Noto; 63 miles S.W. of Melazzo.

CASTRO de Gors, a town of Portugal in the province of Beira; three leagues N.W. of Vifeu

CASTRO Nova, a town of Sicily, in the valley of Mazzara, containing about 4000 inhabitants; 20 miles S.E. of Palermo.

CASTRO Nuovo, a town of Venetian Dimatia, built by a king of Bofnia, defended towards the fea by inaccessible rocks, and towards the land by a citadel and castle.

CASTRO de Rey, a town of Spain, in the province of Ga-

licia; 5 leagues S. of Mondonedo.

CASTRO dell Rio, a town of Spain, in the province of Cordova; 5 leagues from Cordova.

CASTRO Trionto, a town of Naples, in the province of Calabria Citra; 11 miles E. of Rossano.

CASTRO Verde, a town of Portugal, in the province of

Alentejo; 1½ leagues N.E. of Ourique.

Castro Vicente, a town of Portugal, in the province of

Tras los Montes; 6 leagues E. of Mirandola.

CASTRO Villara, a town of Naples in the province of Calabria Citra: 6 miles W. of Caffano.

CASTRO Virreyna, a jurisdiction of South America, in the country of Peru, and in the diocese of Guamanga, W. of the city of Guamanga; and extending in feme parts above 30 leagues, with fuch a variety of temperatures, that it produces every kind of grain and fruits. which are its coldest parts, are frequented by a kind of sheep, called Vicunna, whose wool is the most considerable article of its commerce. Its town of the same name is 125 miles S.E. of Lima. S. lat. 12° 50'. W. long. 74° 45'.

CASTROMARIM, a town of Portugal, on the Guadiana, four leagues E.N.E. of Tavira. It furrounds a hill on which is an old ruinous castle, no longer fortified. The houses are small, and the place poor and mean, but far more lively than Villa-real. Near Castromarim immediately rise mountains of the chain that divides Algarvia from Alentejo, which gradually become high as you advance northwards; they confift of argillaceous flate, and a fand stone, which has a very strong resemblance to the grey round stones found in the Hartz mountains in Germany, called "Grauwache.'

CASTROP, a town of Germany, in the circle of Westphalia, and county of Mark, containing one church for Roman Catholics, and two for protestants of different perfuations; 27 miles S.S.W. of Munster.

CASTROPOL, a town of Spain, in the province of Afturias, on the borders of Galicia; 14 miles N.E. of Mondo-

CASTROREALE, a town of Sicily, in the valley of Demona, containing about 8000 inhabitants; 15 miles W. ot Meffina.

CASTROSAROS, a town of European Turkey, in the

province of Romania; 44 miles W. of Gallipoli.

CASTROZARBA, in Ancient Geography, a town of

Thrace, fortified by the emperor Justinian.

CASTRUCCI, PIETRO, in Biography, a native of Rome, a scholar of Corelli, and an eminent performer on the violin, arrived in England in 1715, with the earl of Burlington, when he returned from his travels. This violinist, an enthufialt, and more than half mad, is represented in one of Hogarth's prints as the enraged mufician; the painter having fufficient poliffennerie, previous to making the drawing, to have his house befet by all the noisy inflruments he could collect together, whose clamorous performance brought him to the window in all the agonies of auricular torture.

On his arrival, Corbet, who had hitherto led the opera

band, was superseded for Costrucci, who was appointed leader. In 1731, a concert was advertised at Hickford's room, for the benefit of signor Castrucci, first violin of the opera, who was to play the sirst and eighth concerto of his master, the samous Corelli, and several pieces of his own composition, particularly a solo, in which he engaged to execute "several four notes with one bow." This advertisement was burlesqued, the next day, and a solo promised by the last violin of Goodman's Fields playhouse, in which he would perform

"twenty-five notes with one bow."
In 1732 Handel composed, in his opera of Sostarmes, an Aria parlante, ever di madre, on purpose to display the talents of Castrucci in the accompaniment; and from this period to the year 1737, he seems to have led at all concerts, giving way only to the two boys, Cleg and Dubourg, in the folos, in which, from their youth as well as talents, they were highly favoured by the public. This year Castrucci, in advertising a benefit concert, slyles himself first violin of the opera; promising a particular concerto, with an echo, adding, that "as he has for the space of so many years had the honour to scree the English nobility, he hopes they will favour him this last time, being to return the ensuing summer to Rome, his native city."

About the year 1737, poor Castrucci, Hogarth's caraged mustian, was superfeded at the opera, in favour of Feiting, for whom he had such an antipathy, that in his most lued intervals, he instantly lost his temper, if not his reason, on hearing it pronounced. It was a common and irritating practice with some of his young waggish acquaintance, who had no respect for age and talents, to address him in conversation by the name of Mr. Felting, as if by mittake,—"I beg your pardon,—Mr. Castrucci I mean;" which put him in as great a rage as Hogarth's street musicians could do on

After his difinifiion from the opera, oppreffed with years, infirmities, and poverty, he was obliged to fupplicate for a benefit at the opera-houfe, which on the merit of his path fervices was, with due benevolence, granted him at the age of 80, when he performed a folo for the last time, and died from after.

He was a voluminous composer for his own inframent. Two books of folos, and 12 concertos for violins, though never much known, feem to have more fire and variety than most violin music of his time, till Verueini, still more inflamed, surpassed him in genius, hand, knowledge, and captice.

He had a brother, Professo Caffrucci, who for feveral years led at the Cattle concert, and played concerts with his brother, a prit equali; but though inferior to Pietro, he was not devoid of merit.

CASTRUM, in Ancient Geography, a term which, in combination with others, gives name to feveral fortified places; of which fome were towns, and others mere fortreffes. They are too numerous, and not of fulficient importance, to be here recited.

CASTRUM Doloris, in Middle Age Writers, denotes a catalalco, or lofty tomb of flate, creeted in honour of fome person of eminence, usually in the church where his body is interred; and decorated with arms, emblems, lights, and the like.

Ecclefiaftical writers fpeak of a ceremony of confecrating a exirum diloris; the edifice was to be made to reprefent the body of the deceafed, and the prieft and deacon were to take their pofts, and fay the prayers after the fame manner as if the corple were actually prefent.

CASTRUP, in Geography, a town of Germany, in the

circle of Wellphalia, and bishopric of Munster; 5 miles S.S.E. of Clopenburg.

CASTS. See CAST, CASTING, and Impressions from

TEDALS.

CASTULO, or CASTULUM, in Ancient Geography, Cazlona, a confiderable town of Spain, towards the caltern part of Batica, belonging to the Oretani. It had the title of "Conventus" when the Romans made themfelves malters of the country, but before this time the Carthaginians had contended for the poffelion of it with those to whom it naturally belonged. It was the native place of Inilia, the wife of Hannibal. This town was fituated in a mountainous country; and some have derived its name from "Cialton," an oriental term, fignifying the noise of i fall of water; and we learn from Strabo, that there were rocks near the place which gave rife to the river that passed to Castulo. The town ittelf, placed on a mountain, or at least very near it, seems to have some relation, by its name and situation, to Parnassus, famous for its sountain "Caltalia;" and hence some have been led to imagine, that it was sounded by the Phoceans, to whom belonged, in Greece, the sounded by the Caltalia and Parnassus. Silius Italicus has not omitted this allusson. Julius Castal, naving purchased the lands in the territory of Castulo, established a colony in it. There were defiles in the vicinity of Castulo, mentioned by Livy, and called "Saltus Castalens."

CASU Consimili, in Laza, a writ of entry, where a tenant by courtefy, or for life, aliens in fee or in tail, or for another's life: it takes its name hence, that authority being given by flat. Weft. 2. 13 Edw. I. c. 24. to the clerks in chancery to make new forms, as often as any new cafe flould arife, not under any of the old forms; they framed this writ to the likeness of the other called Casa provise.

Case Provifs, a writ of entry, given by the flatnic of Glocester, 6 Edw. I. c. 7. in case where a testact in dower aliens in see, or for term of life, in tail: and lies for him in

reversion against the alience.

CASUAL, formething that happens fortuitoufly, or without any defign, or measures taken to bring it to pass.

CASUAL death. See DEODAND.

CASUAL cjedor, in Law, a nominal defeendant in cjectment, and who continues such until appearance by or for the tenant in possession. Blackst. Comm. vol. iii. p. 201.

Casual revenues, are those which arise from forseitures,

conhications, deaths, attainders, Sec

more frequently called cafuiltry. See Casust.

Adam Offinder, chancellor of the university of Tubingen, has published a fystem of caffiel theology, containing the foliation of dubious questions, and cases of conference. Theologia

Caufalis, 6 vols. 4to. Tubing, 1082.

CASUALTY, in the Tin Mints, a word used to denote the earth and stony matter which is, by washing in the slamping-mills, &c. separated from the tin one, before it is dried

and goes to the crazing mil

CASUARI, in Ancient Geography, a people of Upper Germany, according to Ptolemy, who dwelt near the Snevi.

CASUARIA, a place of Gaul, in the division called the "Greek Alps," which was fituated at a fmall diffance to

the right of Ifara

CASUARTNA, in Bestuny, (faid by Ventenat to be fo called from a fancied likenefs of its branches to the feathers of the coffowary.) Forft, Gen. 52. Thunb. Nov. Gen. Pl. 53. Linn. Jun. Suppl. p. 62. Schreb. Gen. 1395. Juff. p. 412. Vent. vol. iii. p. 576. Gært. 568. Filao, Lam. Encyc. Bofe. Nouv. Diet. Class and order, monacia monandria. Nat. ord.

conifera, Juff. Vent.

Gen. Ch. Male. Cal. common; catkin filiform, imbricated; fcales fomewhat membranous, whorled, lanceolate-awl-shaped, connate at the base, ciliated, one-slowered. Calyx proper twovalved; valves acute, equal, boat-shaped, shorter than the feales of the catkin. Cor. none. Stam. one, capillary, longer than the scale. Female. Cal. common ovate-cylindrical; feales ovate, acute, keeled, ciliated. Calyx proper two-valved, longer than the scales of the catkin, permanent. Cor. none. Pift. germ egg-shaped, compressed; style filiform, long, bifid; stigmas two. Perie. strobile almost globular, composed of the enlarged, aggregate calyxes, each containing a fingle feed. Seeds winged, compressed. Gart. and Vent.

Eff. Ch. Calyx common, a catkin; calyx proper, two-

valved. Style bilid. Perigarp a strobile.

Sp. 1. C. equifitifelia, Linn. Fil. Supp. Thunb. Nov. Gen. p. 53. Forlt. Gen. tab. 52. Lam. Encyc. Illust. pl. 746. fig. 1. Mart. Mill. (C. littorea, Rumph, Amb. vol. iii. p. 86. tab. 57.) " Monoicous; whorls of stamens approximating." Thunb. " Little branches irregularly disposed, crowded; catkins thickened towards the top." Lam. A large, spreading, lofty tree. Branches greyish or brown, knotty, and tubereled on their lower part, furnished on their upper part with numerous branches, which are fet close together, almost fasciculated, very slender, jointed, and regularly channelled, refembling the ramifications of the horse-tails (equiseta). Male catkins about an inch long, terminal, straight, linear-cylindrical. Strobiles about the fize of a walnut, woody, lateral, below the flender branches; peduncles two or three lines long. A native of Madagascar and the East Indies. 2. C. nodiflora, Thunb. Mart. Gært. (C. verticillata, Lam. Encyc.) "Whorls of stamens remote." Thunb. "Little branches whorled, loofe; catkins attenuated towards the top." Lam. A large tree, with a less dense head than the preceding. Branches more diffant; upper ones three or four together, in diffinct whorls. Male catkins two inches long, cylindrical, jointed, whitish; filaments not more than a line and a half longer than the scales. Lam. Strobile nearly globular, echinate, peduncled. Scales of the catkin, when ripe, much thickened, of a conklike substance, retuse, white, in pairs, fet so close together as to appear one body, handfomely teffellated, in quadrangular figures; valves of the calyx elongated, coriaceous, concave. Gært. A native of the East Indies and New Caledonia. 3. C. frida, Hort. Kew. 320. Mart. " Dioicous ; little branches erect ; fcales of the strobiles unarmed, smoothish; male-sheaths multifid, fmooth." A native of New South Wales, flowering in November and December. 4. C. tornlofa, Hort. Kew. 320. Mart. "Dioicous; little branches flaccid; feales of the strobiles villous, roughened with tubercles; male-sheaths quadrifid." A native of New South Wales, introduced by fir Joseph Banks in 1772. 5. C. africana, Lour. Cochin. 549. Mart. "Little branches siliform, swelling at the tip, and floriferous; strobles roundish, axillary." A native of the fandy east coast of Africa.

CASUENTINUM, or CASENTINUM, in Ancient Geography, a burgh of Italy, in Umbria, according to Pliny. CASUENTUM, BASIENTO, a river of Italy, marked by M. d'Anville's map in Lucania, which discharged itself into the gulf of Tarentum. Alaric, king of the Goths, was

buried in the bed of this river.

CASUHATI, in Geography, a high chain of mountains, in South America, part of a triangle, one fide of which extends to the Andes, and another to the straits of Magellan.

CASUIST, a person who professes to resolve cases of conscience. Escobar has made a collection of the opinions

of all the cafuills before him.

To cafuiftry belongs the decision of all difficulties arising about what a man may conscientiously do, or not do; what is fin, or not fin; what things a man is obliged to do in order to discharge his duty, and what he may let alone without breach of it.

M. le Feore, preceptor of Lewis XIII. called the books of the cafuilts the art of quibbling with God; which does not feem far from the truth; by reason of the multitudes of distinctions and subtilties with which they abound.

CASULÆ CARIANENSES, in Ancient Geography, an epif-

copal fee of Africa, in the Byfacene territory.

CASURGIS, a town placed by Ptolemy in Germania Major, supposed to be the present Caurzim, in Bohemia.

CASUS Amissionis, in Scots Law. In actions proving the tenor of obligations inextinguishable by the debtor's retiring or cancelling them, it is necessary for the pursuer, before he is allowed a proof of the tenor, to condescend upon fuch a " Cafus amiffionis," or accident by which the writing was destroyed, as shews it was lost while in the writer's pol-

CASWELL, in Geography, a county of America, in the diffrict of Hillsborough and state of North Carolina, containing 10,096 ishabitants, of whom 2,736 are flaves. The chief town is Leefburg.

CASYRUS, or CHASIRUS, in Ancient Geography, a moun. tain of Afia, in Safiana; near which Pliny places the town of Softrates.

CASYSTES, a port of Asia Minor, in Ionia, placed by Strabo at the foot of mount Corica.

CAT, CLAUDE NICHOLAS LE, in Biography, was born at Blerancourt, in Picardy, September 6, 1700. His father, Claude Le Cat, who was a surgeon of eminence, would have educated him to his bufiness, but finding him disposed to theological studies, he encouraged him in that pursuit, and he performed the duties of an ecclefiastic feveral years. Being well versed in geometry, he, for a time, employed himself in acquiring a knowledge of military architecture, and made fome drawings in that line which gained him credit; but his friends not approving that project, and requiring him to fix on the object he now purposed following, he determined on fludying medicine, fome knowledge in which he had acquired early, under the tuition of his father. He was now fent to Paris, and as he was of an ardent disposition, he soon, by his intense application to his studies, attracted the notice of the professors. Though anatomy was the part to which he feemed particularly attached, yet he foon shewed himself to be no mean proficient in fargery, and medicine, infomuch, that in the year 1729, M. Tressan, archbishop of Rouen, appointed him his phyfician and furgeon, though he did not take his degree of doctor in medicine, until the year 1732, when that honour was conferred upon him at Rheims. He had the preceding year been chosen surgeon major to the Hotel Dieu, at Rouen. For this honour, and for the attachment his countrymen conftantly shewed him, he was not ungrateful. In the year 1733, having now completed his studies, he went and refided among them, and in the fame year he began his course of lectures in anatomy and furgery, which soon became fo numeroufly attended, that the rooms in which they had been accustomed to be given would not contain the concourse of pupils, who required admission. He therefore proposed building a theatre for the lectures, and founding a college, or school for the study of anatomy and furgery, D 2 which

which he had the pleasure of seeing carried into execution. He also formed a literary lociety, which was afterwards crecied into a royal academy, to which, as one of the most zealous and active members, he was appointed fecretary, which post he held to the time of his death. In 1759, an addition of 2000 livres was made to his falary as principal furgeon to the Hotel Dieu, and in January, 1762, the king gave him letters of nobility. In the mean while he had made himfelf known to moit of the philosophical, and medical societies in Europe, by his communications on the subjects of anatomy and surgery; he was also a frequent correspondent with the editors of the Journal des Savans, Mercure de France, and other literary and medical journals. The subjects of his differtations were fometimes fuch as rather thewed his ingenuity than his judgment, and tended more to amufe than to improve the mind; as, of the nature and properties of the nervous fluid, on the canfes of the colour of the fkin in negroes, &c. Many of them, however, were of a higher kind, and in the opinion of Haller, whom he occasionally opposed, and who was therefore, perhaps, no just appreciator of his merits, he made fome improvements both in anatomy, and furgery. But the same versatility of disposition, which made it dishcult for him to fix on a profession, might prevent his being a correct experimenter, to which an almost unwearied attention is necessary. He died in full possession of the esteem and veneration of his fellow citizens, August 20, 1768. Of his works, which are numerous, Haller has given complete lifts, with occational remarks, in his Bib. Anat. & Chirurg. The following are the titles of fome of the principal of them. "Traité des Sens, Rouen, 1740. Svo. avec figures." It has been feveral times reprinted. Haller finds some of the figures faulty. "Recueil de Pieces concernant l'Operation de la Taille." Rouen, 1752, 8vo. Some of the plates in this work are also cer fured by Haller. He also wrote on solvents of the stone, on the causes of the menses. "La Theorie de l'Onie, Supplement à cette Article du Traité des Sens." Paris 1767, 8vo. the most finished, Hal'er fays, of his works. Eloy. D: &. Hist.

CAT, in Geography, a lake of North America. N. lat.

52° 30'. W. long. 91° 40'.

CAT Island, or Guanabani, one of the Bahama islands. It was the first land discovered by Columbus, to which he gave the name of St. Salvadore, Oct. 11, 1492. It kes on a particular bank to the east of the great Bahama bank, from which it is parted by a narrow channel casted Exuma Sound. N. lat. 24° 30′. W. long. 74° 30′.—Also, an island near the gulf of Mexico, and the coast of West Florida. N. lat. 20° 6′. W. long. S9°.

Car, in Sea language, denotes a ling formed on the Norwegian model, ufed by the northern nations of Europe, and formetimes employed in the English coal trade. It has three masts and a boxfprit, rigged like an English stip; having, however, pole-masts, and no top gallant fails. The mizen is with a gast. These vessels usually carry from sour to six

hundred tens.

CAT, in a flip. See CAT-keads.

CAT the ancher. See ANCHOR and CATTING.

CAT, in Zoology. See Felis Catus, the common cat, and its varieties.—Cat Mexican. See Felis Pardalis.—Tiger-Cat, Mexican. See Felis Mexicana.—Tiger-Cat. Bengal. See Felis Rengalenfis.—Tiger-Cat, Cate. See Felis

CAT-lird, or CAT-fly-catcher, in Ornithology, Muscicara

Carolinenfis, which fee.

Cat's-ear, in Botany, fee Hypochæris.

CAT's eye, in Alineralogy, a filiceous gem, called by the Latins, oculus cati, and fometimes onycopalus, as having white zones or rings like the onyx, and belonging to the division of chatoyant itones, or fuch as vary their colour according to the polition of the light and the eye of the observer, which M. Chaptal confiders as varieties of the opal. Near the middle it has a point, from which proceed, in a circle, greenish traces of a very lively colour. Its colour is generally of a greenith or yellowish grey, or light, or dark-yellowish. brown, or reddish brown, or striped with these colours; and in certain politions, particularly when polified, emitting a filvery or yellowish moveable effulgence. Klaproth mentions two varieties of this mineral; the one whitish or yellow, from Ceylon, which, fays Kirwan, is found in blunt or rounded fragments; its luttre 2, and transparency, 3.2; to the fplintery; fragments, 3; hardness, 10; fp. gr. from 2.56 to 2.66. Klaproth says, that the species from Ceylon had 2.66 of specific gravity; and was found to contain of filex 95 per cent. of alumine 13, of lime 11, and of oxyd of iron 1. The other species is reddish, and is procured from the Malabar coalt. This, or attroites, fays Klaproth, was composed of 942 per cent. of filex, 2 of alumine, 11 of lime, and 4 of oxyd of iron. Its specific gravity guneche. The best of these stones are very scarce. One of

Cat-fift, in Ichthyology; several of the shark tribe are known by this title. The lesser cat-fifth, Catulus minor, and Squalus eaturins of Linnæus, is called also the lesser dog-fish.—Greater cat-fish of Edwards, Catulus maximus of Willughby and Ray, is the Linnæus Squalus fiellaris. See Squalus.

CAT-gui, a denomination given to small strings for fiddles, and other instruments, made of the intellines of sheep or lambs dried and twisted, either singly, or several together. These are sometimes coloured red, sometimes blue, but are commonly left whitish or brownish, the natural colour of the gut. They are used also by watch-makers, cutlers, turners, and other artiscers. Great quantities are imported into England, and other northern countries, from Lyons and

CAT-harpings, in Sea Language, are small ropes running in little blocks from one side of the shrouds to the other, near the deck; their use is to force the shrouds, and to make them tight, for the greater security of the mass, and to afford room for drawing the yards in more obliquely, to trim the fails for a side-wind, when they are said to be close handed.

Car-heads, two strong short beams of timber, which project almost horizontally over the slope's bows, on each side of the bowsprit, being like two radii which extend from a centre, taken in the direction of the bow-sprit. That part of the cat-head, which relis upon the fore-castle, is securely bolted to the beams; the other part projects like a crare, as above described, and carries in its extremity two or three small wheels, or sheaves of brass, or strong wood, about which a rope, called the cat-full, passes, and communicates with the cat-block, which also contains three sheaves. The machine formed by this combination of pullies is called the cat, which serves to pull the anchor up to the cat-head, without tearing the ship's sides with its stukes. The cathead serves also to suspend the anchor clear of the bow, when it is necessary to let it go; it is supported by a fort of knee which is generally ornamented with sculpture. The cat-block is stited with a large and itrong hook, which

catches the ring of the anchor when it is to be drawn ca, otherwise called Wateroe, which unites with the Canga-

Up. CAT's head, in Mineralogy, a denomination given to a fort of waste stony lumps, not inflammable, found in coalmines. In these there are frequently impressions of ferns. Phil. Tranf. No 360. p. 970.

CAT-boles, two small holes above the gun-room ports, to bring in a cable or hawfer through them to the capillan, when it becomes necessary to heave the ship a-stern.

CAT-mint, in Botany. See CATMINT.
CAT of Mountain, in Zoology. See CATUS pardus.

CAT's paw, a light air of wind perceived at a diftance in a calm, by the impression made on the surface of the sea,

which it fweeps very lightly and then decays.

CAT-falt, a name given by our falt-workers to a very beautifully granulated kind of common falt. It is formed out of the bittern or leach brine, which runs from the falt when taken out of the pan. When they draw out the common falt from the boiling-pans they put it into long wooden troughs, with holes bored at the bottom for the brine to drain out; under these troughs are placed veffels to receive this brine, and acrofs them are placed certain fmall sticks, to which the cat-falt affixes itself in very large and beautiful crystals. This falt contains some portion of the bitter purging falt, and is very sharp and pungent, and is white when powdered, though pellucid in the mass. It is used by some for the table, but the greatest part of what is made of it is used by the manufacturers of hard foap.

CAT-filver, and CAT gold, names given to certain fossile fubflances, usually called also glimmer, and in Latin, mice. They are various species of the bracearia, or foliaceous tales, in small spangles. The fragments of mica, denominated as above, according to their colour, are employed as a fand for

drying ink upon paper. See Mica.

CAT's-tail-grafs, in Botany, different species of Phleum;

which fee.

CATABANES, in Ancient Geography, a people of Arabia Deferta, who inhabited the parts between the town of Pelusium and the Red Sea, according to Pliny.

CATABANI, a people placed by Pliny in Arabia Fe-

lix, towards the strait of the Arabian gulf,

CATABAPTIST, a person averse from baptism; particularly from that of infants.

The word is compounded of the preposition xara, which, in composition, fignishes against, and βαπτω, I rwash. See ANABAPTISTS and BAPTISTS.

CATABASION, in the Greek Church, a place under the altar, wherein the relics are kept. The word is formed from xarabana, I descend; because they went down into

CATABATHMOS, or CATABATHMUS, in Ancient Geography, a valley below the steep declivity of a mountain, whence its name, from xalasanso, to descend, on account of the precipitation of its descent; extending to Egypt, overagainst the spot where stood the temple of Jupiter Ammon, and separating Egypt from Cyrenaica. It is also called "Carto Sappires;" and the Arab pilgrims, who pass through it in their way to Mecca, denominate it in their language, "Hefachbir," or the ruined places. Steph. Byz. makes it a place of Lybia, between Ammon and Parætonium, and Pliny reckons 86 miles from this last place to Catabathmos. Ptolemy mentions two places under this appellation; one the greater Catabathmos, which he makes a fea-port of Lybia; and the other, the leffer Catabathmos,. which he fays was a mountain

ree, and forms the Santee, 5 miles N. of Amelia, in South Carolina.

CATABAWS, a fmall tribe of Indians who poffels one town, called Catabaw, fituated on the river of the fame name, on the boundary line between N. and S. Carolina, and containing about 450 inhabitants, of whom about 150 are fighting men. These are the only tribe which relides in the flate; the proprietary government having granted them 144,000 acres of land. They are a remnant of a formidable nation, the bravest and the most generous enemy the Six Nations had; but they have degenerated fince they have been furrounded by the whites. N. lat. 35° 8'. W. long. 80° 52'.

CATABEDA, in Ancient Geography, a river of Indiaon the other fide of the Ganges, according to Ptolemy. M. d'Anville marks the mouth of this river at the bottom of the gulf of the Ganges, to the east of the principal mouth

of this river.

CATABIBAZON, in Astronomy, the moon's descending node; called also DRAGON's tail

CATABITANUS, in Ancient Geography, an episcopal fee of Africa, in Mauritania Cæ:arienfis.

CATABOLUM, or CATABULUM, a place of Cilicia, so called in Antonine's Itinerary, and marked in the route from Tyana to Alexandria, between Œgæ and Baiæ; fupposed to be the place called Castabala.

CATABULENSES, in the Middle Age, a fort of minifters, or fervants of the empire, appointed to conduct the public carriage from one catabulum, or stage, to another. The catabulenses appear also to have had the charge of conveying the public corn to and from the mills; whence in the Theodofian code they are joined with bakers.

CATABULUM, a kind of Itable, or building, wherein bealts, especially of burden and carriage, were kept for the public fervice. The ancient Christians were fometimes condemned to ferve in the catabula, that is, to work at the cleaning of them, attending the beatls, &c.

CATACAUSTIC CURVES, in the Higher Geometry, the species of CAUSTIC curves formed by reflexion. See

CAUSTIC curves.

CATACECAUMENE, in Ancient Geography, a country of Asia Minor, occupied in common by the Lydians and Mysians, according to Strabo. Steph. Byz. who assigns to this country the town of Ephefus fays, that it produced no trees except the vine, and that the wine derived its name from it. Vitruvius also mentions the hills of Asia Minor in Myfia under this appellation.—Alfo, an island situated in the Arabian gulf, mentioned by Ptolemy and Steph. Byz.

CATACHRESIS, in Rhetoric, a figure whereby an improper word is used instead of a proper one.

The word is formed from xaraxçanuas, abutor, I aluje's of xara, against, or contrary to; and xquopxi, I use.

The catachrefis occurs, when for want of a word proper to express a thought, we use, or rather abuse, a word that comes fomewhat near it: as when we call a person who has killed his mother, mafter, or prince, parricide; which word, in propriety, is only applicable to him who has murdered his father: and vir gregis ipfe caper, is also a catachrefis. Catachrefis fignifies in general any harsh trope, though it is most commonly found in metaphors; and is principally used by poets, who make choice of it for novelty, or to enforce expression, where the proper word does not feem CATABAW, in Geography, a river of North Ameri- firong enough. As when Milton, (Parad Loft, p. 4. v.

" Sails between worlds and worlds;"

where the novelty of the word enlivens the image more than if he had faid, flies. This trope, however, is fometimes found in the gravell authors, and even in the facred writings. Thus, we read of the "blood of the grape;" and Solomon, (Prov. xxx. 15.) fays, " the horfe-leech hath two daughters." In all these instances the trope is a metaphor: but when St. John fays in the Revelation, (ch. i. 12.) "I turned to fee the voice that spake to me," it is here a metonymy of the adjunct; the word voice being put for the person who uttered it. St. Matthew, (ch. xxvi. 6,) mentions "Simon the leper;" not that he was then a leper, but had been fo, and was cured; which is a fynecdoche of the part. And when a criminal is faid "to have had his reward," that is, his punishment, it is an irony. Ward's Oratory, vol. ii.

CATACLASIS, from xxjaxxaw, I diffort, in Surgery, denotes a diforder of the eye, wherein the eye-lid is inverted by a convultion of the mufcles that close it; called also

CATACLYSMUS, from xxlxxxv2a, I deluge, a Greek

name for a deluge, or inundation of waters.

This word, derived CATACOMBS, in Antiquity. from the Greek xxxx and xupGos, a hollow or cavity, is used to denote grottoes or fubterraneous excavations for the burial

of the dead.

These are monuments of great curiofity, and considerable both in fize and number. Of the remarkable excavations existing, there are various kinds. Some are temples, like those of India, in the mountains of Ellora; some have been originally executed for the purposes of sepulture; others have owed their origin to the operations of quarrying for building materials, and have been subsequently converted to other purpoles: of this nature are the catacombs of Rome, and the quarries, or Latomiæ of Syracufe, which ferved for public prifons.

The religious ideas of various nations led them to honour the dead with extraordinary folicitude, and tombs and mauwhere rocks afforded a convenient opportunity, it was an idea at once natural, and of peculiar propriety, to excavate

in these filent retreats the habitations of the dead.

In Egypt the honours paid to the dead partook of the nature of a religious homage. By the process of embalming they endeavoured to preserve the body from the common laws of nature, by which every fubitance is decomposed, and returns to its original elements. They also provided magnificent and durable habitations for the dead, proud tombs, the altonishment of all succeeding nations, which have not preferved but buried the memory of their founders. But by a fingular fatality, the well adapted punishment of pride, the extraordinary precautions by which it feemed in a manner to triumph over death, have only led to a more humiliating disappointment. The splendour of the tomb has but attracted the violence of rapine; the farcophagus has been violated; and while other bodies have quietly returned to their native dult in the bosom of their mother earth, the to the infults of curiofity, or avarice, or barbarifm.

ments is known; indeed, most of them must have been excented progressively during a considerable time: it is, therefore, impossible to follow any chronological order in describing them: we shall, however, begin with those of Egypt,

268,) in describing the angel Raphael's descent from heaven, which, while they are in many respects the finest and most remarkable, are, in all probability, more ancient than any

> the ruins of the old city terminate, and extend along the ral of long galleries, with apartments on each fide, excavat. ed in the rock : in the fide of these rooms there are three them at prefent. The galleries fometimes run parallel to one another, and fometimes crofs at right angles; others of the ground. Many have been washed away by the sea, The apartments in general but little exceed the length of a ed among the finest that have been discovered, being beaufo as to deposit the bodies in, adorned with a fort of Doric pi'asters on each side." Norden gives a section of the sinest of these, vol. i. page 16, which is an apartment of a circular form, and terminated by a dome. There are four doors opposite one another, ornamented with pillars and an entablature, and pediments terminated with a crefcent. One contains a kind of cheft or farcophagus of the fubitance of flyle of the decorations observed in this subterranean chamber, one would be led to date its conftruction much later

> Near the pyramids of Saccara, which are at a short difa defcent to a circular plain which has a rifing in the middle. Bones and skulls are scattered over this spot, under half a mile, the whole country being a rocky foil, covered

The catacombs of the mummies are entered by various wells Dr. Pococke observed to be cased with unburnt bricks at the top as far as the depth of the fand, which from the on each fide to descend by, but too much worn away to be about two feet high, on which it is probable the mummies the other fide there are narrow cells just big enough to remuch narrower, with niches on each fide, which feem de-figned to fet coffins in upright. From these passages there are cut oblong square apartments, which are full of the reof a family were deposited, piled up on one another, as we niches, which appear to have been walled up as well as all

which he examined; and it feems likely that the rest re-

mon people.

The catacombs of the birds are fimilar to those last de-feribed, but more magnificent. These sepulchres were opened while the French were in possession of Egypt, and more than five hundred mummies of the ibis discovered.

Sint is a large well-peopled town, apparently built on the fite of the ancient Lycopolis, or the city of the wolf. No antiquities are found in this town; but the Lybian chain of mountains at the foot of which it stands, exhibits proofs of the ancient proximity of fome grand and flourishing city. These rocks are about half a league from Siut, and are excavated by a valt number of tombs of various dimensions, and decorated with more or less magnificence. Denon has given a view and plan of one of the largest of these catacombs. The outer porch is a large vaulted excavation, with a doorway leading into the interior of the tomb, which confilts of feveral chambers one within the other, of various fizes and perfect regularity. All the inner porches are covered with a profusion of hieroglyphics, and the most delicate and elegant ornaments. M. Denon observes, that "if one of these excavations was a single operation, as the uniform regularity of the plan of each would feem to indicate, it must be an immense labour to construct a tomb; but we may suppose that such a one when once finished, would ferve for ever for the fepulture of a whole family, or even race, and that fome religious worship was regularly paid to the dead; else where would have been the use of such finished ornaments, of inscriptions never read, and of a ruinous, fecret, and buried splendour? At disserent periods, or annual festivals, or when fome new inhabitant was added to the tomb, funeral rites were doubtless performed, in which the pomp of ceremony might vie with the magnificence of the place; which is the more probable, as the richness of decoration in the interior part forms a most striking contrast with the outer walls, which are only the rough native rock. I found one of these caves with a single saloon, in which were an innumerable quantity of graves cut in the rock in regular order: they had been ranfacked in order to procure the mummies, and I found feveral fragments of their contents, fuch as linen, hands, feet, and loofe bones."

Besides these principal grottos, there is such a countless number of finaller excavations, that the whole rock is ca-

vernous, and refounds under the foot.

At Gebel Silfilis, on the banks of the Nile, between Etfu and Ombos, the fite of the principal quarries of Egypt, there are various chapels confifting of porticos with column and entablatures, covered with hieroglyphics, all cut out of the folid rock, and likewife a large number of tombs also hollowed out of the mountain. These tombs are very curious, though they are disfigured with trenches and rub-

In feveral of these tombs small private chambers are found, many of which contain large feated figures; thefe chambers are adorned with hieroglyphics traced on the rock, and terminated with coloured flucco representing conflantly offerings of bread, fruit, liquors, fowls, &c. The ceilings, also stuccoed, are ornamented with painted scrolls in an exquisite taste; the floor is inlaid with a number of tombs of the same dimensions and forms as are given to the cases of mummies, and equal in number to the sculptured sigures: those that represent men have small square beards with a head-drefs hanging behind over the shoulders: the women have the fame dreffes, but falling down in front over their naked necks. These latter are commonly reprefented with one arm passing within the arm of the figure befide them, and the other holding a lotus flower, a plant

fembled this. These must have been the tombs of the com- of Acheron, the emblem of death. Some of these sepulchral chambers contain but a fingle figure, and may probably be the tombs of men who have died in celibacy. Others contain three or more figures, and feem to be family

At Montfalut there are also quarries, the grottoes of which still remain: they resemble those of Sint, and seem to have ferved as tombs to the ancient Egyptians, and as

places of retreat to the first folitaries.

The catacombs of Thebes are, among all these monuments, the most extraordinary and magnificent; these confilt of the Necropolis or city of the dead, on the west bank of the Nile, which was the common burial place of the in-

habitants, and the tomb of the kings.

The Necropolis of Thebes is fituated on the north-west of this city, on a step of the lower part of the Lybian chain, an arid and defolate fpot, which feems to be devoted by nature to filence and death. The rock cut down on an inclined plane prefents three fides of a fquare, in which double galleries have been excavated, and behind them fepulchral caves. These excavations are almost innumerable, and occupy a space of nearly a mile and a half square. At present they assord a lodging to the inhabitants of Kurnu and their numerous flocks, who, strong in these retreats, maintained themselves against the French in their late invafion of Egypt with fingular obstinacy, and were only reduced by a regular fiege. M. Denon, who accompanied this expedition, has given a lively and interesting description, which we shall transcribe.

"I now began my researches accompanied by some volunteers. I examined the grottoes which we had taken by affault: they were constructed without magnificence, consisting of a regular double gallery supported by pillars, behind which was a row of chambers often double, and tolerably regular. If we had not observed tombs, and even some remans of mummics, we might be tempted to believe that these were the dwellings of the primitive inhabitants of Egypt, or rather that after having first served for this purpose, these subterranean caves had become the abode of the dead, and had at last been restored by the people of

Kurnu to their original destination.

In proportion as the height of these grottoes increases, they become more richly decorated, and I was foon convinced by the magnificence both of the paintings and feulptures, and of the subjects which they represented, that I was among the tombs of great men or heroes. The fculpture in all is incomparably more laboured, and higher finished than any that I had seen in the temples; and I stood in aftonishment at the high perfection of the art, and its fingular deftiny to be fixed in places devoted to filence and ob-feurity. In the working of these galleries, beds of a very fine grained calcareous clay have occasionally been crossed, and here the lines of the hieroglyphics have been cut with a firmness of touch, and a precision, of which marble offers but few examples; the figures have an elegance and correctness of contour, of which I never thought Egyptian sculpture susceptible. Here too I could judge of the style of this people in subjects which were neither hieroglyphic nor historical, nor scientific; for there were representations of small scenes taken from nature, in which the stiff profile outlines, fo common with the Egyptian artifls, were exchanged for supple and natural attitudes: groups of persons were given in perspective, and cut in deeper relief than I should have supposed any thing but metal could have been worked. One cannot help being flruck with the little analogy which the greater number of these subjects have with the spot wherein they are immured; it requires the presence

of numnies to perfuade one's-felf that these exeavations are tombs. I have found here bar-reliefs representing games, such as rope dancing; and assess that to play tricks and to rear on their hind legs, which are sculptured with all the nature and simplicity which Baffin has shown in representing

the same animals on the canvals.

The plan of these excavations is not less singular; there are sume which are so vail and complicated, that one would take them for labyrinths or subternancean temples. After passing the apartments adorned in the elegant slyle that I have just described, we entered long and gloomy galleries, which wind backwards and forwards in numerous angles, and seem to occupy a great extent of ground; they are melancholy, repulsive, and without any decoration; but from time to time open into other chambers covered with hieroglyphics, and branch out into narrow paths that lead to deep perpendicular pits, which we descended by resing our arms against the fides and fixing our feet into steps that are cut in the rock. At the bottom of these pits we found other adorned chambers, and lower still a new series of perpendicular pits and horizontal chambers, and at last ascending a long slight of steps, we arrived at an open place which we found to be on a level with the chambers that we first entered."

hopes of finding one that had not been ranfacked, that he might light upon an unrifled mummy and find out the manthe inhabitants oblinately concealed, as the fituation of their village had given them almost an exclusive trade in this fingular article of commerce. During their fearch, M. Denon and his companions arrived at a narrow hole, before which were feattered numerous fragments of mummies. along near a hundred paces over a heap of dead and half decayed bodies, the vault became loftier, more spacious, and decorated with a confiderable degree of care. They now found that this tomb had already been fearched, that those who first entered it not having torches, had used bushes to give them light, and that thefe had fet fire to the linen and refin of the mummies which had caused such a combustion as to split some of the stones, melt the gums and refins, and blacken all the fides of the cave. They could observe however, that this vault had been intended for the buriel-place in relief feven feet in height, holding each other by the dogs in a leash lying on the altar; and two figures kneeling, had the appearance of worthipping, which makes it probable that two friends were buried here who were unwilling to part even in death. Belides this, there were lateral chambers unornamented and filled with corpfes that had been embalmed with more or lefs care, flewing that though the timbs had been constructed and decorated by persons of confequence, they received not only the corples of the founders, but of their children, friends, relations, and per-haps all the fervants of their house. M. Denon found feveral bodies lying on the ground swathed up but without any coffin, and others that were not fwathed; and observed various particularities concerning thefe.

The fepulchres of the kings of Thebes are mentioned by Diodorus Siculus as wonderful works, and fuch as could never be executed by any thing afterwards executed in this kind. He fays that 47 of them were mentioned in their hittory, that only 17 remained to the time of Ptolemy Lagus, and adds, that most of them were destroyed in his time. It feems probable that most of these fepulchres were built and not excavated in the rock, as it is not easy to de-

stroy such fort of monuments. Strabe, however, says, that above the Memonium were the sepulchres of the kings of Thebes, in grottoes cut out of the rock, being about 40 in number, wonderfully executed and worthy to be seen. In these, he says, were obelishes with inscriptions on them setting forth the riches, power, and empire of these kings as far as Scythia, Bactria, India, and Ionia, their great revenues, and their armies consisting of a million of men.

The magnificent catacombs, called the tombs of the kings, lie to the north-weft of Thebes, at fome diffance in the defert. Having paffed the Necropolis, the traveller enters a narrow and rugged valley flanked with perpendicular rocks, and afcending a narrow fleep paffage about 10 feet high, which feems to have been broken down through the rock, the ancient paffage being probably from the Memonaium under the hills, he comes to a kind of amphitheatre about 100 yards wide, which is called Bab-il-Meluke, that is, the gate or court of the kings, being the fepalchres of the kings of Thebes. In this court there are figure of about 18 excavations, but only nine can be entered; the hills on each fide are high fleep rocks, and the whole plain is covered with rough flones that feem to have rolled

The grottoes prefent externally no other ornaments than a the upper part, on which are inscribed the hieroglyphic figures of a beetle, a man with a hawk's head, and beyond Having passed the first gate, long arched galleries are discovered of about 12 feet wide, and 20 in height, cased with flucco feul stured and painted; the vaults, of an elegant ellippoled with fo much tafte, that notwithflanding the fingular or aerial perspective, the ceilings make an agreeable whole, a rich and harmonious affociation of colours. Four or five of thefe galleries, one within the other, generally lead to a spacious room containing the sarcophagus of the king, com posed of a fingle block of granite about 12 feet long by \$ in breadth, ornamented with hieroglyphics both within and without; they are fquare at one end, and rounded at the Museum, and supposed by Dr. Clarke, to have contained fame material, and of enormous thickness, shutting with a flone, brought from fuch a diffance with fuch immense labour, have been able to preserve the relies of the sovereigns from the attempts of avarice; all the tombs are violated. The figure of the king appears to have been feulptured and

The paintings found in these sepulchres are among the most curious and interesting remains of Egyptian art, and in wonderful prefervation, the colours being as fresh as when first executed. Some of these ugues were copied by Bruce; and Denon who in a short visit observed every thing with the eye of an artist, has published a most valuable collection which have all the appearance of spirited and characteristic resemblances. We shall extract part of his relation. "I discovered some little chambers, on the walls of which were represented all kinds of arms, such as panoplies, coats of mail, tigers' skins, bows, arrows, quivers, pikes, javelins, fabres, helmets, and whips: in another was a collection of household utenties, such as caskets, chetts of drawers, chairs, fofas, and beds, all of exquisite forms, and such as might well grace the apartments of modern luxury. As these were probably accurate representations of the objects them-

(elves

felves, it is almost a proof that the ancient Egyptians employed for their furniture Indian woods carved and gilt, which they covered with embroidery. Besides these, were represented various smaller articles, as vases, coffee-pots, ewers with their basons, a tea-pot, and basket. Another chamber was confecrated to agriculture, in which were represented all its various instruments, a sledge similar to those in use at present, a man sowing grain by the side of a canal, from the borders of which the inundation is beginning to retire, a field of corn reaped with a sickle, fields of rice with men watching them. In a fourth chamber was a sigure clothed in white playing on a richly ornamented harp with eleven strings." M. Denon also observed figures with the heads cut off, which represented black men while their executioners were coloured red. (Pococke and Denon).

Quitting Egypt, the European examples of catacombs come next to be deferibed, and we shall begin with those of Rome, which though by no means the most considerable for size or beauty, are, however, the most generally known.

The catacombs of Rome are a valt collection of fubterranean labyrinths, excavated fometimes in flone or tufa, but more commonly in beds of puzzolana, which run fometimes to 80 feet below the furface of the earth. Thus it feems probable, that these excavations were originally dug for the purpose of procuring this useful substance, and afterwards appropriated as a burial place. In many places the finking of the earth has fuddenly afforded an entrance to new caverns, but fimilar accidents have filled up others, fo that the extent of this fubterranean city is unknown. The principal entrances are those of San. Sebastiano, San. Lorenzo, and Porta Porrese. These galleries are in general three or four feet wide, and fix or feven in height. Some, however, are so low that it is necessary to sloop greatly to pass along them. There is no masonry or vault, the earth supports itself. In the two fides of these alleys, the sarcophagi containing dead bodies were placed length-ways, in receffes three or four tiers over one another, and closed with very thick tiles, or fometimes flabs of marble, cemented in a manner which would be very difficult to imitate at prefent. Some tombs are placed on the floor. There are also found a large number of urns containing bones, which, upon access of air, are reduced to powder. Sometimes, though rarely, the name of the deceased is found on the tile or urn, and frequently a palm is feen painted or engraved, with the cypher X. P. These are supposed to be the graves of the early Christians, and their contents are regarded by the Romans as facred relics. The farcophagi are for the most part quite plain, and the little feulpture, painting, or or-nament, that has been found in the catacombs, is of the lower ages of the empire, and very indifferent. Almost all the galleries and chambers which have been discovered refemble one another, differing only in fize. It is faid that one may travel 20 miles in them; but many parts are shut up to prevent people from lofing themfelves in thefe gloomy laby rinths.

The catacombs of Naples are much larger and finer than those last described. These caverns do not extend under the city like those of Rome; they are situated in a mountain to the north of Naples, and dug one over the other partly in a stone used for building, and partly in beds of compacted puzzolana. There are three tiers of galleries, but earth-

quakes have closed the greater part.

From the entrance of the catacombs a ftraight street, 15 feet wide, and about 14 in height to the top of the vault, continues to a confiderable length. It then becomes irregular, and seems to have been pierced at random in the mountain, as well as several other streets of various dimensions, with which it communicates on all sides. These carbon, Vol. VII.

verns refemble, in their distribution, the excavations of a stone quarry with various large chambers, in which piers have been left to support the ceiling. Among these subterranean halls, there are some which may have served as chapels, with altars of rough stone, and some fresco paintings, representing the virgin and faints, which seem to be of the

10th century.

The walls on both fides, through their whole length, are pierced with an infinite number of recesses; there are in fome places five, fix, and even feven rows one above the other. These cavities are large enough to receive a human body horizontally, but not a farcophagus: they are of various fizes, and feem to have been calculated for the individual tenant. When the body was deposited in these recesses, they were closed with a long, flat ilone, or with brick-work well cemented. In some places there were niches in which the bodies were placed upright; these were perhaps the sepulchres of particular families. Some of the tombs are ornamented with Mosaic paintings of the lower ages; and there were found marble monuments with Greek and Latin infcriptions, but these have been fawed to form the pavement of the church della Sanita. All the niches have been opened and the remains removed.

There are also considerable catacombs at Civita Turchino,

near Carneto.

Sicily possesses many monuments of this kind; so that the ancient greatness of Catana, Palermo, Agrigentum, and Syracuse, is attelled by extraordinary excavations. The catacombs of Syracuse are the most ample and magnificent of any in Europe. These form a kind of subterranean town, with its greater and smaller streets, squares, and places, all cut in the rock on several levels, and evidently originally defined for a place of sepulture, differing in that respect from the other remarkable excavations of that town, the Latomire and Dionysius's ear, which were at first sone quarries, while the catacombs are not at all adapted for that purpose, their

entrances being neither spacious nor convenient.

The catacombs are entered from the church of St. John, one of the oldest Christian churches in Sicily. They consist of various streets crossing one another in many directions, and are hewn with great care and regularity. The principal street continues to a very great distance, but its whole length cannot be estimated, as the sinking of the ground has filled it up in one part. On each fide the walls are occupied by large tombs incrusted in the rock. At stated diltances large excavations branch off, which fometimes contain near 60 coffins hollowed out of the rock. In other places there are private fepulchral chambers with doors which appear formerly to have been fathened with locks; in the middle of these chambers-there are large insulated tombs, doubtless intended for the heads of families. The interfections of the streets form large openings, and there are various confiderable circular halls with domes, and pierced at top with an opening to the outer air; these halls are fluccoed, and there are tombs placed fymmetrically in them of the fame kind as those in the streets.

In exploring these caverns, the traveller is surprised to send himself returned to the same spot whence he set out, but upon a lower story. Though it is only possible to visit a part of these vast excavations, the extent of what is seen excites the utmost admiration of the energetic industry of the nation that could construct such noble sepulchres. They are undoubtedly the greatest monument of the ancient Syracusans. The only ornaments found in these catacombs, have been added at a later period, and consist of some indifferent Greek paintings of the last age of the empire, executed upon a stucco applied to the rock. Among the cossist of all sizes which are excavated in the shoots of the sepulchral

pulchral chambers, there are some so small as to be sit hearing. Plin. Hist. Nat. lib. v. cap 9. Ammian. Marc. for nothing but the reception of a cat or lap-Jog.

nefs of their dimensions, and their periodi prefervation. works of yellerday. The galleries are fo narrow that only vaulted. At certain distances sepulchral chambers occur; The tomos are regularly placed in square recesses, and ornamented with pediments. Small niches, apparently to receive lamps, are distributed in various places. No vestiges

CATACOUSTICS, from xalu and axsw, I hear, called also CATAPHONICS, the science of reflected founds or cohoes. See Acoustics. Catacouftics is to acoustics what catop-

CATACOUSTICS, in Military Language, are écoutes, or glacis of a fortified place, all of which communicate with a gallery, that is carried parallel to the covert-way. The belieged make use of them in going to meet the enemy's

miners and interrupt their progress.

CATADA, in Ancient Geography, now the Miliana, a river of Africa, which discharges itself into the Mediterranean, nearly S. of Carthage, and at a fmall distance from Rhades or Ades, forming the bay of Tunis. About a mile from it is the noted hot-bath called Hammam Leef, much reforted to by the inhabitants of Tunis.

CATADERBIS, a lake of Afia, in Sufiana, abounding with fish, the mouth of which at the fea was nearly closed by the small ille Margastana, 500 stadia from the mouth of the river Arofis, according to the journal of the navigation of

Nearchus. It is mentioned by Arrian.

CATADIOPTRICAL telescope, the same with reflecting

TELESCOPE, which fee.

CATADRÆ, in Ancient Geography, a people of Ethiopia, near Egypt. Ptolemy fays that they occupied the parts that lie S. of mount Garbate.

CATADROMUS, from xaja and Egapu, I run, in Antiquity, a stretched sloping rope in the theatres, down which

the funambuli walked to shew their skill.

Some have taken the word to fignify the hippodrome, or decurforium, wherein the Roman knights used to exercife themselves in running and fighting on horse-back.

But the most natural meaning is that of a rope, fastened at one end to the top of the theatre, and at the other to the bottom, to walk or run down, which was the highest glory of the ancient schanobates, or sunambuli. Elephants were also taught to run down the catadromus. Suctonius fpeaks of the exploit of a Roman knight, who paffed down the catadromus mounted on an elephant's back, in Ner. cap. xi. p. 5.
CATADUPA, in Hydrography, a cataract, or water-fall.

See CATARACT.

The word comes from xxxx, downwards, and dares, to

make a noise by falling.

The appellation catadupa feems to have been peculiarly given to a place in Æthiopia joining on Egypt, where the Nile, which here first assumes that name, rushed down a Reep rock into the subjacent plain, with a noise so impetuous, that the inhabitants are faid to have loft all fense of lib. xxii. cap. 34, &c. Senec. Nat. Quant. lib. iv.

CATEA, or CATTEA, an island of the Persian gulf, on the coast of Carmania, according to the journal of the and confecrated to divinities, whom he deferibes under the names of Mercury and Venus. It extended from the west-

CATEONIUM Prosentorium, a promontory of Africa,

CATAFALCO, an Italian term literally fignifying feaffold. It is chiefly used for a decoration of architecture,

CATAGELA, in Ancient Geography, a town of Sicily,

CATAGMATICS, in the Materia Medica, medicines proper to unite broken bones; by promoting the formation of a callus. The word comes from x272, against, and ayrups, I Ireak. But as this is a power which is not certainly known to exist in any medicine whatever, the term, fays Dr. Cullen,

is falfely employed. See Consolidation.

CATAGOGION, Kalayayior, a heathen festival at Ephefus, celebrated on the twenty-fecond of January, in which the devotees ran about the fireets drefied in divers antic and unfeemly manners, with huge cudgels in their hands, and carrying with them the images of their gods; in which uife they ravished the women they met with, abused, and often killed the men, and committed many other diforders, to which the religion of the day gave a fanction. Du-

CATAGRAPHA, Kajaygaça, in Antiquity, denote oblique figures, or views of men's faces; answering to what the moderns call PROFILES. Catagrapha are faid to be the invention of Simon Cleonæus, who first taught painters to vary the looks of their figures, and fometimes direct them upwards, fometimes downwards, and fometimes fidewards, or backwards. Plin. Hift. Nat. lib. xxxv. cap. 8. cum

Not. Hardouin.

CATALAUNI, or CATALAUNUM, in Ancient Geography, now Chalens fur Marne, a town of Gaul, in Belgica Secunda; cailed alfo "Duro Catalauni," in the Itinerary of Antonine. It was before this place that the emperor Aurelian vanquished Tetricus, the president of Aquitania, who had been proclaimed emperor by the troops, according to Vopifcus and Entropius.

CATALECTIC, a term in poetry, derived from x2750 and Any w, I end. The ancients called catalettic verfes those which wanted either feet or syllables, in opposition to acataledics,

which are complete verses, wanting nothing.

CATALEPSY, in Medicine, xaraxulu, apprebensio, occupatio, from xaraxauavidus, to be seised or possessed, a disease in which the fenfes and the power of voluntary motion are fuddenly suspended, the body and limbs of the patient remaining unmoved in the fituation in which they happen to be at the moment of the attack, and readily receiving and. retaining any other position, which is communicated to

With respect to the nature of this singular disease, which is aptly enough compared by Van Swieten to that condition of the body, which was produced, according to the

Actions of the poets, by the fight of Medufa's head, much difference of opinion has existed among physicians, and various denominations have been given to it. By the ancient writers it does not appear to have been accurately diftinguished from other soporose diseases. According to Galen, those affected with it were originally called xaraxous, and the difease itself catoche or catochus : but the catochus of Galen bears a greater refemblance to apoplexy or tetanus, and the term, perhaps, included the catalepfy, together with these diseases. Calius Aurelianus, who confiders the cataleply as bearing an affinity chiefly to lethargy and apoplexy, has enumerated the fynonimes, which his predeceffors had employed to delignate it. By Praxagoras and others it was included, he fays, with the comatofe affections, under the general terms, coma, lethargy, &c. By others fome prominent symptom was affumed as a name for the difcafe, implying that its nature or affinity with other difeafes was not understood; thus it was called anaudia by Antigenes, from the lofs of hearing which accompanied it, and aphonia by Diocles, from the loss of voice ;-circumstances by which, however, it is obvious, it could not be diffinguished from syncope, epilepsy, and many dislimilar disorders. Asclepiades first denominated it catalepsy; but he has not left any distinct description of the disease, such as it is now considered. (See Cai. Aurelian. de Tard. Passion. lib. ii. It is not quite clear whether Celfus was accap. 5.) quainted with the catalepsy, or not. The learned Van Swieten is of opinion, and in this he is followed by Morgagni, that this difease is meant by Celfus, when he speaks of perfons, as it were, thunderstruck, attoniti: (De Medicin. lib. iii. cap. 26.) for although he confounds the diforder of the attoniti with the apoplexy of the Greeks, yet he describes it as a rare disease; while in the subsequent chapter he speaks of apoplexy again, as a palfy of the whole body, and a common difease; meaning the complaint commonly understood by that term. (See Van Swieten. Com. \$ 1007.) In short, the accounts to be collected from the ancient writers respecting the catalepsy are confused and imperfect, and appear to refer to various lethargic or comatole affections; and even to some spalmodie diseases, such as tetanus. Nor do we find all difference of opinion done away, if we descend to the more modern records of medicine; in which feveral hittories are related under the title of cataleptic affections, which obviously belong to other genera of disease. This confusion, together with the extreme rarity of the true disease, and the wonderful histories of cataleptics, which have been detailed by authors, have induced some physicians of eminence, (and among these Dr. Cullen must be particularly mentioned,) to doubt of the existence of such a disease. In his Synopsis of Nosology, Dr. Cullen has mentioned this complaint as a species of apoplexy, under the title of Apoplexia Cataleptica; having believed that the cases of catalepsy described by authors were either varieties of apoplexy, or altogether feigned. He had feen no instance of cataleptic symptoms, but what was obviously a deception. The number of well authenticated examples on record, however, in which no cause of an attempt to deceive apparently existed, and which are related by physicians of character and fagacity, render the existence of catalepsy indubitable. Its symptoms are the following:

The patient is suddenly feized, sometimes after feeling a head ach, or stiffness of the neck, or exhibiting obvious figns of torpor of the mind or body, but generally without any previous fymptom, with a rigidity of all the limbs; or, in other words; the fenfes and the power of voluntary motion are fuddenly suspended, so that the patient remains fixed in the

potture in which he happens to be at the moment of feizure; if he is fitting, he continues to fit; if standing, he remains upright; and if occupied in any mechanical employment, or under the influence of any passion of the mind, he continues in the attitude peculiar to his work, and the countenance retains the expression characteristic of the mental condition. " Sie manus erecta non delabitur; faciei musculi ad rifum, ad fletum compositi, risum vel stetum constanter exprimunt." Yet fuch is the state of equal, though involuntary action in the antagonist muscles, that the limbs are faid commonly to retain any position into which they are put by external force. During the paroxysm the sensations are in general suspended; the patient neither receives any impresfion from external objects, nor retains any recollection of what happened during the fit. The vital functions continue to be performed, but more feebly; the pulfe and refpiration are regular, but the former is smaller than in health; the colour of the countenance usually undergoes little or no change. After a duration, which is various in different inflances, commonly after a few minutes, sometimes after the lapfe of a few hours, and occasionally, though rarely, after a continuance of three or four days, the paroxysm suddenly declines. The patient awakes as it were from fleep, generally with deep fighing, and all the functions of the body are restored.

The congeries of symptoms just enumerated constitutes what has been called by fystematic writers, the perfect paroxyim, catalepsis vera, in which the abolition of the senses, both internal and external, is complete. But more frequently the lofs of fenfe is only partial; and in fome instances the fenses all remain undiminished, while the voluntary motions are altogether suspended; so that, although the patient is conscious of every thing that is passing around him, he is unable to speak or move, or in any way to make known his feelings or wishes. An interesting example of this kind is on record, (see Duncan's Med. Comment. vol. x. p. 242.) in which a female lay in complete possession of her mental faculties, but deprived of the power of moving a muscle of the body. She was in the distressing condition of finding herself given up by the attendants as dead, of being laid out, with her toes tied together, and her chin tied up, and of hearing certain arrangements for her funeral talked of, yet she was unable to make the slightest fign of her possession of sense, feeling, and life. In other cases there is a certain degree of fense and consciousness during the fit, and of recollection of the circumstances of it afterwards; and the limbs, if bent, do not retain firmly the position into which they are moved, but return gradually to their original polition. Some patients are able to move one hand or limb, while the others remain rigid: and fome, though apparently lifeless in all other respects, yet retain the power of swallowing whatever is put into their mouths. These are faid tobe examples of imperfettor fpurious catalepty. See Sauvages's Nofol. Method. cl. vi. ord. 5. Vogel. de Morb. Cognofc, et Curand. § 572. Burfer. Inslit. Med. Pract. tom. iii.

There is also another variety of the spurious catalepsy. which is described by the title of Ecstasis, by some writers, in the paroxysm of which the imagination of the patient has pictured dreams of an extraordinary nature, which left a vivid impression upon the memory; and after the termination of the fit, she (for it appears to have happened generally with females,) has related accounts of furprifing celestial visions, with which she had been favoured during the trance. Many of the histories of trances which are on record, are, however, beyond a doubt, altogether fabulous; and in many instances they have been pure deceptions, feigned with a E 2 view

view of furthering fome political or religious delign, or of ferving some private purpose;—deceptions such as were practifed by diviners of old, and as have been reforted to by fanaties in all ages. Sometimes these esclusives have been

among the extravagancies of maniacs.

The particular condition of the body, or of the nervous fystem, which constitutes the cataleptic state, has been attempted to be explained in various ways. Dr. Cullen confidered it as depending upon the fame condition of the brain, by which the modification of palfy and apoplexy are produced, nion. Such are two cases related by Henry ab Heers, (Observat. Med. Obf. 3.) which are obviously of an apoplectionature. One of the patients was a Capuchin friar, who was attacked with the fit, when standing, and remained in an upright pollure. The fit went flowly off, but he was feized a fecond time, and died. Vogel believes that the fource of or abdomen than to the head, which feems to imply a notion that they were of an hysterical nature. The speculations of Boerhaave, Home, and others, respecting the interruption, superabundance, or quiescence of the nervous fluid in the voluntary muscles of the patient, merit little attention: they are either altogether gratuitous, or confiit of a mere flatement of the facts in other and more ambiguous terms. We know very little in regard to the connection of many of the irregular actions of the nervous fystem, with the phyfical condition of the nerves, or of their common fource, the brain; and we must content ourselves, for practical purpofes, with endeavouring to trace, in the cafe of uncommon difeases, some analogy with those more common affections, with the treatment of which we are already acquainted.

Epilepsy appears to assume occasionally a cataleptic form; i. e. the paroxysms, which were in the beginning epileptic, become ultimately cataleptic; or vice versa; or the two forms alternate with each other. In those cases in which the patients have died apopletlic, the apoplexy must be confidered as partaking of the nature of epilepfy, or, perhaps, enfuing to the epileptic state; for the symptoms of catalepfy, as they generally appear, are incompatible with the condition of pure apoplexy. In the latter, the nervous communication from the brain to the muscles is lost, and the limbs are confequently deprived of all power of action; in the catalepfy, on the contrary, a confiderable degree of action exists in all the antagonist muscles, at the same time, and in an equal degree, fo as to retain the limbs in any position in which they may be placed. The pulse, it may be also added, continues its usual beats, and is smaller than in health; and the complexion of the countenance is unaltered: nor do any of the ill effects of apoplexy remain after the termination of the paroxyfm. In by far the most numerous well-authenticated inflances on record, cataleply obviously bears the closeit analogy to, or rather appears to be a modification of, hysteria. This conclusion will be drawn, whether we confider the nature of the fymptoms, the fex and conflitution of the patients, the occasional complication and conversion of the disease, or the remedies which have

been fuccefsfully employed in its cure.

As a proof of the intimate connection of the cataleptic with the hylleric paroxy(m, we shall relate an account of one described by Dr. Jebb, which is similar to several others that have been recorded. The young lady, who was the subject of the disorder, was seized with the sit, when Dr. Jebb was announced on his first wist. "She was employed," he says, "in netting, and was passing the needle through the mesh; in which position the immediately became rigid, exhibiting, in a very pleasing form, a figure of death-like sleep,

beyond the power of art to imitate, or the imagination to conceive. Her forchead was ferene, her features perfectly compofed. The palenc's of her colour, her breathing at a diffance being also fearcely perceptible, operated in rendering the limilitude to marble more exact and firking. The position of her fingers, hands, and arms, was altered with difficulty; but preserved every form of flexure they acquired; nor were the muscles of the neck exempted from this law; her head maintaining every fituation in which the hand could place it, as firmly as her limbs.

"Upon gently raifing the eye-lids, they immediately closed with a degree of fpafm. The iris contracted upon the approach of a candle, as in a flate of vigilance; the eye-ball itfelf was flightly agitated with a tremulous motion,

not discernible when the eye-lid had descended.

" About half an hour after my arrival, the rigidity of her limbs and statue-like appearance being yet unaltered, she fung three plaintive fongs, in a tone of voice to elegantly expressive, and with such affecting modulation, as evidently pointed out how much the most powerful passion of the mind was concerned in the production of her diforder, as indeed her history confirmed. In a few minutes afterwards she fighed deeply, and the spalm in her limbs was immediately her hands grew cold, a general tremor followed; but in a few feconds, recovering entirely her recollection and powers of motion, the entered into a detail of her symptoms, and the history of her complaints. After she had discoursed for fome time with apparent calmness, the universal spasm suddenly returned. Her features now affumed a different form, denoting a mind ftrongly impressed with anxiety and apprehenfion. At times the uttered thort and vehement exclamations, in a piercing tone of voice, expressive of the passions that agitated her mind; her hands being strongly locked in each other, and all her mufcles, those subservient to speech excepted, being affected with the fame rigidity as before." (See Select Cases of Paralysis of the Lower Extrem. by Dr. Jebb, Appendix.) These paroxysms obviously participate of the character of hysteria. The appearances, indeed, are not common; but the varying forms of hysteric diseases are a subject of general observation. Sydenham long ago remarked, that " a day would fearce suffice to enumerate all the symptoms of hysteric complaints, so various they are, and fo contrary to one another, that Proteus did not assume more shapes, nor the chameleon a greater variety of colours,"

A very large proportion of the decided cases of catalepfy, which have been distinctly recorded, occurred in the semale fex, or in hypochondriacal constitutions. Sauvages has related the histories of several cataleptic patients, all of whom were semales, and of hysterical habits; and several modern and well authenticated examples are of the same nature. (Sauv. loc. cit. Jebb, loc. cit. Hist. Acad. Roy. de Sciences, Paris, 1738, &c. British Magazine, 1800. Edin. Med. & Surg. Journ. vol. i. p. 61, 1805. Mem. Roy. Acad. Scien. of Sweden, 1778.) The last reference is to the case of a melancholic or hypochondriacal man, in whom the catalepfy was accompanied with trismus, or locked jaw. Intances are related by other authors in which the catalepsy was joined, or alternated, as well with melancholy, somnambulism, convulsions, &c. as with proper hysterical symptoms; or readily nassed in these manages.

The remote or occasional causes of catalepty are various. In the majority of inflances they appear to have been the fame, which, in conflitutions naturally pre-differed to differed of mobility, excite all the varieties of hyderical and other nervous symptoms; such are all circumstances which

powerfully

powerfully influence the mind, or debilitate the body, and thus induce a degree of morbid fenfibility and irritability throughout the fyllem. Hence, among the more frequent caufes of catalepfy enumerated by authors, are grief, terror, anxiety, love, intense studies, indigestion, cold, strong liquors, acute fevers, &c. Where the disease has been a modification of epilepfy or of apoplexy, if this ever happen, the causes were such as produce other forms of those complaints. See Epilepsy, &c.

If we confider the nature of the cataleptic difease, in its more common form of catalepsis hysterica, it will be obvious by what means the cure is to be attempted. In the various cases which are recorded, it has been often fuccefsfully treated by the fame remedies to which other nervous and fpafmodic diseases commonly yield. Where it occurs in sforid and plethoric habits, as hysteria occasionally does, bleeding from the arm or the jugular vein has been practifed with advantage, especially during the paroxysm; this, however, is very rarely requilite. Gentle laxatives have been found useful; and in this, probably, as in other nervous complaints, the regular evacuation of the bowels is of the utmost importance. The whole tribe of stimulants and tonics have been reforted to, especially in the modern inflances, the former with a view of counteracting the inordinate actions of the nervous fystem, and the latter in order to restore the strength, and obviate the morbid irritability of the patient. In the fit, opium, ether, volatile alkali, and various fœtid antispasmodies, have been administered; errhines have been applied to the nothrils; narcotic or acrid and stimulating glytters injected into the bowels; and friction with multard, or itrong spirits, also employed on the limbs, and furface of the body. In the intervals between the paroxysms, bitter medicines have been given, the cold bath has been prescribed, and exercise in various ways reforted to successfully in different instances. The principle, in short, upon which the disease has been treated, appears to be the fame with that upon which all other difeases of nervous mobility have been successfully combated. If the lethargic, apoplectic, or epileptic diforders affume the cataleptic form, which must be determined by the concomitant circumstances, the remedies adapted to the cure of these disorders respectively will of course be indicated.

Before we conclude this article, we cannot forbear to mention an extraordinary account of a woman, labouring under catalepsis bysterica, which has been lately published by an old and most respectable physician, Dr. Petetin, of Lyons, prefident of the Medical Society of that place. The title of his work is " Electricité Animale, prouvée par la découverte des phénoménes phyfiques et moraux de la catalepfie hyllérique, &c." The case which is here related occurred forme years ago, and another fimilar one now exists at Lyons. The hiltory, we must acknowledge, excites our fcepticism, but, on the other hand, the respectability of Dr. Petetin, supported by a letter, which we have perused, from a young phylician of character at Lyons, who went to fee the patient, doubting of all he had heard, but returned fully convinced of its truth, is entitled to attention. In these cases, it is affirmed, that the fenfes were transferred to the pit of the flomach, and to the ends of the fingers and toes; i. e, that the patients, in a state of insensibility to all external impressions upon the proper organs of fenfe, were, neverthelefs, capable of hearing, seeing, smelling, and talling whatever was approached to the pit of the flomach, or to the ends of the fingers and toes. Dr. Petetin attributes these extraordinary phenomena to the influence of animal electricity or galvanitm; and affirms, that if the objects were not applied to the pit of the stomach, but made to communicate with it

by an electric conductor, the fenfations were still excited; but that if the communication were interrupted, as by a piece of filk, or other non-conductor, the effect was altogether prevented. The patients are said to have answered questions proposed to the pit of the stomach, to have told the hour by a watch placed there, to have tasled food, and smelt the fragrance of apricots touching the part, &c. &c. Dr. Petetin concludes that hysterical catalepsy should be thus defined: "Abolition reele des sens, et apparente de la councissance et du mouvement, avec transport, des premiers ou de quelques-uns d'entre eux dans l'epigastre, à l'extrémité des doigts et des orteils; et pour l'ordinaire disposition de la part des membres à recevoir et à conserver les attitudes qu'on leur donne," p. 140.

The physician whose letter on the subject we have perused, observes, that Dr. Petetin's pamphlet has been and is still considered by many "comme une folie, comme le rêve d'une imagination exaltée;" but he avers, that it is nevertheles true. "I can affure you," he concludes, "that I have observed this cataleptic patient with the most scrupulous attention; that my experiments have been made with every caution, not for the purpose of publication, but solely with a view of satisfying myself as to the reality of a disease of which I had long doubted; and that the result has been a perfect conviction that all I have seen is true. If it be not, my senses have strangely deceived me." Until we obtain farther evidence upon the subject, we leave our readers to balance these authorities against the extraordinary nature of the facts which they promulgate.

CATALINA HARBOUR, in Geography, a bay on the east coast of Newfoundland. N. lat. 48° 38'. W. long.

53° 45'. CATALLIS captis nomine distributionis, in Law, an ancient writ that lay where a house was within a borough, for rent issuing out of the same; and which warranted the taking of doors, windows, &c. by way of distress for rent. Old Nat. Brev. 66. This writ is now obsolete.

CATALLIS reddendis, an ancient writ which lay, where goods, being delivered to perfons to keep till a certain day, are not, upon demand, delivered on that day. It may be otherwise called a "writ of detinue," and corresponds to "actio depositi" in the civil law. Reg. Orig. 139. Old Nat. Brev. 62.

CATALOGUE, a lift or enumeration of the names of feveral books, men, or other things; difposed according to a certain order.

· George Willer, fometimes improperly called Viller, and Walter, a bookseller at Augsburg, who frequented the Franckfort fairs, first adopted the plan of causing to be printed for every fair a catalogue of all the new books, in which the fize and the names of the printers were marked. Le Mire, better known under the name of Miræus, a catholic clergyman, who was born in 1598, and died in 1640, in his work "De Scriptoribus ecclefiafticis feculi xvi." printed in the "Bibliotheca Ecclefiastica" of Fabricius, Hamb. 1718, fol. informs us, that catalogues were first printed in the year 1554; but Labbe (Bibliotheca Bibliothecarum, Lipf. 1682, 12mo. p. 112.), Reimann (Einleitung in die Historiam Literariam, i. p. 203.), and Heumann (Conspectus Reip. Liter. c. vi. § 2. p. 316.), who took their information from Le Mire, erroneously make the year to be 1564, which error is copied by Fabricius. Willer's catalogues were printed till the year 1592 by Nicol. Basizus, printer at Franckfort. Other bookfellers, however, mult foon have published catalogues of the like kind, though that of Willer continued a long time to be the principal. Among the many curious and rare articles in the library of professor Baldinger, there is a collection of old catalogues, the earliest of which are the after books that may be still somewhere preserved, have following: Catalogus novus nundinarum autumnalium, Francof. ad Moen. anno 1586, celebratarum. Plerique apud Joan. Georg. Portenbachium et Th. Lutz. bibliopolam Augustanam venales habentur; A catalogue of all the new books --printed at Franckfort, by Peter Schmid. This catalogue was published by booksellers of Augsburg; but not by Willer, of whom we have, Catalogus novus nundinarum autumnalium, Francof. ad Moen. anno 1587 .- Plerique in ædibus Georgii Willeri, bibliopolæ Augustani, venales habentur. A catalogue of almost all the books which have been published between last Easter and the present September fair. Franckfort on the Mayn, printed by Nicolas Baffens. In all thefe catalogues, printed in 4to, and not paged, the following order is observed. The Latin books occupy the first place, beginning with the Protestant theological works, probably because Willer was a Lutheran; then the Catholic; and after these the books of jurifurudence, medicine, philosophy, poetry, and musse. The second place is assigned to German books, which are arranged in the same manner. The last Easter catalogue of Willer, that is found in Baldinger's library, is dated 1597, with the following title: " Plerique libri in ædibus Eliæ et Georgii Willeri, fratrum bibliopolarum Augustanorum, habentur;" printed by Bassæus at Franckfort. In 1604, the general Easter catalogue was printed with a permission from government, as appears by the following title: "Catalogus universalis pro nundinis Francof. de anno 1604;" Francof. permiffu fuperiorum excudebat Joh. Saur. After this the Leipfic bookfellers began not only to reprint the Franckfort catalogues, but to enlarge them with many books which had not been brought to the fairs in that city. Accordingly Baldinger's library has " Catalogus univerfalis pro nundinis Francofurtensibus vernalibus de anno 1600;" printed at Leipfic by Abraham Lamberg. An imperial privilege appears, for the first time, in the Franckfort September catalogue of 1616; " cum gratia et privilegio speciali S. Cæf. Maj. Proftat apud J. Krugerum Augustanum." Some imperial permissions, however, may be of an earlier date. Reimann (ubi supra) says, that, after Willer's death, the catalogue was published by the Leipsic bookseller, Henning Groffe, and by his fon and grandfon. The council of Franckfort caused several regulations to be issued respecting catalogues; of which an account may be feen in "D'Orth's 'Treatise on the Imperial Fairs at Franckfort." After the bulinels of bookfelling was drawn from Franckfort to Leipfic, occasioned principally by the restrictions to which it was fubjected at the former place by the cenfors, no more catalogues were printed there; and the shops in Book-threet were gradually converted into taverns. See BOOKSELLER.

In perufing these old catalogues, the fudden and great increase of books may well excite astonishment; and when we reflect that a great, perhaps the greater, part of them no longer exist, this perishableness of human labours will produce the fame fenfations with those which arise in the mind, when we read in a church-yard the names and titles of perfons long fince mouldered into dust. In the 16th century there were few libraries; and these, which did not contain many books, were in monatteries, and confifted principally of theological, philosophical, and historical works, with a few, however, on jurisprudence and medicine; while those which treated of agriculture, manufactures, and trade, were thought-unworthy of the notice of the learned, and of being preferved in large collections. The number of these works was, nevertheless, far from being inconsiderable; and, at any rate, many of them would have been of great use, as they would have served to illustrate the instructive history of the arts. Catalogues which might have occasioned inquiries

fuffered the fate of tombstones, which, being wasted and crumbled to pieces by the dettroying hand of time, become no longer legible. A complete series of them is no where to be found. The lose, however, might in some measure be supplied by two works, that are now exceedingly scarce; viz. those of Cless and Draudius; who, by the defire of some bookfellers, collected together, as Georg did at a later period, all the catalogues published at the different fairs, in different years. The work of Cless has the following title: "Unius fæculi ejusque virorum litteratorum monumentis tum florentiffimi, tum fertiliffimi, ab anno 1500 ad 1602 nundinarum autumnolium inclusive, elenchus consummatissimus-defumptus partim ex fingularum nundinarum catalogis, partim ex bibliothecis;" first published in 1592. The work of Draudius, printed in feveral 4to. volumes, for the first time in 1611, and afterwards in 1625, is much larger, more com-plete, and more methodical. The first part is entitled "Bibliotheca classica, sive catalogus officinalis, in quo singuli fingularum facultatum ac professionum libri, qui in quavis fere lingua extant-recenfentur; ufque ad annum 1624 inclufive;" auctore G. Draudio, Francof. 1625. This contains Latin works on theology, jurifprudence, medicine, history, geography, and politics. The fecond part is entitled, "Bibliotheca classica, five catalogus oficinalis, in quo philosophici artiumque adeo humaniorum, poetici etiam et mufici libri, usque ad annum 1624 continentur." This part contains Latin books, with an index of all the authors that are mentioned. A fmall volume, without an index, is entitled, " Bibliotheca exotica, five catalogus officinalis librorum peregrinis linguis usualibus scriptorum;" and a third part, containing an index of the authors, is called "Bibliotheea librorum Germanico-rum classica," 1625. This work of Draudius, though it mentions many books which were never printed, and though many titles, names, and dates are given incorrectly, well deferves the attention of those who wish to acquaint themselves with the history of literature; and it was undoubtedly of use to Haller, when he composed his Bibliotheca. See on this

Catalogues of books are digetted in different manners: fome according to the order of the times when the books were printed, as that of Maittaire; others according to their form and fize, as the common bookfellers' catalogues; others according to the alphabetical order of the authors' names, as Hyde's catalogue of the Bodleian library; others according to the alphabetical order of matters or subjects which are called real or classical catalogues, as those of Lipenius and Draudius; laftly, others are digested in a mixed method, partaking of feveral of the former, as de Seine's catalogue of cardinal Slufius's library, which is first divided according to the subjects or sciences, and afterwards

the books in each are recited alphabetically.

The most applauded of all catalogues is that of Thuanus's library, in which are united the advantages of all the reft. It was first drawn up by the two Puteani in the alphabetical order, then digefted according to the sciences and subjects, by Ithm. Bullialdus, and published by F. Quesnel at Paris in 1679, and reprinted, though incorrectly, at Hamburgh in 1704. The books are here ranged with juffness under their feveral sciences and subjects, regard being still had to the nation, feet, age, &c. of every writer. Add, that only the best and choicest books in every subject are found here, and the most valuable editions. Yet library, made by M. Clement, is not inferior to any published in our age, either on account of the number and choice of the books or the method of its disposition. One advantage, peculiar to this catalogue, is the multitude of anonymous or pleudonymous authors detected in the fearest to the prefer it, feareely to be met with elsewhere. Some even prefer it to Thuanus's catalogue, as containing a greater variety of classes and books on particular subjects. Bibliotheca Thuanusa, Par. 1679, Svo. 2 vols. and Hamb. 1704, fol. and 8vo.

The conditions required in a catalogue are, that it indicate the fame time the order of the authors and of the matters, the form of the book, the number of volumes, the chronological order of the editions, the language in which it is written, and its place in the library; fo as that all these circumflances may appear at once, in the flootiest, clearest, and exactest manner possible. In this view, all the catalogues yet made will be found to be defection.

An anonymous French writer has laid down a new plan of a catalogue, which shall unite all the advantages, and avoid all the inconveniences of the rest. Lett. à l'Abbé ***, sur un Nouveau Projet de Catalogue de Bibliotheque. Par 1712.

The Jesuits of Antwerp have given us a catalogue of the popes; which makes what they call their Propyleum.

CATALOGUE of the flars, is a lift of the fixed flars, difposed according to some order in their several constellations; with the longitudes, latitudes, right ascensions, &c. of

eacn.

Catalogues of the flars have been usually restricted to two forms; in the first and most ancient, the stars were classed in their respective constellations; in the latter, they followed one another, in a continued series, according to their right ascensions, or the order in which they transit the meridian. All the catalogues, from the most ancient to that of Flamstead inclusively, were of the first of these forms; but most of those which have been since constructed are of the latter form, as being much more convenient for the greatest variety of useful purposes. Another catalogue of a third kind has been lately formed, in which the stars are disposed in classes according to zones, or their degrees of polar distance.

The first who undertook to reduce the fixed stars into a catalogue, was Hipparchus Rhodius, about one hundred and twenty-eight years before Christ; in which he made use of the observations of Timocharis and Ariftyllus, for about 180 years before him. Pliny informs us (N. H. lib. ii. c. 26) that he, upon the appearance of a new star, began to doubt whether there might not be changes among the fixed stars, and therefore made a catalogue of them, fetting down the place and magnitude of each ftar, fo that if, in future time, any new flars should appear, or any of those already observed by him should increase or be diminished in magnitude, or should totally disappear, such changes might be known to fucceeding ages. Ptolemy retained Hipparchus's catalogue, containing 1022 stars, with some few alterations; though he himself made many observations, with a view to a new catalogue, A. D. 140. Prolemy tells us, that he added 2° 40' to the longitudes of Hipparchus, in order to reduce them, from the beginning of the 128th year B.C. (the epoch for which Hipparchus had given them), to the beginning of the year 137 after Christ, or the first of Antoninus Pius. This allowance is after the rate of one degree in 100 years, the quantity of the precession which was found by Hipparchus, from comparing his own observations of Spica Virginis with those which had been made of the same star by Timocharis, about 140 years before; and hence it is manifest that Ptolemy depended on no observations made by himself in this bufinels, but rested wholly on such as had been made

his time. If he had made any observations himself, he must have found that the quantity which he allowed was too small, by a whole degree at the leaft; the true quantity of the precession for 265 years (the difference of the epochs) being 30 42' 22.6". To compare his tables, therefore, with the prefent, we must first increase his numbers by 1° 2' 22", and then allow for the precession from that time to this. This catalogue, as but, according to Pliny (N. H. c. 41) it contained 1600 flars, in 72 confellations. This author, however, is to fubject to error, that little attention has been paid to what he fays on the fubject; and it has generally been concluded that the citalogue never contained more flars than are to be found in Ptolemy; especially as rone of the copies, which the Arabs have left us, contain more. About the year of Christ 880, Albategni, a Syrian, brought down this catalogue to his time. The most ancient catalogue which the Chinese now have was made in the year of Christ 1050. The Arabians are the first who, after Ptolemy, observed the stars, and noted down their places. The learned Dr. Hyde mentions several of their catalogues; and he published the most confiderable of them, with a Latin translation and notes, at Oxford in 1665. This catalogue was made by Ulugh Beigh, a prince of Tartary, and grandfon of the famous Tamerlane, from his own observations at Samarcand; it contains the places of 1022, or according to some, 1016 stars, adapted to the beginning of the 841st year of the Hegira, or the year 1437 after Christ. The third person who made a catalogue of the stars from his own observations was Tycho Brahe; who determined the places of 777 flars, for the year 1600. His "Progymnasmata," published in 1610, contained only this number, and his "Opera omnia," printed in 1048, contain no more. However the places of 223 more flars had then been deduced from his own observations by Kepler, and published with those of the former 777, at the end of the Rodolphine tables, in 1627. The places of the stars, in this catalogue, are adjusted to the end of the year 1600. Kepler added to the 1000 flars observed by Tycho those of Ptolemy's catalogue, which he had omitted, together with those of the new southern constellations, from other authors; so that his whole catalogue amounts to above 1160; their places being computed for the year 1600. About the fame time with Tycho, William, landgrave of Hesse, with the aid of his mathematicians, Christopher Rothmannus and Justus Byrgius, determined the places of 400 fixed itars, by his own observations, with their places rectified for the year 1593; which Hevelius prefers to those of Tycho. This catalogue was first published by Willebrord Snellius in 1618, and is faid to have contained the places of 400 ftars: but the copy of it which we have in the third volume of Flamilead's " Historia Coelestis," contains no more than 368. Ricciolus, in his "Altronomia Reformata," determined the places of 101 stars for the year 1700, from his own observations; for the reft he followed Tycho's catalogue, altering it where he thought fit. In the year 1667, Dr. Halley, in the island of St. Helena, observed 350 southern stars, not vilible in our horizon. The same labour was also repeated: by F. Noel in 1710, who published a new catalogue of the fame stars constructed for the year 1687.

In 1603, John Bayer, in his "Uranometria," published a catalogue of 1160 flars, at Augfburg in Germany; and here the fituations of the flars, with respect to the conficulation in which they are placed, are experifed in words; but their longitudes and latitudes are exhibited by means of maps, in which the figures of the conficulations are drawn, and their flars put down in their proper places, and of their re-

Spective

this publication, confids in the author's having marked every flar with a letter; the brightest or biggest star in each conflictation being always denoted by the first letter in the Greek alphabet; the next in degree of brightness, by the alphabet, those that remain are marked by Roman letters; the to every flar in the heavens, with great readiness and precision, but to express, likewise, its relative brightness to other stars tude alfo. This invention is fo uleful, that Flamstead has, in his catalogue, adopted Bayer's letters, as far as they go; fize, and also upon his planifpheres; and it is followed by most astronomers fince his time. Bayer cannot be supposed The places of fuch flars as are vifible in Europe were taken from the catalogues of Ptolemy and Tycho Brahe; and with respect to those which are about the fouth pole, he tells us, that they are partly taken from the observations of Americo Vesputius, partly from those of Andrew Corsalis, and partly from those of Peter de Medina; and that Peter Theodore, a most skilful mariner, first formed them into constellations, and publified them. In 1673, John Hevelius of Dantzie, publified his "Machina Cœleftis," which, among other curious and valuable articles, contained a catalogue of the fixed flars. This work is very rare; as the greatest part of the impression was burned with his observatory and instruments, on the 26th of September, 1679. The catalogue is faid to have contained the places of 1888 flars, of which 1553 were observed by himself; but as it stands in the "Hiftoria Cœleftis," of Flamstead (1725), it contains only 1520 stars. Their places are rectified to the end of the year 1660. The most complete catalogue that ever was given from the labours of one man is the Britannic catalogue, deduced from the observations of the Rev. John Flamstead, the first royal aftronomer at Greenwich; who for many years devoted himfelf wholly to that bufinefs. As there was nothing wanting either in the observer or the apparatus, we may consider this as a perfect work, fo far as it extends. It is, however, to be regretted that the impression did not pass through his own hands; that now extant was published by authority, but without the author's confent. We have two editions of this catalogue; the first in 1712, which is generally called Dr. Halley's edition, because he was employed as the editor by prince George of Denmark, at whose expence it was printed. This edition contains only 2680 stars: owing, possibly, to its having been published without the consent, and, it is apprehended, contrary to the wishes of Mr. Flamflead, who might not, on that account, contribute all the materials for it, which he could have done. It is, however, more correct in fome instances, than that which was published in 1725, by Mr. Flamstead's executors, in purfuance of his will; but this latter contains the places of 2934 stars, and is that to which altronomers generally refer. The flars in both are adapted to the beginning of the year 1690. They are distinguished into seven degrees of magnitude (of which those of the 7th degree are telescopic) in their proper constellations. To the last is added Mr. Sharp's catalogue of the fouthern stars not vitible in our hemisphere, adapted to the year 1726. See vol. iii. of the "Historia Coelestis," in which are printed the catalogues of Ptolemy, Ulugh

Inective magnitudes. The chief excellence, however, of this publication, confids in the author's having marked every than account of cach of them in the "Prolegomens," In 1782, M. Bade, member of the Royal Academy of Sciences confidation being always denoted by the first letter in the Greek alphabet; the next in degree of brightness, by the femal letter of the fane alphabet, and to on; and when the fane alphabet, and to on; and when the fane alphabet, those that remain are marked by Roman letters in that alphabet, those that remain are marked by Roman letters; the relative brightness of the flars being ftill expressed by the order of the letters. By these means, we are enabled not only to refer to every star in the heavens, with great readiness and precision, but to express, likewise, its relative brightness to other stars in the fame constellation; and, in some degree, its magnitude of the fame constellation; and, in some degree, its magnitude. This investigate is a refeal the. Elemberad has a super-

In all the catalogues already enumerated, the flars are fit the meridian, without any regard to the constellation to catalogue of the flars, as we conceive, that was printed in this de la Caille, given at the beginning of his Ephemerides, for the 10 years between 1755 and 1765, and printed in 1755. adapted to the beginning of the year 1750. In 1757 he published his "Astronomic Fundamenta," in which is a catalogue of the right afcentions and declinations of 398 flars, adapted likewise to the beginning of 1750. In 1763, the year immediately fucceeding that of his death, the "Cα-lum Australe Stelliferum" of the same author was published; and this contains a catalogue of the places of 1942 thars, all fituated to the fouthward of the tropic of Capricorn, and observed by the same indefatigable astronomer while he was at the Cape of Good Hope in 1751 and 1752. The places of these are given for the beginning of the year 1750. In the same year, the Ephemerides for the 10 years between 1765 and 1775 were published; in the introduction to which the places of 515 zodiacal stars are given, all deduced from his own observations. The stars in this catalogue are manac for 1773 contains a catalogue of 380 ftars, in right ascension, declination, longitude, and latitude, derived from the observations of the late Rev. Dr. Bradley, and adjusted to the beginning of the year 1760. It has been fince, viz. in 1798, republished with corrections by Dr. Hornsby, in the first volume of Bradley's observations. These make but a small part of what might have been deduced from the labours of that great man, if his representatives had not withheld the rest from the public. Mr. Wollaston, (ubi infra) informs us, that Dr. Bradley had the whole British catalogue calculated to the year 1744; and that traces may be observed in it of his having examined almost every star in it. He adds, from fatisfactory information, that Dr. Bradley observed the British catalogue twice through: first with the old instruments of the royal observatory, previous to 1750, and afterwards with the new ones. The 380 stars abovementioned were carefully rectified for the year 1700 by Mr. G. Gilpin. For a brief account of the flate of Dr. Bradley's papers, fee the article BRADLEY. In 1775, a thin volume, containing feveral papers of the late celebrated Tobias Mayer, of Gottingen, was published, under the title of "Opera Inedita;" and among the reit, a catalogue of the right ascension and declination of 998 stars, which may be occulted by the moon and planets. It is adapted to the beginning of the year 1756; and, from the known

skill and accuracy of its author, is much valued. At the end of the first volume of "Astronomical Observations made at the Royal Observatory at Greenwich," published in 1776, Dr. Maskelyne, the present astronomer royal, has given a catalogue of the places of 34 principal stars, in right afcention and north polar diffance, adapted to the beginning of the year 1770; and which, being the refult of feveral years' repeated observations, made with the utmost care, and the beit instruments, may be presumed to be exceedingly accurate. In 1776, a work was published at Berlin, entitled "Receuil de Tables Attronomiques," in which is contained a very large catalogue of stars from Hevelius, Flamsteed, M. de la Cailie, and Dr. Bradley, with their latitudes and longitudes, for the beginning of 1800; with a catalogue of the fouthern stars of M. de la Caille, of double stars, of changeable stars, and of nebulous stars: a work very useful for the practical astronomer. To these may be added Dr. Herschel's catalogue of double stars, printed in the Philosophical Transactions for 1782 and 1783; M. Messier's nebulæ and clusters of stars, published in the " Connoissance des Temps" for 1784; and Dr. Herschel's catalogue of the same kind, given in the Philosophical Transactions for 1786. In 1789, Mr. Francis Wollatton published in folio a "Specimen of a general attronomical Catalogue, arranged in Zones of north-polar Dillance, and adapted to January 1, 1790." In forming this catalogue, Mr. Wollafton has not made any use of those which precede Flamsteed, except in a small part that of Hevelius: but all the stars in the British catalogue of 1725 are inserted, as well as those which are in the three latter catalogues of M. de la Caille, those of Dr. Bradley in the Nautical Almanac for 1773, of M. Mayer, of Dr. Maskelyne, the double stars of Dr. Herschel, M. Messier's nebulæ, and all those of Dr. Herschel, excepting his 2d and 3d classes, that is, all those which are capable of being discerned with any tele-fcopes inferior to his own. This work contains five distinct catalogues; viz. Dr. Maskelyne's new catalogue of 36 principal fixed stars; a general catalogue of all the stars, in zones of north-polar diltance; an index to the general catalogue; a catalogue of all the flars in the order in which they pass the meridian; and a catalogue of zodiacal stars, in longitude and

The first catalogue contains the right ascentions in time. the annual precession of right ascension in time, and the annual proper motion, both in time and in degrees, for each ftar, and also the zone to which it belongs in the second catælogue. These circumstances are deduced from a multitude of observations, recently made, with the utmost care and circumspection, by the astronomer royal, for the purpose of determining, when compared with his former fettlement of the same stars in 1770, whether those stars have any motion of their own, and what it is. That the fixed stars, as they are usually called, have a proper motion of their own, has long been suspected; and it was supposed that it had even been detected in Arcturus: but this motion is certainly fo fmall, that no observations, made before Dr. Bradley's time, were sufficient to exhibit it; and the basis of twenty years, which our prefent ingenious and indefatigable aftronomer royal has yet been able to obtain, feems much too thort to determine it with any great degree of accuracy, even in the present improved thate of attronomical instruments. The observations, however, sufficiently indicate fuch a motion in all the stars, and one which is pretty confiderable in Arcturus.

The second catalogue, or that in zones, as its disposition is entirely new, will require some explanation. All the stars which are situated within 10 degrees of the north pole are Vol. VII.

collected together, and inferted in a catalogue by themfelves, according to the order in which they pass the meridian; and this is called the first zone. The fecond zone contains all the stars which are situated at a greater distance from the north pole than 10 degrees, and at a less distance than 15 degrees, disposed in the same manner. The third zone contains all the stars which are distant between 15 and 20 degrees from the north pole: but hence, till the author comes within 20 degrees of the fouth pole, the zones are but one degree in breadth, that is, the fourth zone contains all the stars which are at the distance of more than 20 degrees from the north pole, and less than 21 degrees, disposed in the order in which they pass the meridian, and so on. The stars which are at a less distance from the south pole than 20 degrees, are disposed, like those which are at the same distance from the north pole, into two zones, each 5 degrees broad, and into one which is 10 degrees broad: to that the whole number of the stars is distributed into 146 diffinct catalogues, or zones; and in each of these the stars follow one another in the order in which they pass the me-

Each of these catalogues employs nine columns: the first contains the right ascension of the stars, in degrees, for the 1st of January 1790; the second, the precession of right afcension, in the same measure; the third, their right ascenfions in time; and the fourth, the precession in time. The fifth contains the star's distance from the north pole; the fixth, its precession in north-polar distance. In the feventh, the magnitude is expressed; the eighth contains the number, name, or character of the star, together with the name of the observer by whom its position was ascertained; and the ninth column contains short notes, intended to call the attention of observers to certain circumstances there mentioned, in order that they may either be disproved or verified by future observations. Where the situation of a star has been given by different observers, as is the case in most, each of their lituations is given, reduced to the same time, (January the 1st, 1790,) and set down in the order in which their observations were made. By these means, it is readily feen how far different observers agree with each other, and wherein they difagree.

Mr. Wollaston's reason for thinking that a catalogue of the fixed stars would be more useful in this form than in any other, is stated in the Phil. Trans. vol. lxxiv. p. 181, and vol. lxxv. p. 346; where the author propofes frequent examinations of the heavens, as the means of detecting any alterations which may happen among the fixed flars. In this butiness, every astronomer was invited to take a part, and to examine a certain number of zones, (each one degree in breadth,) with a telescope of a large field, mounted on a polar axis, and furnished with a system of wires in its focus. This telescope being directed to the proper parallel of declination, and fixed there, the buliness of the observer would be. to take the transits of all the stars which passed the field of the telescope, at the several wires in its focus; which were so disposed as to give both the difference of right ascension and declination between them; and for such a purpose, this catalogue is evidently well adapted.

The third catalogue is called, an index to the stars in the British catalogue, referring to the zone of north-polar distance, in which each star is to be found. This catalogue contains only the stars in the British catalogue of 1725, arranged in constellations; and the stars in each constellation follow one another in the same order as in that catalogue: but the constellations are disposed alphabetically. The catalogue employs three columns: the first containing the number of the star, as it stands in the British catalogue; the second

cond,

cond, Bayer's letter of reference, where the flar has one; and the third, the number of the zone to which the flar belongs in the fecond catalogue, reckoning from the north pole; but the reader must take care that he is not misled with regard to the import of this last column; the author does not mean, by the number there put down, the number of the zones as they shand in his catalogue, but the number of the zones in which it would have been, if every one of his zones had been no more than one degree in breadth; so that his first zone, (as described above,) is to be considered as containing 10 of the zones in the second catalogue; and the second and third zones must be considered as each containing sive.

The fourth catalogue contains the flars of the British catalogue, of de la Caille's southern catalogue, and about eighty stars from Hevelius's catalogue, which were omitted by Flamsteed, all arranged in one continued feries, according to the order in which they pass the meridian. This catalogue employs four columns: the first containing the startight ascention in time, for the 1st of January 1790, put down to the nearest second; the scood, the start's distance from the north pole, for the same time; the third, the magnitude of the start; and the fourth, the number, name, or character of the start, and the confeditation in which it is

placed.

The fifth catalogue gives the longitudes and latitudes of arranged in the order of their longitudes. It contains all the flars which are to be found within these limits, in the catalogues of Flamsteed, Bradley, Mayer, and the small catalogue of de la Caille, at page 238 of his "Altronomiæ Fundamenta." This catalogue employs five columns : the longitude of the star, reduced to the beginning of 1790, flands in the first column; the second contains the latitudes of fuch flars as are on the north fide of the ecliptic; and the third gives the latitudes of fuch as are on the louth fide of it. The fourth column exhibits the magnitude of the and the name of the observer who assigned its situation. Where any star has been observed by two or more persons, the result of each of their observations, (reduced to the same epocha,) is inferted, in the order in which their observations were made.

In 1702, Dr. Francisco de Zach published at Gotha, "Tabulæ Motuum Solis:" to which is annexed a new catalogue of the principal fixed flars from his own observations, made in the years 1787, 1788, 1789, 1790. This catalogue contains the right afcension and declination, with the magnitudes and annual variations in right afcention of 381 principal stars, adapted to the beginning of the year 1800. The catalogues of the places of Dr. Bradley's 389 fixed stars, adapted to the beginning of the year 1700; of those of M. de la Caille's 515 zodiacal stars, adapted to the beginning of the year 1765; of the same author's 307 principal stars in the heavens, adapted to the year 1750; of Zach's 381 principal fixed stars, adapted to the beginning of the year 1800; of the same author's declinations of 162 principal fixed flars, with their annual variations, adapted to the beginning of the year 1800; and of Mayer's 992 principal fixed stars, adapted to the year 1790; are published by professor Vince is the 2d volume of his Astronomy. M. de la Lande has published a new catalogue of more than 12,000 stars in the volumes of the "Connoissance des Temps," from the year 7 (1799) to the year 12. Almost all these are stars which had not been before observed. M. C. Vidal has lately communicated to the lyceum of Touloufe a catalogue of SSS auftral flars, from the 5th to the

7th magnitude inclusively. Every star has been observed three times, and all are reduced to a mean polition, regard being had to the effect of refraction, the aberration of light, and the rotation of the earth's axis. The mean polition of all thefe stars has been calculated to a common period, viz. Jan. 31, 1798; the equation and precession of the equinoxes being previously allowed for. The place of M. Vidal's obfervation was Mirepoix; a fituation admirably fuited to his purpole, by the ferenity of its atmosphere and the excellence and commanding nearly fix degrees of the heavens fouthwards more than Paris. On this account C. Lalande, completing a catalogue of 48,000 flars, have engaged M. Vidal to form a catalogue of the auftral stars, which he has executed with great fuccels and admirable precision. From the history of altronomy for 1800, by Jerome de Lalande, it appears that M. F. Lalande has terminated the labour, commenced August 5, 1789, and determined the places of 50,000 flars from the pole to two or three degrees below is still vigorously profecuted by the European astronomers, conformably to the plan and withes of Mr. Wollatton; and from the industry and accuracy with which their observations are conducted, we may expect the happiest result with regard to our knowledge of the flars and other celef-

CATALOGUES of the books of the Old and New Testament, in Biblical History. See Bible, Canon, and Testa-

CATALONGAY, in Botany, the name given by fome authors to the plant which produces the faba fandi Ignatii,

or St. Ignatius's beans of the shops.

CATALONIA, in Geography, a province of Spain, bounded on the north by France, from which it is feparated by the Pyrenées, on the east and south-east by the Mediterranean, on the fouth-well by the province of Valencia, and on the west by Arragon. Its form is nearly that of a triangle; the base towards the Mediterranean being about 160 miles in length, the fide towards France 120, and that towards Arragon 140 miles. Catalonia, towards the shores of the Mediterranean, has many convenient fea-ports; the inland country is in general mountainous, particularly in the northern part towards France, but intersperfed with a variety of spacious plains and fertile vallies. The mountains are covered with large foreits of tall trees, fuch as the oak, the ever-green oak, the beach, the pine, the fir, the cheftnut, and many others, befides cork trees, fhrubs, and medicinal plants. The foil is rendered productive by the inof the best cultivated provinces in Spain; and it yields a plentiful supply of corn, wine, oil, flax, hemp, liquorice, and almost every kind of fruit. Brandy, wine, nuts, almonds, raifins, and cork are shipped at different places on the coast, for the merchants who reside in Barcelona. The wines are Mataro, Villanova, Sitges, Valls, and Granatché. The price varies according to the feafon; but when it is highest, we may reckon Mataro at 16 dollars, or 48s., the hoghead, including the Spanish duties; Villanova, 15 dollars; Granatché, 40. All these are red. The following white wines are, Sitges, 54; Valls, 20 dollars; but the common price is 12½ dollars per hoghead for both the Mataro and Villanova. When brandy is dearest, it is sold, duty free, at 57 dollars, or 81. 11s. the four cargas or pipe of 124 gallons English, Hollands proof, or 18. 41d. per gallon; but it is fometimes fold at 1cd. Catalonia furnillus 35,000 pipes of brandy, and 2000 of wine, besides

50,000 bags of nuts, containing three bushels each, at 20s. the bag. Of the above about 4000 pipes of brandy, and fome filk, go to Guernfey and Alderney, and the rest to France, all to be smuggled into England. The merchants also export wrought filks, printed cottons, woollen goods, fmall arms, and spice; the last article, however, is contraband. Their imports are, corn, fish, woollen goods, hardware, and oil of vitriol. The articles prohibited are, beer, cyder, lead, hofe, haberdashery, muslins, and cottons; but of the two last, immense quantities are smuggled into this province. The mountainous districts have quarries of marble of all colours, crystal, alabaster, amethysts, and lapis lazuli. Gold dust has been found among the fands of one or two of its rivers; and here are mines of antimony, copper, lead, tin, iron, filver, one of gold, alum, vitriol, and falt, and many of coal. On the eattern coast they likewise fish for coral. Provisions of every kind are excellent. The climate is mild in the plains, the cold on the mountains is fupportable, and the air is pure. It is neither so hot as Andalufia, nor fo cold as Afturias, and the northern part of Spain; being sheltered on the north by the Pyrenées, and on the east by the sea. This temperature, joined to the many streams and rivers with which the country abounds, renders it very fertile and delightful. The inhabitants are hardy, courageous, industrious, active, vigorous, and good foldiers, but apt to be discontented. The miquelets are a fort of foldiers, whose province it is to guard the passes of the mountains and to protect travellers; but they are often extortionate in their demands of recompence.

In Catalonia, as in France, with which this province was formerly connected, accounts are kept in livres, fols, and deniers; 12 deniers making a fol, and 20 fols a livre. But in reckoning by the money of the province, nominal and real, there is great perplexity. If we reckon the pelo or current dollar at 3s. sterling, the hard dollar will be four, the current piltole 12; and the piltole of gold, 15s. See Coins. As to the measures in Catalonia, 12 cortains make one quartera, which is two buthels, English measure. Sixteen cortans make a carga of wine or brandy, which is about 30 gallons English, and is reckoned to be 12 arrobas. 100

quarteras are reckoned equal to 128 fanegas.

In estimating the weights of this province, eight ounces make a marc, being theavier than in Castile; 12 ounces make a pound; 26 pounds one arroba; four arrobas one quintal, which is 93 pounds English, or 91 pounds Casti-

lian ; 125 pounds make 112 pounds English.

In the beginning of the last century they reckoned in Catalonia 101686 houses, and only 391490 inhabitants; but the province had then been ravaged by civil war. In 1768 the bishops, in their account of the population, made the following return; viz. men, 189252; women, 192763; boys, 301379; girls, 320016; clergy, regular and fecular, 14235: in all, one million and thirty thousand two hundred and forty-five. Since that time the population has not decreafed; and yet, in the returns to government, A. D. 1787, the number of inhabitants is flated at only 801002. These accounts, so different from one another, without any affignable cause of deficiency in the latter, shew, that, notwithstanding the most vigilant attention on the part of government, they always fall short of the actual population,

merchants and mechanics. They are subject also to some other charges on labour and manufacture, and on cattle. The whole amount of the taxes collected in Catalonia was, A. D. 1721, 4818671. Sterling. But as the revenue of Spain is more than doubled fince that period, if we allow the same increase for Catalonia, we may state the revenue arifing from this province at little less than a million sterling; which, according to the computed population, is 20s. annually for each person; whereas, taking the whole peninfula together, the Spaniards pay no more than 10s. each per annum. Confidering the rapid circulation of money in this province, and the universal affluence resulting from it, with the peculiar advantages and refources of the Catalans, this contribution, though relatively heavy, is comparatively light; for being freed from the stagnating influence of the alcavela, cientos, and millones, they enjoy a decided superiority over provinces which have never claimed the fame indulgence. Unfettered by these impolitic restraints, and permitted to fet their own value on their commodities exposed to fale; their industry is free, and not like that of less-favoured provinces, crippled in all its operations. In addition to these immunities, the great number of troops, quartered in Catalonia, not only gives to the farmers and manufacturers a ready market for their commodities, but contributes much to maintain good order in the province. For near two centuries previous to the accession of the present family, Catalonia was infelted with banditti, who, by robbing and plundering passengers, interrupted the safe and easy communication of the cities with each other, and prevented, in a great measure, the interior commerce of the country. But Philip II. flationed a confiderable detachment of his troops in this doubtful part of his dominions; and these not only restored good order, but revived commerce by a quick and certain demand for all the productions of industry. Besides, the popular prejudice in Catalonia is favourable to commerce; for here artists and manufacturers are as much honoured and respected as in other provinces they are despiled. In consequence of this their trade is brisk; the vessels employed to carry it on are more than 1000; and government can always depend upon 18000 feamen, who are registered and always ready to obey the fummons in cases of emergency. Moreover, what contributes most to the wealth and prosperity of Catalonia is the power, which gentlemen of landed property have over their effates to grant a particular species of leafe, called " Establishment by Emisteutic contracts." By this kind of contract, the great proprietor, inheriting more land than he can cultivate to profit, has power to grant any given quantity for a term of years, either absolute or conditional, either for lives or in perpetuity, always referving a quit rent, like our copy-holds, with a relief on every fuccession, a fine on the alienation of the land, and other feignioral rights dependent on the custom of the diffrict. fuch as tithes, mills, public-houses, the obligation to plough his land, to furnish him with teams, and to pay hearth-money, with other contributions, by way of commutation for ancient Ripulated fervices. The tenure in Catalonia is evi-Of thefe 6583 are under vows, and 1266 are knights, dently feudal. All property in land is traced up to the king, and is held by knights' fervice from the crown, subject to relief, to fines, and to escheat. Under the royal grant, the great lords claim, not merely tithes of all lands not being freehold, with quit-rents and fines, mills, and public-houses, because it is the interest of every family, parish, and district, but the right of appointing magistrates and receiving tolls to conceal their numbers, in order to avoid the capitation on the palfage of cattle over their effaces. To the power tax. Catalonia enjoys the privilege of exemption from the retained by them of making emfiteutic contracts has with taxes called alcavala, cientos, and millones; in lieu of which reason been attributed the cultivation of such waste lands the inhabitants pay 10 per cent. on all rents, belonging to as are susceptible of tiliage, and the consequent increase of individuals or communities, and on the supposed gains of population. Industry has been promoted, new families have been been called into existence, and many, refeued from poverty and wretchednels, are now maintained in comfortable affluence. Nevertheles by the culpable inattention of great proprietors, both to the general good and to their private benefit, they leave their lands uncultivated; and, therefore, even in Catalonia, according to the government returns, more than 300 villages have been deferted. See on this

subject, Townsend's Spain, vol. iii.

The province of Catalonia has been usually divided into 15 vigueries, or jurisdictions, besides the two which are in Roufillon and which belong to the French; viz. Tortofa, Monblanc, Tarragona, Villa Franca de Panades, Barcelona, Gerona, which includes that of Ampurdan, all which lie along the sea-coast; Campredon, Puicerda, with the county of Cardagna, both which lie near the Pyrenean mountains; Balaguer, Lerida, Agramont, Tarrega, Cervera, Manrefa, and Vigue. Some have divided this principality into Old and New Catalonia, including in the former the country between the Pyrenées, which runs along the river Llobregat eastward to the fea; and towards the west the tract from this river to the borders of Valencia and Arragon. The principal towns of this province are Barcelona, the capital, Tortofa, Tarragona, Gerona, Monblane, Lerida, and Villa Franca de Panades. The chief rivers are the Segre, the Llobregat, the Cervera, and the Ebro.

Catalonia has been reckoned one of the most populous provinces in Spain; and contains one archbishopric, seven bishoprics, 28 large abbies, one principality, 2 duchies, 5 marquifates, 17 earldoms, 14 viscounties, and a great

number of baronies.

When the Moors had overrun the greatest part of Spain, and began their attacks on this province, the Catalonians made an effort to secure their freedom, and applied to Charles Martel of France for affiliance; by whom, as well as by his fon Pepin, they were aided in their wars against the Moors. On the death of Zaro, governor of Barcelona, who had agreed to pay tribute to Charles the Great, Bernard, grandson to Charles, was made earl and governor of Catalonia; on his decease, Godfrey, or Wiford, the son of his colleague in the government of this province, as well as of Provence and Languedoc that were annexed to it, was created governor of Barcelona, and in 884 hereditary count of Barcelona, which was to continue to him and his heirs for ever, with the restriction, that they should remain vaffals to the king of France. In 1137, Don Raymond V., count of Barcelona, marrying Petronilla, the daughter of Don Ramiro, the monk, and heirefs of Arragon, united Catalonia to the crown of Arragon, but without any incorporation of territories; and in 1182 it shook off all dependency on France. Catalonia continued united to Arragon till the year 1640, when it submitted to France. In 1652, the king of Spain recovered Barcelona and fome other places; and by the treaty of the Pyrenées in 1659 he faw himself again master of all Catalonia. In 1705, the whole principality submitted to the archduke of Austria, and adhered firmly to his cause, insomuch that, though in the year 1713, he was obliged to evacuate Catalonia, Majorea, and Yvica, yet the inhabitants of Barcelona determined to maintain their privileges or die in the attempt; however, in the year 1714, Barcelona was obliged to furrender at discretion, and the whole country was reduced to the subjection of Philip V. who abolished all those valuable privileges, which they had fo often afferted with a fuccefsful intrepidity.

Among the ancient inhabitants of this province we may reckon the Castellani, from whom some have imagined that it derived its name; others trace its etymology to the Cate-

iauni, an ancient people in Gaul; but others, with greater probability, trace the origin of the appellation to the following circumstance. Upon the decline of the Roman empire, the Alani feized the best part of this province, of which they were, in some measure, dispossessed by the Goths; and at length, mixing together and becoming one people, they came to be called Gothalani, and their country Gothalonia, which, by degrees, was softened into Catalonia.

CATALPA, in Botany, the Indian name of a North American plant, referred by Linneus to the genus bignonia, (fee Biononia catalpa); but as the plants included in this genus differ confiderably from each other, it has been divided by Juffieu and Ventenat into four, jacaranda, catalpa, tecoma, and bignonia. Of catalpa, the French naturalifis give the following character. Cal. two-cleft. Corbell-shaped; tube diffended; border four-lobed, unequal. Stam. two, fertile, three, barren. Stigma bilamellate. Capfule refembling a slique, long, cylindrical, two-valved; partition opposite to the valves. Seeds with a membranous appendage at the tip and base. Trees, with simple, ternate, whorled leaves and panicled slowers. Juffieu refers to it, bignonia catalpa of Linneus, and Lignonia longissma of Jacquim.

CATALS, Catalla, denote good or chattels.
CATAMANA, in Ancient Geography, a town of Afia, in Syria, fituate, according to Ptolemy, in Comagena.

CATAMARAN, or CATIMORAN, in Sea Language, is also called Balza, or Balfa, for an account of which see the article BOAT.

CATAMENIA, from xxxx and µxx, month, in Medicine, women's monthly purgations, called also menses, which see. CATAMITE, a boy kept for sodomitical practices.

CATANA, in Ancient Geography, a town of Sicily, on the eathern coast of the island, in a gulf of the same name. Thucydides fays, that this city was founded feven years after Syracuse, by the Chalcidians, from Naxus. Strabo also mentions it, and fays, that it was repaired by Augustus, and became a Roman colony. Pliny and Ptolemy give it this title. Strabo reports that this city loft its first inhabitants; but that Hiero, tyrant of Syracuse, placed others in it, and changed its name into that of Ætna; assuming the glory of being its founder. It still bore this name; when Dionysius, to revenge himself for the succours which it had given to the revolted inhabitants of Syracuse, levelled its walls, and bestowed its territory on the Campanians; and immediately after the decease of Hiero, the Catanese expelled those whom he had established there, and demolished the tomb of the tyrant, and the city regained its ancient name. It fell into the hands of the Romans among their earliest acquisitions in Sicily, and became the residence of a prætor. To make it worthy of fuch an honour, it was adorned with fumptuous buildings, and every convenience was procured to supply the natural and artificial wants of life. It was destroyed by Pompey's son, but rellored, with superior magnificence, by Augustus. The reign of Decius is famous, in the history of this city, for the martyrdom of its patronels, St. Agatha, whose intercession is implored on every emergency. She is pioufly believed, fays Swinburne, to have preferved Catania from being overwhelmed by torrents of lava, or shaken to pieces by earthquakes; yet its ancient edifices are covered by repeated ftreams of volcanic matter, and almost every edifice, even her own church, has been thrown to the ground. In the reign of William the Good, 20,000 Catanians, with their pallor at their head, were destroyed before the facred veil could be properly placed to check the flames. In the 17th century Catana was twice demolished. Cicero, speaking of the riches and beauty of this city, adds, that it had a temple dedicated to

Ceres, in which was preferred an image of this goddef:; but that only women were allowed admillion, and that it was

guarded by young females. See CATANIA.

CATANADROMI, in *Ichthyography*, a term of the fame fignification with the more common word anadromi, the diffine term of a fet of fishes, which at times leave the fresh water for the salt, and afterwards return to the fresh water again. See Anadromous.

CATANANCHE, in Botany, (Gr. xxxxxxxxxx, violence, fo called, according to Diotcorides, because it was superfittiously used as a philtre, or love-charm by the women of Thessally.) Linn. Gen. 920. Schreb. 1250. Just. p. 171. Vent. vol. ii. p. 492. Gært. 905. Catanance, Tourn. 271. Cupidone, Lam. Eneyc. Bosc. Nouv. Diet. Candia lion's foot. Class and order, syngensia polygamia equalis, Linn. Gi-

choracea, Juff. Vent.

Gen. Ch. Cal. common, imbricate, top-shaped; scales numerous, loofe, egg-shaped, acute, concave, scarious, shining, permanent. Ccr. common, uniform; storets all with stamens and a pittil, numerous, ligulate, linear, truncated, five-toothed. Stam. slaments sive, capillary, very short; anthers forming a hollow cylinder. Pift. germ oblong; style filiform, the length of the stamens; stigma bind, reflexed. Peric. the permanent calyx. Seeds folitary, egg-top-shaped, crowned with a five-leased, chaffy, awned pappus or calycle. Recep. chaffy.

Eff. Ch. Receptacle chaffy. Calyx imbricate. Pappus

confitting of five chaffy awned leaves.

Sp. 1. C. carulca, Linn. Sp. Pl. 1. Willd. 1. Mart. 1. Lam. Encyc. 1. Illuit. Pl. 658. fig. 1. (Chondrilla, Bauh. Pin. 130. 6. Barr. Ic. 1134. Rai. Hitt. 257.) "Calyx-scales all egg-shaped, mucronate, coloured in the middle." Lam. "Leaves villous, linear, a little pinnatisid at the base." Willd. Root perennial. Root-leaves numerous, long, narrow, with two pair of long, linear teeth, lying flat on the ground. Stems about two feet high, flender, pubefcent; furnished with small, generally entire leaves, or rather transparent scales growing nearer together as they approach the fummit. Flowers terminal, blue, large, on long peduncles. A native of the South of Europe, flowering from June to October. 2. C. caspitosa, Willd. 2. Desf. Atl. ii. p. 238. tab. 217. " Inferior calyx-scales egg-shaped, acute, leaves linear, rather sfeshy, sightly toothed at the tip." Willd. Root annual. Flowers yellow. 3. C. lutea, Linn. Sp. Pl. 2. Willd. 3. Mart. 2. Eneye. Illut. Pl. 658, sig. 2. Gært. tab. 157, sig. 5. "Interior Cart. feb. 157, sig. 5. "Interior (not inferior, as in Linnæus,) calyx-scales lanceolate." Lam. " Leaves lanceolate, toothed, three-nerved." Willd. Root annual. Stems two or three, a foot and a half high. Flowers fmall, yellow, on flender peduncles. A native of Italy and the Levant.

Propagation and Gulture. The first species may be propagated by slips planted in pots silled with light tandy soil, or in warm borders, under the shelter of walls, pales, or hedges. But it succeeds better when raised from feeds sown in March, in a border of good warm earth, and afterwards transplanted into pots or borders where it is to remain for flowering. The third species may also be readily raised from seeds; but, as it has little beauty, it is not often

kept in gardens. Mill.

CATANANCHE graca, Linn. Willd. Mart. Lam. See

SCORZONERA clongata.

CATANDUANES, or CANTUADANES, in Geography, a province of the island of Luçon or Manilla, conflicting of a small island to the most fouth-ensterly part of Luçon; its southern point being almost parallel with Sisran. Its shape is triangular, about 30 leagues in compass, and 10 in length.

As it is exposed to the north wind, it is always stormy; and it lies fo near the Emtfocadero, or mouth of the channel of St. Bernardin, that fome pilots miltaking it, and apprehending that they were entering the mouth of the ftraight, have found themselves among dangerous flats, which encompass the island about a musket-shot from the shore, and suffered shipwreck. This island abounds in rice, oil of palms, cocoas, honey, and wax. It has feveral rivers that are dangerous to cross, in the channel of which is found gold, brought down from the mountains by the floods. The largest of thefe is called Catandangan, and by the Spaniards Catanduanes, whence the island took its name. The chief employment of the natives is the carrying of wood, and the making of light boats, which they fell at Mindora, Caleleya, Balayan, and other places. They first make one very large, without any deck, and not nailed, but fewed together with Indian canes, and then others less and less, one within another, and thus they transport them 100 leagues. The people paint themselves; they are warlike, and excellent failors; and if a boat be overfet, they leap into the water and immediately turn it. Apprehending such accidents, they carry their provitions in their hollow canes closely stopped, and tied to the fides of the boats. Their habit is only a waiitcoat, which reaches down to the knees. The women are of a masculine size, and apply themselves as much as the men to tillage and fishing. They are modestly clad in a coat or jerkin, and a long mantle. Their hair is tied on the crown of the head, forming a knot like a rofe. On the forehead they wear a plate of gold two fingers' broad, lined with taffeta; in their ears three gold pendants. On their ancles they have rings, which make a tinkling noise as they

CATANGIUS SINUS, in Ancient Geography, a gulf of

Afia Minor, in the Thracian Bosphorus.

CATANHEDE, in Geography, a town of Portugal, in the province of Beira.

CATANI, in Ancient Geography, a people of Asia, in the

vicinity of the Caspian Sea, according to Pliny.

CATANIA, or CATANEA, the ancient Catana, a town of Sicily, in the valley of Noto, near the foot of mount Ætna. This city has frequently fuffered in ancient and modern times, from the eruptions of this mountain. See ÆTNA and CATANA. The materials of which the modern city is built are fuch as might be expected in a volcanized country, where itones of any other than a volcanic nature are not to be found but at a confiderable distance. The edifices, both public and private, and even the walls of the city, are principally of lava; which has furnished materials not only for the modern Catania, but also for the more ancient city, which was entirely destroyed by an earthquake in the year 1603: at least its ruins, when dug up, have all been found to confit of lava. Those who have taken a view of the furface of the territory of Catana have every where met with immense accumulations of lava; among which the most conspicuous are the remains of that torrent which, burfting from one of the fides of Atna in 1660, inundated a space 14 miles in length, and nearly four in breadth, rofe over the walls of Catania, burying under it a part of the city, and at length precipitated itself into the fea. The prince of Bilcaris has employed great labour and expence in digging down to the ruins. We descended, says Mr. Swinburne, into baths, sepulchres, an amphitheatre, and a theatre, all much injured by the cataffrophes that have befallen them. They were erected on old beds of lava, and even built with square pieces of the same substance, which in no instance appears to have been fuled by the contact of new lavas. The sciarra, or stones of cold

lava, have constantly proved as strong a barrier against the flowing torrest of fire, as any other stone could have been, though fome authors are of opinion, that the hot matter would melt the old mafs, and incorporate with it. Nothing inhabitants with the courage, or rather the obflinacy, to from the fea; which is without a river and without fortifications; exposed to all forts of natural misfortunes, and continually threatened with the dreadful calamities which have already proved fo deltructive. And yet in the course of the last century it has revived with great fplendour, and when all the houses are finished, it will be a very handsome city. In the progress of its improvement it has acquired more the features of a metropolis and royal relidence than Palermo. Its principal fircets are long, ffraight, and wide, the middle of the day this burning town is totally without fhade, and almost impassable. If its wealthy inhabitants had possessed a greater degree of talle; if, instead of huge palaces, and large churches of an obfolete and fanciful architecture, the buildings had been erected in a simple and noble fivle, Catania might have been one of the most magnificent cities in the kingdom of Naples. The market-place, however, is not without beauty; it is a square cut off at the angles, and decorated with arches supported by marble columns. In the centre of the great square formed by the town-hall, seminary, and cathedral, are two antique fragments, very happily grouped: they confilt in a part of an Egyptian obelific of granite, with hieroglyphic characters; placed on the back of an elephant formed of lava, the ancient fymbol of Catania. The cathedral erected by the abbot Angerius in 1094, and endowed by earl Roger with the territories of Catania and Ætna, has suffered so much by earthquakes, that little of the original structure remains, and the modern parts have hardly any thing, except their materials, to recommend them. The other religious edifices of the city are profulely ornamented, but in a bad taffe. The Benedictine convent of St. Nicholas is the largest belonging to that or any other religious order. Every part has been rebuilt fince the earthquake of 1693. The church is a noble fabric, though it has many defects in the deliga and execution; and is accounted the largest in Sicily. The organ, contructed by a Neapolitan prieft, is much effeemed by connoisseurs in musical instruments. The tones of all forts of wind and ftringed inftruments are imitated by it with the most perfect illusion. One wing of the monastery is appropriated to a confiderable museum of antiquity and natural history. This museum is magnificent, and amidst a variety of trifling objects it contains some utenfils in bronze, of as perfect purity and beauty as those of the cabinet of Portici, earthen vafes of a molt elegant form, and very curious lamps. The prince of Bifcaris, to whom the modern Catania is indebted for many of its improvements, has also formed a very magnificent muleum. His collection confilts of specimens of the most curious subjects in antiquity which Catania and Sicily produce; fuch as the remains of architecture, Mofaic ornaments, Roman and Grecian materials for building; feulpture, among which, a fingle colossal Torso, found at Catania. may be ranked with the most beautiful pieces of antiquity; a collection of earthen vales, peculiarly valuable for the number, the forms, and prefervation of the figures reprefented on them; another of antique bronzes; the natural hillory of marine productions, plants, shells, and fishes; and the productions of the earth, fuch as minerals, vegetables, volcanic matters, marbles, precious flones, and animals :the whole arranged in an order which exhibits science,

tafte, and industry. You fee likewise in this museum a feries of arms, armour, and fingular costumes. In this city there is also a third muleum, the possession and founder of which is the chevalier Gioeni; the valuable contents of which are enumerated by Spallanzani. One of the greatest curiofities at Catania is the Villa Sciarra, belonging to the prince of Biscaris. Upon the black impenetrable surface of the lava, which iffued from Ætna in 1669, this prince has laid the plan of a garden, built houses, planted trees in soil brought hither from other places, and formed two large ponds of fresh water, supplied by springs that ooze through the lava. The pools of the Villa are flocked with fifth and water-fowl, and are preferved from the fury of the neighbouring fea by a strong pier, which is the only separation between the falt and fresh water.

The number of public edifices that are crowded together in fo small a space, has left little room for the houses of individuals; and from this circumstance it has been inferred, that Catania has been embellished at different periods, or that the private houses were extremely small in comparison with the public buildings; or that the ancient city was more ornamented than extensive, and, consequently, more rich than populous. The modern town is somewhat of the same Although its population be estimated at 20 or 30,000, and by the Catanians themselves at double this number, yet nothing is feen in the ftreets but convents, churches, and palaces, feparated by a few private houses. Catania is the fee of a bishop, suffragan of Monreal, whose revenues are very confiderable; 2000l. fterling per annum being derived, as it is faid, from the fale of fnow collected on mount Ætna. This city has also an university, the only one in the island, and the nursery of all the lawyers. N. lat. 37° 30'. E. long. 15° 19'. Swinburne's Travels, vol. iv. Brydone's Travels, vol. i. Spallanzani's Travels, vol. i. De Non's Travels,

CATANIDIS PROMONTORIUM, in Ancient Geography, a promontory of Afia Minor, in the vicinity of the ifle of Leibos, towards the Arginusæ islands, according to Diedorus

CATANII, a people of Arabia Deferta. CATANITÆ, a people placed by Prolemy in Arabia

CATANZARO, in Geography, a town of Naples, in the province of Calabria Ultra, the feat of a governor and tribunal of justice, the fee of a bishop, fuffragan of Reggio. It is fituate on a mountain, and has manufactures of filk velvets and cottons. This town was built in 963 by order of the emperor Nicephorus Phocas, as a post of strength against the Saracens, to which its fituation on an eminence, in the pals between the mountains and fea, adapted it. In of Reggio. It contains 12,000 inhabitants, who live by the law, and the fale of corn, filk, and oil. The college of the late Jesuits is a handsome building, and possesses a good statue of St. Ignatius, by Fonfeen, and a very fine picture reprefeating St. Breno diffributing bread to the poor; 9 miles N.E. of Squillace. N. lat. 38° 58'. E. long. 18° 20'. CATAO, a town of Afia, in Thibet; 15 miles W.S.W.

CATAONIA, in Ansient Geography, a province of Afia, in Armenia Minor, between Taurus and Antitaurus. Strabo places this province in Cappadocia, because Armenia Minor once made a part of Cappadocia; and he fays that Ariarathes I. king of Cappadocia, joined Cataonia to Cappadocia. It is fituated to the north of Cilicia Campelliis, and traverfed from the N.E. to the S.W. by the Sarus. The two principal towns were Tariana and Comana Cappadocica. The

CATAPAN, or CATIPAN, a name the later Greeks, about the twelfth century, gave the governor of their do-

minions in Italy. Ughellus and others fay, catapan was the fame with capitaneus; formed from it by metathelis, or transposition: others derive it from 2272, juxta, and war, omne; in which sense, catapan was a governor-general, or magistrate, who had the direction of all: others will have it derived from κατα σαντοκρατορα, that is, next after the emperor. In which fense, catapan was a second matter, secundus dominus. Du-

applied to every governor, and even every man of quality. CATAPELTA, an instrument of punishment, in use among the ancients. It confifted of a kind of press, composed of planks, between which the criminal was crushed to death.

Cange derives it from xxxxxxxxxx, captain; which the Greeks

CATAPELTÆ, in Ancient Writers, more frequently written catapulta, which fee.

CATAPHONICS, in Music, fynonymous with catacoustics, which fee.

CATAPHORA, in a theme of the heavens, anappellation given to the houses falling from the third, fixth, ninth, and twelfth angles. In which fense the word stands opposed to

anapliora.

CATAPHORA, in Medicine, a term formerly used to denote a variety of lethargy, or coma, with which it may be confidered as nearly fynonymous. It fignified a leffer degree of fopor than the term Carus (which fee), or a leffer approach to the state of complete apoplexy. But these distinctions are now discarded as useless, since the nature, causes, and treatment of all must be similar; they are not different difeafes, but only different degrees of the fame difeafe. Sauvages defines the cataphora, "Status fomnolentus facile excitabilis, fine febre, delirio, et oblivione." Nosol. Meth. class vi. ord. v.

CATAPHRACTA, from xata, and Φρασσω, I fortify, or arm, in the Ancient Military Art, a cuirals, or heavy defensive armour, composed of theets or links of iron, so curiously fastened and arranged on strong cloth or leather, like plumes, that they preferved the same appearance in all motions, and left no part of the body exposed. It was formerly used sometimes both by infantry and cavalry, and when by the latter, it was generally made to cover the horse as well as his rider. It was anciently used by the Pertians, Sarmatians, and others. It was frequently made to cover only the breaft. The Romans adopted it early for their foot, and, according to Vegetius, retained the use of it till the time of Gratian, when the Roman discipline becoming greatly relaxed, and military exercises with laborious duty being chiefly discontinued, their foot thought the cataphracta, as well as the helmet, too great a load for them to carry, and therefore threw both afide. But he tells us, that by thus leaving their breatls and heads exposed and unprotected, they were, when fighting against the Goths, frequently defroyed by the multitude of the archers of those barbarians. And he very emphatically observes, that whilst they declined military fatigue, and the trouble of carrying armour fufficient for their protection, they were in a most difgraceful manner killed like sheep. Hence it would appear, that the Romans were overcome chiefly by the bow, after they laid afide their defensive armour. His words are the following: " Licet exemplo Gotthorum et Alanorum, Hunnorumque equitum arma profecerint pedites tamen

Pyramus had its fource in the mountains of the eastern D. Gratiani, et cataphractis et galeis munichatur pedestris exercitus. Sed cum campeltris exercitatio, interveniente negligentia defidiaque cessaret, gravia videri arma coperunt, qua raro utique milites induebant. Itaque ab imperatore pottulant, primo cataphractas, deinde cassides deponere; sic detectis pectoribus et capitibus, congressi contra Gotthos milites nostri, multitudine fagittariorum fæpe deleti funt; nec post tot clades, que usque ad tantarum urbium excidia pervenerunt, cuiquam curæ fuit, vel cataphractas vel galeas pedestribus reddere. Ita sit, ut non de pugna, sed de suga cogitent, qui in acie nudi exponuntur ad vulnera. Quid enim pedes fagittarius fine cataphracta, fine galea, qui cum arcu feutum tenere non potest, faciat? Quid ipsi draconarii atque figniferi, qui finistra manu hastas gubernant, in prœlio facient, quorum et capita nuda esse constat, et pectora? Sed gravis pediti lorica videtur, et galea fortasse, raro meditanti arma raro tractanti. Cæterum quotidianus ufus non laborat, etiam si onerosa gestaverit. Sed illi qui laborem in portandis veteribus munimentis armorum, ferre non possint, detectis corporibus et vulnera sustinere coguntur et mortes; et, quod est gravius (et turpius) aut capi, aut certe fuga rempublicam prodere. Sic dum exercitium laboremque declinant, cum maximo dedecore trucidantur ut pecudes." In this passage Vegetius ascribes the success of the Goths against the Romans without their defensive armour chiefly to the great multitude of their archers. Even in the defence of modern fortifications there are fituations in which we are convinced the bow and the arrow would have greatly the advantage of the mufquet and bayonet, as in calemated galleries, in the counterscarps of ditches, &c. where musquetry soon becomes useless on account of the smoke. And were it necessary to defend fuch a very inclosed country as this, many occurrences might arise, in which a certain number of good archers might be of more real use for the purposes of defence than thrice the number of our best musquetry. Tacitus, Hilt. lib. i. cap. 79. Veget. de Re Mil. lib. i. cap. 20.

CATAPHRACTA, among Surgeons, denotes a bandage of the thorax; thus denominated from its refemblance to a Roman breast-plate, called cataphracta. See Ban-

CATAPHRACTÆ NAVES, veffels armed and covered in fight, fo that they could not be eafily damaged by the enemy. They were covered over with boards or planks, on which the foldiers were placed to defend them: the rowers fitting underneath, thus ikrcened from the enemies' weapons.

CATAPHRACTI, or CATAPHRACTARII, persons sccured with cataphracta. The term, however, is most commonly employed to denote an ancient species of cuirassiers, or horsemen, covered completely, as well as their horses, with fuch armour as is described in the article Cataphracta, which fee. The Perfians made use of fuch cavalry; after them the Greeks; and then the Latins. Antiochus had 3000 of them when he marched against Scipio Asiaticus. And as the Romans copied after the Greeks, notwithstanding their hatred of them, in things they thought ufeful and advantageous, there is every reason to suppose that they borrowed from them that institution. The lame meaning is affixed to the term Crapellarii.

CATAPHRACTUS, in Zoology. See DASYPUS.

CATAPHRACTUS Pogge, in Ichthyology. See Cottus Cataphractus.

CATAPHRYGIANS, in Ecclefiaflical Hiftery, a feet in the fecond century, fo called as being of the country of Phrygia. They were orthodox in every thing, fetting afide conflat effe nudatos. Ab urbe enim condita ufque ad tempus this, that they took Montanus for a prophet, and Prifcilla

thing relating to religion; as supposing the Holy Spirit had

abandoned the church. See MONTANIST.

CATAPLASM, in Surgery, a poultice, or external application of a pulpy confiltence, more or less composed of Substances possessing a medicinal quality, and thence denominated antifeptic, emollient, discutient, anodyne, astringent, flimulating, maturating, repellent, &c. Cataplasms have their name from xalanhasou, illino, to spread or besmear; and are therefore always supposed to be somewhat coherent or

They usually confist of farinaceous ingredients or mucilaginous vegetable matters, which are mingled with gums, balfams, refins, eggs, honey, &c. and fostened by the addition of vinegar, water, or milk, and generally applied warm. Ignorance and caprice, however, have introduced a vall farrago of substances into compositions of this class; but judicious and experienced furgeous have limited them very confiderably,

and much simplified the form of their cataplaims.

The practitioner who keeps in mind the particular object he has in view, whether to communicate heat, cold; moisture, or some peculiar medicinal virtue, will not be at a loss to find appropriate materials for his purpose; in the Pharmacopæa Chirurgica of Mr. Houlston are contained many formularies of this nature; adapted to various occasions.

CATAPOTIA, from xaramiw, I fwallow, dry medicines, in a form fit to be fwallowed whole; otherwise called pills. CATAPPA, in Botany, Rumph. Gært. See TERMI-

CATAPTELEA, in Ancient Geography, a town of Afia

Minor, in Bithynia, feated on the Euxine fea.

CATAPULTA, from xxxx and mehrn, in Ancient Military Language. Much diversity of opinion has existed among modern writers, in regard to the catapulta and balifla; fome representing the former as having been employed to throw stones and bullets, and the latter to throw arrows, darts, javelins, pointed poles, &c.; others reverling these applications of them; whillt fome contend that each of them was made use of for both purposes. The chevalier de Folard, whom many of the French writers have followed on this subject, in his "Traité de l'Attaque et de la Desence des Places des Anciens," speaks of these machines in the following words.

"Polybe dit formellement par tout, où il parle de ces deux machines (la baliste et la catapulte) que la baliste jettoit des

durds, et la catapulte des pierres.

"La catapulte, comme la baliste, avoit différens noms. Les Grees l'ont appellée d'une façon, et les Romains d'une autre, chaque nation comme il lui à plû. César l'appelle tantôt catapulte, tantot onager, onagre. Les Grecs de la moienne antiquité l'appellent tantot l'un tantot l'autre, jamais machine n'a fouffert tant de differens noms. J'en pourrois compter une douzaine tout au moins, qui ont couru toutes les nations. Je confens qu'on les adopte tous, mais du moins doit-on se faire entendre dans la description de la machine : ear le nom n'y fait rien, et ne change rien a la chose, des que nous en concevons la structure et le principe du mouvement."

" Le scorpion ne fut jamais la catapuite, comme une infinite de commentateurs l'ont cru; ce n'etoit qui la balifte : car quel rapport peut avoir la catapulte avec cet animal?"

"Végéce dit qu'on nommoit autrefois scorpion, ceque de fon tems on appelloit manubalifle; c'eft l'arbalete dont on commença à se servir du tems de nos peres, et que nous avons abandonnée depuis l'invention de nos fufils, ou de nos moufquets, quoique cette arme, toute prevention à part, fut infiniment plus meurtriere et plus avantageuse, que ne le sont nos

and Maximilla for true propheteffes, to be confelted in every fufils, fes coups plus certains et plus affurez, et sa force au moins égale. Vegéce prouve affez, que le scorpion etoit la baliste des anciens. Cela se voit dans César en plusieurs endroits de les commentaires, car il emploie indifferemment ces deux termes pour fignifier la meme machine; mais il diftingue toujours celleci de la catapulte: Cafar in castris, dit Hirtins, scorpionum catapultorum magnam vim habebat."

"Avant que d'entrer dans l'explication de notre catapulte, ou pour mieux dire de celle des anciens, je crois, que le lecteur ne sera pas faché de voir ici celle d'Ammien Marcellin, Liv. xxiii, en éclaircissant ceque nous paroit obscur et embarraffé dans le texte de cet hiltorien. Cette hardiesse nous doit etre permife, lorsqu'elle ne va pas au de la des bornes raison-

ables." His translation follows.

" La catapulte est composée de deux poutres courbes, dit cet historien, qui se joignent à leurs extremitez par deux traversans. Aux deux cotez et vers le milieu de leur courbure, on pratique deux trous arrondi oppofez l'un a l'autre, et larges à proportion du poids qu'on veut jetter; c'est dans ces deux trous que l'on fait passer un cordage replié en plufieurs tours qui paffent deffus et dessous deux chevilles de fer qui part gent ectte espece d'écheveau de cordes. Au milieu de ce cordage filé et partagé par les deux chevilles de fer, on introduit a leur centre le bout d'une pièce de bois ou bras fait en manière d'axe de charette. Lorsqu'il est question de s'en fervir, l'on entortille et l'on bande les cordes également des deux cotez; et de peur que la force du bandage et des cordes entortillées ne lache, on tient fixes les deux chevilles par un arrêt : alors on baisse le bras par le bout d'en haut par le moien d'un moulinet, et ce bout est retenu par une détente; on met alors la pierre à l'extremité de ce bras qui forme un cuilleron (bowl of a spoon). Un homme lache alors la détente d'un coup de maillet, et fait partir le bras qui pousse la pierre d'une force extraordinaire, parce qu'il va donner et choquer dans le plus fort de fon mouvement contre un montant, au milieu duquel il y a un coussinet rampli de paille hachée."

And he compliments those, who have written before him

on the subject, in the following manner.

" S'il nous est permis de dire librement ceque nous penfons, ceux qui nous ont donné de la catapulte, entre autres Lipfe, Choul, Fabretti, Perrault, n'ont rien preduit que

d'imaginaire.

We so far agree in opinion with Folard that the real and original use of the catapulta was to throw stones, and that of the balifla to throw darts, &c. But we cannot help obferving, that he misquotes Polybius in afferting that that historian constantly makes this distinction between these two machines whenever he mentions them. For at the liege of Thebes in Phthiotis by Philip, where he makes Polybius fay there were 150 catapulta and 25 ballitta, that writer does not mention balillæ at all. His words are thefe. " Surax Surar ಿ ರಾಜಕ್ 'ನಿನ್ನಿ ಪಿ. ನಕ್ಕು ಕಾರ್ನ್ ನಿಂಕಡ್ಗಳಲ್ಲಿನಿ ಮ

xa. .. T. Trange one are. That is, 150 catapults and 25 stone-throwing machines being collected or brought together, he. (Philip) advanced towards Thebes. Now the deyanor mergonohimon, as diffinguithed from the catapulta, was not the balilla, but the onager, which threw itones by means of a wooden itilus, pole, or beam, and a chain or a fling fufpended at the end thereof for receiving the stones. This machine might have been fo countructed as to throw thoses of any fize. The xes to The See The Bear, and the multitude of projectiles, which Mr. Hampton has translated, "darts difcharged without intermition," might lead an incaptions reader to suppose that there were balifte there, from which those were thrown. But this could not have been the case

even according to his own translation of the Greek words hubeant, aptentur, in quibus fint foramina, per que vectes denoting the machines, of which there were 25 diffinguished from the 150 catapultæ, and which he expressly calls machines for throwing stones. Folard's affertion, then, on this point is altogether unfounded.

In like manner the words " xas rest; Tour Bedortares; discho-Ane," and there were three places, frations, or batteries, for stone-throwers, used by Polybius, when speaking of the siege of Echinus by Pailip, are without any reason translated by Cafaubon "et crant ibi tres stationes idoneæ locandis baliftis," and by Mr. Hampton, " and in these (trenches)

there were three batteries of baliftæ."

Folard-alfo roundly and unforupuloufly afferts that Julius Cæfar calls the fame machine fometimes catapulta and fometimes onager. The truth, however, is, that Casfar does not make any mention at all of the onager. But his authority may be confidered as decifive in regard to the use that was made both of the balifta and the catapulta, and the diffinetion, is this respect, between the two machines. He mentions the balifla only once, viz. in the fecond chap, or fection of his fecond book, " De Bello civili," when fpeaking of the fiege of Marfeilles, by his lieutenant, C. Trebonius. His words are thefe. "Sed tanti erant antiquitus in oppido omnium rerum ad bellum apparatus, tantaque multitudo tormentorum, ut corum vim nullæ contextæ vimimbus viniæ fullinere potfent. Afleres enim pedum xii cufpidibus præfixi, a que hi maximis baliftis misti per quatuor ordines cratium defigebantur." From this passage it is evident that even the largest balishe were employed to throw long pointed poles, &c. and fuch like millies. Of the catapulta he also makes mention only once, which he does in these words; "aut faxa ex catapultis latericium discuterent," which clearly shew, that the catapulta were in contradiffinction to the baliffa employed for throwing flones.

Vegetius does not mention the catapulta; but he expressly tells us, that the fcorpiones were called manubalifle, or hand-balifle, in his time. They were fo called, no doubt, from such a machine's being manageable by one person. And, belides him, Vitruvius informs us, that the fcorpio and onager were different machines, though it appears from Ammianus Marcellinus, that the name of fcorpio was also given

to the onager.

Folard taking it for granted, that the catapulta and the onager were the fame machine with different names, has translated as above a passage on the onager in the twenty-third book of that author in such a manner as to make it suit this Supposition. What he calls his catapulte is neither the catapulta nor the onager of the ancients. It has a large wooden itilus, pose, or beam, with a ladle or spoon at the end of it for holding a flone. This fulus every time it is let loofe and throws a flone, flrikes violently against the crofs-beam at the top, and must foon shatter either it or itself in pieces, and so thake the other parts of the machine as to render the whole useless. It has no sling or funda, which that writer expressly fays the onager had, in thefe words. "Summitatique ejus (Aili feu temonis) unci ferrei copulantar. e quibus pendet flupea vel ferrea funda." It is only necessary indeed to turn to the passage in A. Marcellinus to be satisfied, that the chevaiier has translated it very erroneously.

The following extract respecting the frame of the machine

is from Heronis Ctefibii Telefactiva.

" Duo ligna accipiuntur quadrata et equalia, que quatuor diapeginatibus, id eit, transversariis, itidem equalibus connectuntur, ex quibus doo in extremitatibus cardines habeant, qui in ligna quadrata immissi in exteriorem partem pertingant, ita ut in ipfarum eminentiarum foraminibus cuncoli adacti p gma totum fortiflime contineant. Extremitatibus vero quadratorum lignorum fuculæ, quæ trausversum motum VOL. VII.

trajiciantur, five ad extremitates, five in medio, per quos versentur. Superant autem quadrata lignea ipsa diapegmata ad superiorem partem." This author represents it as a machine of the crofs-bow kind with two ftraight arms, one end of each of which is fastened in the upright cordage and the other ends are joined by a cord or some other substance, answering the same purpose as the string of a bow.

The catapulta was certainly of the huge crofs-bow kind, and when used acted like a pellet bow. The stand was rectangular and confifted of two beams placed longitudinally, and connected together with crofs beams. On or near the middle of each of the fide pieces there was an upright pott crested. These two polts were mortised, or let into a strong cross-beam at top, parallel to, and directly below which there was also a cross beam for upright cordage, which was fliained both above and below by means of crows put into the holes of the circular iron capitals, which had firong iron crofs pieces, fmooth at top, to prevent their chafing the fame, of which there were two fets or coils separate and diftinct from each other, equally diffant from the centres of the faid crofs beams, and paffing through the upper one, and either round pieces of iron fastened to the beam below, or crofs pieces of iron in moveable capitals as in the beam above. The two arms forming the bow lay horizontally. The inner ends of them were inferted in the upright cordage; and the outer ends were united by a bow-firing which was drawn back by a windlass or capitan at the hinder end of the machine. When the cord or other fubstance forming the bow-fring was drawn fufficiently back, it was held by a catch and iron pin, from which, when the machine was going to be difcharged, it was difengaged by the stroke of a hammer or mallet. Under the bow there was a table or platform on 2 fort of univerfal joint, by which it was elevated in front when necessary and also moved a little to the right or left. between the upright cordage.

There is now at Gibraltar a catapult, which was constructed at the defire of the late Lord Heathfield under the direction of that very eminent military antiquarian, the present General Melville. It was for throwing stones a very little way over the edge of the rock in a particular place, where the Spaniards used to refort to the foot of it, and where shells thrown from mortars could not injure or annoy them. See the drawing of the faid machine. Artillery,

The catapulta and balifta were both of them machines of the crofs-bow kind and refembled each other in their general construction and moving powers, but were differently mounted for the different purpoles to which they were applied or made use of. With the bow-firing of the catapulta there was connected a fort of pouch or net-work for and the table under it was plain or fmooth; whereas in the balists, the table had a groove or channel in it. for the arrows, darts, poles, &c. that were to be propelled or thrown of construction, was probably the caute of their being often confounded with each other even by fome of the later Roman authors.

CATAPUTIA, in the Materia Medica. See Eurnor-

CATAQUENSIS, in Ancient Geography, an episcopal

CATARA, in Geography, a town of Arabia; 76 miles

CATARA, in Ancient Geography, an episcopal town of Asia Minor, in Lycia.

CATARABON, a river of Upper Germany, which, ac-

cording to the interpreters of Ptolemy, directed its course row channel through a deep valley, over rocks and precipices into the sea. The greatest natural curiosities of the known

markable are formed by the fall of the water between two mountains; which defeends with fuch rapidity and noife, that the inhabitants within the found of them are faid to be all deaf. Mr. Bruce (Travels in Abyffinia, vol. iii. p. 423) particularly describes the cataract of the Nile near the village of Alata on the borders of the kingdom of Begemder, S.E. of the lake Tzana or Dembca. The Nile, he fays, is here confined between two rocks, and runs in a deep trough, with great roaring and impetuous velocity. The height of this cataract has been fomewhat exaggerated by the missionaries who report the fall to be about fifty feet; but Bruce states it at about forty feet. The river, increased by rains, when he observed it, sell in one sheet of water, without any interval, above half an English mile in breadth, with a force and noise that were truly terrible, and which stunned him and for a time made him perfectly dizzy. A thick fume, or haze, covered the fall all around, and hung over the course of the stream both above and below, marking its track though the water was not feen. For an account of the cataract of

Syene; See SYENE. For the cataract of Affar; See Assar. The most extraordinary cataract of the Rhine is that near Schaffhausen, the height of which is estimated by Mr. Coxe at only 50 feet: but M. Ramond, his elegant French translator, observes, that the quantity of water, which varies according to the feafon, has fome influence upon the height, and a confiderable effect upon the aspects of this fall. Those who have seen it at the periods when the snows diffolve will admit the exactness of that description, which this ingenious traveller thinks exaggerated, and only true of remote times. M. Ramond has been affured that the height of the cataract, in these circumstances, is not less than 80 feet. About three or four Italian miles east of Terni in Italy, there is a famous waterfall in the river Velino, near the place where it flows out of the Lago delle Marmore. The mountain on which it takes its course before its fall is very high, and environed on both fides by much higher mountains. The shelving of the river's bed, as foon as it comes out of the lake, causes a very rapid stream, that collects itself into three successive cascades, the last and loftiest of which seems to be 200 feet high. The noise of this cataract cannot be heard without aftonishment; and from the bottom a white milt rifes and fills the air to a confiderable height. When the river clears itfelf of the rocks, between which these cascades are formed, it falls into the Nera about 100 paces distant. The grand water-sall is called the "Cascata delle Marmore." In the Wologda, in Muscovy, there are two cataracts near Ladoga, which see. The Zaire, an African river in Congo, commences with a large cataract, which falls from the top of a mountain. In Japan, which is very mountainous, many rivulets form by their junction confiderable rivers, in which are large and furprifing cataracts. The most remarkable is that of the lake Pogitz, or Facone, which, being furrounded on all fides by high mountains, has no outlet for its waters excepting three different apertures, from which they fall down in cataracts, with a dreadful violence and noise; thence the three streams, reuniting, run down with a prodigious impetuofity, by a nar-

into the fea. The greatest natural curiofities of the known world are the cataracts of Lower Canada, at the distance of 13 miles from the town of Niagara." Mr. Weld, in his "Travels through Lower Canada (vol. ii.) has prefented to his readers four engraved views of these falls, taken from different points of observation. The most superiodus of gara river, commonly called the "Great or Horfe-shoe Fall," from its bearing fome refemblance to the shape of a horse-shoe. The height of this is only 142 feet, whereas distinct collateral falls) are each 160 feet high: but to its inferior height it is principally indebted for its grandeur; the precipice, and of course the bed of the river above it, being fo much lower at one fide than at the other, by far the greater part of the water of the river finds its way to the low fide, and rufhes down with greater velocity at that fide than it does at the other, as the rapids above the precipice arises a prodigious cloud or milt, that may be feen at the diffance of feveral miles, and that exhibits, when the fun fhines above it, a beautiful rainbow. The extent of this on which that fort flands, is computed at the same measure with the large island. The whole extent of the precipice, therefore, including the islands, is, according to these estimates, 1335 yards. Some have supposed, that the line of the falls altogether exceeds an English mile. The quantity of water, carried down the falls, is prodigious; being found by a moderate calculation to be 670,255 tons per minute. The Fort Schloper Fall is skirted at bottom by milk-white foam, which afcends in thick volumes from the rocks; but it is not feen to rife above the fall like a cloud of smoke, as is the case at the Horse-shoe Fall; nevertheless, the fpray is so considerable that it descends on the opposite side of the river like rain. Below these falls the whirlpools and commotions of the waters are fo tremendous, as to render navigation impracticable for fix miles; and immediately above them the river is much narrower than it is higher up. The river, however, runs evenly, and is navigable with fafety for batteaux as far as Fort Chippeway, which is about three miles above the falls, but upon a nearer access the waters are fo much agitated, that, unless a boat keep in the middle of the river and is dextroully managed, it must be dashed to pieces: however, with such management it may pass down to an island which divides the river at the falls. Since the falls of Niagara were first discovered, they have very much receded, on account of the difrupture of the rocks which form the precipice. Within the memory of many of the present inhabitants of the country, the falls have receded feveral yards. It is not an improbable conjecture, that they were originally fituated at Queenflown. Tradition reports that the great fall, instead of having been in the form of a horse-shoe, once projected in the middle; but for a century past it has remained nearly in the present form. The falls of Niagara are much less difficult of access now than they were some years ago. The most favourable season for visiting them is about the middle of September; for then the woods are feen in all their glory, beautifully variegated with noved with vermin. In the fummer feafon you meet with rattle.

in the air, that, to use a common phrase of the country, you might cut them with a knife. The cold nights in the beginning of September effectually banish these noxious insects. In the province of New York, three leagues from Albany, there is a cataract of 50 feet perpendicular height, the vapour of which, like that of the falls of Niagara, gives rife to a rainbow. For an account of other cataracts in America; See Anthony's Falls, Chaudiere, Cohoz, and Mont-morency. On the Highlands of Scotland, as well as other mountainous countries, there are feveral falls; but the grandest cafcade is that in the river Fyres. This cataract pours down its waters from a height not much lefs than 500 feet; but it is broken in its progress through the different stages of the rocks: "At the last stage but one," fays Mr. Lettice in his "Tour through various Parts of Scotland," "where the freedom of its passage was arrested by a narrow channel in a cleft of the precipice, it grew furious and foaming from the obstruction, till at length delivered it issued forth on a broad furface of a rock just below, and in one valt and voluminous sheet tumbled into the profound gulf, with a momentum that shook the glen, and filled the circumambient space with a continual spray."

" Now rolling down the sleep amain Headlong, impetuous; see it pour!

The rocks and nodding groves rebellow to the roar."
In the vicinity of the lakes of Cumberland there are feveral confiderable cataracts or cafcades; that called "Sourmilk Force," near the bottom of Buttermere lake, is supposed to fall upwards of 300 yards. These cataracts are also rivalled by a remarkable fall of the Tees, on the west of the county of Dutham, over which is a bridge suf-

of the county of Dutham, over which is a bridge sufpended by chains, seldom passed but by the adventurous miners; and in this connection we might mention Afgarth

Force in Yorkshire.

The principality of Wales abounds with falls of water, cascades, or cataracts, as they may be severally called, which afford amusement to the curious traveller. In the vale of Neath, the scenery of which is very romantic, there are feveral cafcades, that are worthy of notice; but those of the river Hepsey claim particular attention. In the most considerable of these, near the junction of the rivers Hepfey and Melta, a broad sheet of water projects over an abrupt ledge of rock to the depth of 50 feet. Four others occur within an eighth part of a mile from the first. The principal of these is about 25 feet in height, and the smallest about ten. These four are all feen at once; but a bend of the river prevents a view of the great cascade. If the five were visible at one point of view, they would nearly rival the great fall of the Mynach in Cardiganshire, below the Devil's bridge; for though they would still be very inferior in point of height, the Hepfey is much broader than the Mynach, and in that respect would have the advantage with regard to grandeur. At a fmall distance the brink of a precipice discloses the great fall of the river Melta, which is broader than that of the Hep-fey, and 70 feet high. This projects as fuddenly as the others, and, carrying a larger body of water, with greater violence. It is, therefore, more awful and tremendous, but unaccompanied with those circumstances of variety and beauty which adorn and enliven its rival cataract. In the vicinity of Neath, at a place called Melin court, there is a magnificent fall of the Cledaugh from the height of 80 feet. With the exception of the Mynach fall, this is the largest in South Wales, and unrivalled in its accompaniments, confidered as an enclosed scene. The cascade at Havod in Cardiganshire, which has a continued fall of about 100 feet, is an interesting object in the scenery of that spot, which has been so

rettle-fnakes at every flep, and mulquitoes fivarm to thickly juffly celebrated on account of the improvements introduced in the air, that, to use a common phrase of the country, you and still carried on by Thomas Johnes, esq. its proprietor.

The fall of the Mynach, at the Devil's bridge, has already been mentioned. This stream forms its forious passage through masses and fragments of opposing rocks, hollowing out deep cavities, which are filled with unfathomed waters, and which contribute to increase the gloom of a recess, impervious to fundame. The depth, from the prefent bridge to the head of the river, is 114 feet. This caseade comprehends four different falls, each of which is received into a deep and agitated pool at the bottom, but fo diminished to the eye of the observer as to melt the four into one continued cafcade. The first fall takes place about 40 yards fouth-west of the bridge, where the river is confined to narrow limits by the rocks; it is carried about fix feet over the ridge, and projected into a bason at the depth of 18 feet. Its next leap is 60 feet, and the third is again diminished to 20, when it encounters rocks of prodigious fize, through which it struggles to the edge of the largest cataract, and pours in one unbroken torrent down a precipice of 110 feet. The river, therefore, falls 208 perpendicular feet, without allowing for the declivity of the three pools. If we add to this 114 feet, the perpendicular depth from the bridge to the junction of the Mynach and Rydoll is 322 feet or upwards. At a small distance, in a recess seldom frequented, is the fall of the Rydoll. The most remarkable cataracts in North Wales are the following: In Merionethshire, at Dol y-Melynllyn, near Llanelltyd, is "Rhaiadr-du," or the black cataract, which is a double fall of about 60 feet high, where the water foams with a thundering noise down fome black rocks, giving to the scene a singular appearance; which is increased by being covered in many places with a pure white lichen. The torrent falls into a fmall deep bason, from whence it dashes itself along its rugged channel. About one mile from this is another cataract, called "Rhaidr-a-Mawddach," situated in a river of that name, where the thream forces itself down a rock, about 60 feet high, in which the fream is three times broken in its fall to the bason round which the rocks and trees form a kind of amphitheatre. Near the latter is " Piftill y Cain," which is by far the highest and most magnificent of the three: it confifts of a narrow stream, which rushes down a valt rock of the height at least of 150 feet, whose horizontal strata run into irregular steps through its whole breadth, forming a mural front; but its picturefque beauty is much injured by its regularity. The immense fragments of broken rocks, scattered round in every direction at the foot of the fall, communicate a pleasing effect, which is farther heightened by the agreeable tints of oaks and beech foliage, and, upon the whole, possesses much local beauty and romantic scenery. The most remarkable cataract in Wales is that called "Piftyll-Rhaiadr," in the extremity of the vale that lies about four miles from the village of Llanrhaiadr yn Mochnant, on the borders of the counties of Montgomery and Denbigh. This cataract is formed by the river Rhaiadr, which falls from almost a perpendicular crag 210 feet high, and passes foaming through a natural arch or open bason, between two prominent fides, into a fmall bason at the bottom; whence it rolls over fmall rocks, through a woody vale, into the Severn or Tanad, a branch of the former. Some have estimated its whole height at 240 feet. The upper part of the cataract, when the fun shines upon it, is vilible to a great diltance; while its filvery appearance gives a degree of fingularity to many of the views. Dr. Worthington, formerly vicar of Llanrhaiadr, erected a small room near the foot of the rock, for the use of visitors, who bring their own refreshments with them: this is frequently praised for its convenience and great utility in these sequettered and

dreary regions. Maikin's Scenery, &c. of South Wa'es, 4to. 1804. Evans's Cambrian Itinerary, 8vo. 1801.

what we call a cataract, the ancients usually called a catadura. Herminius has an express differtation "De admirandis mundi cataractis fupra & fubterrancis;" where he violent motion of the elements.

appears in a very high degree. At find an impression is made upon the organ, as if all the objects it perceives were city behind the pupil increases by the same degrees. See

EYE and Vision.

cafe it may occupy the whole capfule, or only the anterier or potterior membrane. Sometimes both the capfule and Sometimes there is a preternatural accumulation of Mortherefore comprehended under the term of the genuine cataraci; is termed the Spurious cataract, which is divided into four species. The first species is, when pus or some other opaque a mass, which stops up the pupil, or fixes itself upon the fecond species, the hyaloid membrane becomes opaque. In which lies upon the anterior part of the capfule, and is termed charciel cataras by those who consider it as an elongation of the choroid membrane; though it is probably produced only by the pigmentum. The fourth species is that which occurs with infants who are born with a closed pupil: this is named by some cataralla pupillaris; but it would more properly be called fynizefis congenita.

manner, that, when extracted, it appears like a round facfilled with milk. In this cafe the capfule now and then is detached (pontaneously from the vitreous humour, to that the cataract becomes perfectly moveable in the eye, and trembles upon the flighest motion of the eye, or of the fubstance behind the pupil. Sometimes the lens preferves its natural confidence, excepting that its furface becomes foft the harder it becomes the thinner and finalier it is. In this cafe, the cataract has generally an ath, yellow, or brownish of a thick jelly, coagulated milk, or new-made cheefe. Not unfrequently the lens partakes at the same time of all these different degrees of confidence.

opaque; the polletior membrane of the capfule is rarely,

opacity behind the pupil appears white and faining ; when white and thining points or streaks are observed in it; when the opicity is as great at the circumference as at the middle, and no black ring is feen around the circumference; when the pupil becomes opaque, we may suspect the disease to have its feat in the captule. When the opacity, attended with vex, it is probably fituated in the anterior men bases or the capfule; but when it is far behind the pupil, and opposers brane of the capfule. In the tremulous, concreted, and partial caracast, the capfule is always opaque.

after the operation of entracting or depociling the less has

in this the capfule has always formed preternatural adhetions. with the furrounding parts. These adhelions may be produced in a threefold manner. The capfule adheres either fame time both opeque, though in some cases the accumula-

Befides thefe principal species of cataract, which require particular attention in the operation, there are also other for example, the divertities of the colour of the cataract which fometimes is milky, fometimes of a pearl colour, afhgrev, brown, yellow, greenish, nav, even black. It was with this theory, a recent cataract was always supposed to be fost, and one of long standing hard; but this opinion the epacity does not occupy the whole pupil, but only half, or a portion of it, it is termed partial. Sometimes one only

cure of the cataract; the AMAUROSIS excepted, which not but most frequently the anterior alone, opaque. When the necessary with respect to the pregnous; for although amou-

roffs prefents no obflacle to the operation for the cataract, the patient cannot, however, expect to have his fight reflored

by that alone. See GUTTA SERENA.

With respect to the causes of the cataract, it is either a local complaint, or a confequence of fome conflictational difeafe of the body. To the causes of cataract belong-external violence, wounds, bruiles, concustion, the action of fire, acrid vapours, inflammations, metaltafes of morbid matter, various difeafes of the eye, and too much exertion of the organ, immoderate indulgence in venereal pleafures, exceffive drinking; also arthritic, scrophulous, scorbutic, and venereal acrimony, hereditary disposition, and age; and in the latter cases the operation is less likely to be productive of benefit than in the first. Finally, there also occurs a congenital cataract, which is commonly fluid; but in other respects equally curable with any other species of cataract. The disease may occur in every constitution, under every mode of living, and at every period of life; but it is more frequent in perfons advanced in years, than in young people. When from any cause, internal or external, a cataract is produced in one of the eyes, it generally comes on gradually, within a longer or a fhorter period, in the other eye also; in many cases, however, the other eye remains free from difease during the patient's life.

The cure of the cataract depends almost entirely upon chirurgical allihance: though it has in some cases been known to have been cured, without any operation, merely by internal remedies, or even spontaneously; viz. when the cataract evidently proceeds from internal causes, which can be removed by medicines; for example, when it is of an arthritic, veneral, scrophulous, &c. origin, and when the cataract depends entirely upon the opacity of the capsule. The crystalline cataract can hardly be cured by internal remedies; though it is probable that the milky may in some cases be

difcuffed.

When the cataract proceeds from internal causes, such as a venercal, arthritic, &c. taint, such remedies are to be employed as counteract these causes; and when no internal cause can be detected, and the cataract seems to be of a local nature, such remedies are to be employed as are thought to possess a dissolvent power. Mercury has most frequently been employed with success; perhaps because a venercal taint is one of the most frequent internal causes of cataract. A complete opacity behind the pupil, proceeding from an arthritic taint, has been cured, within the space of four weeks, by the internal exhibition of vin. antım. and aconitum, and the external application of decoct. cort. mezer, Cataracts, probably those of a scrophulous origin, have been cured by means of Peruvian bark and cicuta. In one instance a cataract was cured during the administration of an ointment for the itch, when a psoric eruption made its appearance.

Amongst the resolvent remedies, those which stand best recommended by the test of experience are mercury, various antimonial preparations, volatile alkali, wher, and extr. hvof-cyam, alb. Electricity has also been used with success. Fresh millipedes, emetics, artificial ulcers, and various evacuant stemutatories, combined with mercury, are likewise generally

recommended.

The operation, which in the majority of cases is the only rem-dy remaining for us to try, is not always admissible, or its success is more or less to be expected. The surgeon must examine the case before him with great attention, in order that he may form a proper prognosis; but even under the most favourable circumfances, he ought not to promise his patient any thing with certainty, as even under such countries the operation sometimes fails of success.

The operation is altogether inadmissible when the patient

is an infant; when he has long been troubled with obtlinate and frequent head-ach; when his face is of a red copper-like colour, his eyes inflamed, painful, and unable to bear the light, and have long continued in this condition; when the patient is actually affected with rheumatic or arthritic fymptoms; when he is diffurbed with cough; when the difeafed eye is preternaturally large and droptical, or preternaturally finall and atropic; and when the cataract has formed a complete adhesion with the iris at all points. When an eye is affected with cataract, we ought never to operate, as long as the patient is not almost entirely deprived of fight in that eye, unless it should be rendered necessary by some peculiarly tugent symptoms. It is lekewise commonly unadvisable to perform the operation when the patient is blind only in one eye, and the other possession when the patient is blind only in

The operation is attended with difficulty, or its event is doubtful, when the patient, without any symptoms of amautofis, diffinguishes light from darkness in an indiffinct manner, or not at all; when the cataract arises from external causes, such as a bruise, a blow, or mere y a violent inflammation; when the first appearance of the cataract has been attended with violent head-ach and ophthalmia; when it is membranous, or adhering at any point; when the patient is of a cachectic habit, and the cataract has arisen from some external cause which could only be alleviated, but not entirely

removed, before the operation.

Mr. Stoil never undertook the extraction of the lens, with perfons who were affected with rheumatic or arthritic pains, who laboured under head-ach, or hemicrania, who were affected with pains in the temples and eyes, with frequent eryfipelas, or oblitinate cough, or cruptions in the face, or where the teeth and gums were in a very difeafed condition, or where the cornea in either of the eyes began to grow opaque, or were dilated, and varicofe veffels paffed through the eye; as in these cases it generally had unfortunate confequences, the faculty of vision being either weakened, or en-

tirely deftroyed, after the operation.

We may expect that the operation will prove successful, when the patient is in other respects perfectly healthy; when the cataract has not been produced by fome permanent internal cause; when the patient can perfectly distinguish between light and darkness; when during the commencement of the difease the patient has not been affected with frequent head achs and inflammations of the eyes; when the motion and form of the pupil are perfectly in their natural state; when the cataract is fituated at the proper diffance behind the pupil, and the eye is in other respects entirely found and without blemish. But great as the advantages are which this operation produces, it is full always necessary that the want of the crystalline lens should be supplied to the patient by the use of a convex cataract glass; as there are few who are able, after the operation has been performed, to read without the aid of fuch a glais. See OPTICS.

The tedious and careful preparations which furgeons make in order to prevent the inflammation which is apprehended from the operation, are not only unnecessary, but also very prejudicial. All that the furgeon can do with otherwise

healthy patients confids in the following means:

1. He must end-ayour to diminish and shorten the anxiety and dread of the patient by every possible method; he must not delay the operation long; and even though its success should feem to him to be doubtful, he should endeavour to inspire his patient with hope; he should also endeavour to amuse his mind as much as possible, and prevent his thoughts from dwelling upon the operation; he should remove every thing that may give too great an air of follomity to the operation, and not inform his patient long before hand of the hour fixed upon for the purpose; when the patient is timo-

rous, he ought to take, half an hour before the operation, 15 or 20 drops of laudanum in a little wine; and, finally, the operation should be performed without any unnecessary preparation and parade.

2. Only when the patient is very plethoric, and used to

blood-letting, a vein may be opened.

3. For two or three days before the operation, the patient should use a less nourishing diet than usual, and carefully avoid whatever can produce irritation, colliveness, or disturbance in the prime vize. The patient should particularly avoid all the occasional causes of rheumatic and catarrhal affections.

4. When there is cause to suspect an accumulation of seculent matter in the alimentary canal, a gentle purgative is indeed necessary; and, unless it should be contra-indicated by particular circumstances, some mercurial preparation of this kind is far presentable to the common purgative salts.

But when the patient is troubled with any complaints which might influence the fucces of the operation, these must be removed, as far as may be done, by means of remedies adapted to their nature and causes. No particular season of the year is exclusively favourable to the operation, all that is required being that the patient should be kept in a moderate temperature, which may be imparted to the atmosphere about him at any season. But when the patient is rheumatic or gouty, the summer is the most favourable season for the operation.

In this operation, much depends upon the convenient pofine both of the furgeon and patient. The furgeon, when
he operates, mult fit upon a high, and the patient upon a
low chair, fo that the head of the latter may be placed oppofite to the shoulders of the former. The legs of the patient
must be stretched out under the chair upon which the surgeon sits, and the head of the former must be quite close to
the breast of the latter. In order to render his hand more
steady, the surgeon must place one foot upon the frame of
the chair upon which the patient sits, rest the elbow of the
arm with which he operates upon his knee, and press his hand
close to the cheek of the patient.

The furgeon ought to fit near to one of the windows of the chamber, and direct the curtains to be drawn before the others. The patient should fit in such a situation that the light may fall obliquely over his nose into his eye. The chair upon which the patient sits should have a high perpendicular back, against which his head should reft perfectly close, in order that he may not be able to start back with it

during the operation.

The eye upon which the operation is not performed, ought, especially if the patient is able to fee with it, to be covered with a fillet. An affiltant, who stands behind the patient, lays one of his hands, for example the right, if the operation is performed on the left eye, under the chin of the patient, and raises it a little upwards, so that the face of the patient is directed somewhat upwards, and presses his head to the back of the chair, or if he sits upon one that has no back, or only a low one, to his own breast. The affishant applies his other hand to the patient's forehead, and draws the superior cyclid upwards with the fore and middle singers of the same hand. The inferior cyclid the operator himself draws downwards with the fore and middle singer of the hand with which he does not operate.

When the line of feparation between the patient's two cyclids is not fufficiently long, when the patient is very reflefs, and the dexterity of the affiltant cannot be depended upon, it will be best to let the superior cyclid be drawn upwards by means of a broad filver hook. This hook may be formed most conveniently of a double flexible filver wire. Some also draw the inferior cyclid downwards by means of

a double hook, applying the function hook to the eyelid and fufpending a moderately heavy weight to the inferior.

Mr. Barth has lately proposed a method of operating, adapted for skilful operators, according to which he omits all the preparations hitherto mentioned. He uses no chair either for the operator or the patient, neither does he employ an affiltant, nor make use of any hook. He directs the patient to lean flanding against the wall of the chamthe four fingers of his right hand (supposing the operation to be performed upon the left eye) upon the anterior part of the hairy scalp of the same fide of the head, he draws the upper eyelid as much as he can upwards with the thumb upon the lower eyelid, draws it downwards as much as possible, and presses it with the sufficient degree of force upon the inferior margin of the focket; immediately after having done this, he pushes the point of the fore singer of his left hand under the thumb of his right, fixed in the pofition above-mentioned, as far as the upper eyelid, which he raifes still higher up with the finger, and presses it as much as is necessary to the bottom of the locket, more or less outwards or inwards, in proportion to the necessity there is for prefenting the ball of the eye. All this is done to the external parts of the eye, without touching the ball. The eyelids being fecured in this manner, he orders the patient, as usual, to direct his eye in the proper position, and touches the cornea repeatedly with the flat of his lancet, at the fame time giving the patient to understand that he is not about to operate. By this means he induces the patient (who generally is most reffless with his head and eyes at the time when the first puncture is made, not on account of the pain which it occasions, but from fear of the danger in which he thinks his eye is), to remain quiet whillt this puncture is made, thinking the operator is still only examining the parts. But in order to keep him equally quiet whilst he proceeds to make the incition, he endeavours to throw him into a state of stupefaction by fuddenly menacing him with impending danger. Having thus made the first puncture, he endeavours, with deliberate speed, to push his lancet towards the point at which it is again to be brought flide too far towards the internal canthus, and to render the incition of a just length; though, as is well known, it ought rather to be too long than short. When he has once got hold of the cornea by bringing out the point of his lancet at the proper spot, and the eye remains in its proper situation, he continues the incision till he has completed it. But when the ball of the eye has rolled farther in any direction than it should, he brings it, as he has it now in his command, into the polition necessary for completing the incilion. But when he cannot reach the point for the outward puncture, without the cornea being fome where in a great mea-fure concealed, he is generally able, by a rapid and experienced comparative observation of the direction of the blindfold as it were, and to complete the incilion without damaging either the angle of the eye or the iris. For, enexit-puncture, and to complete the incition without injury quently disappoints the practitioner of the reputation which he hoped to acquire by it.

Mess. Arneman and Conradi also deviate from the common practice, in letting the patient sit during the operation, whilst they perform it standing; as they conceive this posture to be the best and most convenient for the operator. In this manner, Mr. Conradi says he can adapt his own height to that of the patient more accurately and conveniently; and by pressing his arm to the patient's side, and his hand to the cheek of the patient, his hand loses nothing of its steadiers.

The operation for the cataract is performed either by depression or extraction. In the first, the operator presses the opaque lens out of its natural fituation down to the bottom of the eye-ball, fo that it may no longer be opposite to the pupil, and confequently no more obstruct the admission of the rays of light into the eye. In the fecond, he entirely extracts the lens through an artificial orifice in the membranes of the eye. Each of these methods has its peculiar advantages and disadvantages: some consider the one, and fome the other, to deserve the preserence. The method by depression is indubitably preserable in all cases in which dangerous symptoms are to be apprehended from the extraction of the lens; as when there is cause to fear a violent inflammation; when the patient is very timorous, and the eye very reftless; when the cornea is very flat, and the pupil very irritable, fo as to contract with unufual force; and when not only the lens but the capfule also is opaque. Depression is likewise said to be preserable when mercurial remedies have been previously employed. In cases of cataract proceeding from rheumatic metastases, it has been advised always to employ the method of depression. Moreover its greatest advantage confists in the circumstance, that even though it should not have succeeded, it may be repeated without danger, without proving an impediment to the operation of extraction being performed, even though various attempts at depression have proved unsuccessful; whilst, on the contrary, when the operation of extraction has been performed, without restoring the fight of the patient, there remains very little hope that he will ever recover it.

For performing the operation of depression, needles particularly prepared for the purpose, and provided with handles, are necessary. These needles are made of different forms, the principal of which are the round and the two-edged; of these the latter deserve in all cases the preserence. Before the needle is introduced into the eye, it should be dipped in oil, or elfe moistened with saliva. It must be held, like a pen, between the thumb, fore and middle fingers, quite close to the foremost end of the handle. The hand must be applied close to the fide of the patient's face, which generally renders the eye reftlefs for a moment, in which case we must take care not to frighten the patient still more by repeated injunctions to keep his eye quiet; but rather let the patient alone for fome moments, till his eye again becomes quiet, which it generally does in a very fhort time. As foon as the eye remains quiet in a position convenient for the operation, the needle is thrust quickly, but cautioully, into the eye, namely into the albuginea, at the external angle of the eye, a line from the margin of the transparent cornea, and rather more than a line under the centre. When a two-edged needle is used, it is thrust forward in such a manner, that one of its flat fides is directed upwards and the other downwards, and one of its sharp edges anteriorly, and the other potteriorly. But left the point of the needle should hit upon the lens, and push it, if hard, into the internal canthus, the needle must never be pushed through in a perfectly firaight direction, but always directed fomewhat towards the posterior part of the eye, so as to bring its point behind the lens, in fuch a manner that it cannot be feen Beyond the pupil.

As foon as the needle has been thrust through the membranes of the eye, the operator stops for a moment, till the eye has again become quiet; he then gradually turns the needle, at the same time thrusting it deeper into the eye, in fuch a manner, that now one of its edges is turned upwards and the other downwards. He pushes the needle obliquely backwards, and fo deep into the eye, as to bring its point behind the crystalline lens, and a little beyond its centre. As foon as the needle has been pushed in far enough, the furgeon raises its point, and applies it to the upper margin of the crystalline lens, fo that one of the flat sides is directed upwards and the other downwards, lying upon the crystalline lens; and in making these turns he is directed by the black stroke on the handle of his needle. He now presses the lens downwards and backwards, but by no means right perpendicularly. During this operation, he observes the opaque fubstance finking down behind the pupil, and the needle following it. It is, however, to be always kept in mind, that the point of the needle cannot be raifed within the eye, except by depreffing its external handle, and vice

When the furgeon has depressed the lens to a sufficient depth, he waits a moment before he again raises the needle. After having raised it as high as the middle of the pupil, he likewise waits for a few moments, before he draws it out of the eye, in order to see whether the lens again follows the needle; should that be the case, he repeats the operation of depression. Should it not follow the needle, he withdraws this instrument slowly out of the eye, in the same manner as he had introduced it, namely with one of its stat sides di-

rected upwards and the other downwards.

Sometimes the lens penetrates forwards into the pupil, as often as it is pressed upon with the needle, in spite of all the pains that may be taken to push it backwards and downwards. In this case, our best method will be, immediately to determine upon another mode of operating which shall be mentioned hereafter. When the requifite caution is not used, the lens sometimes passes through the pupil into the anterior chamber of the eye, in which case it must be extracted. All the methods that have been proposed for drawing back the lens through the pupil, and afterwards depressing it, are inadmissible. Sometimes the lens, after it has been depressed, constantly rifes up again with the point of the needle; and in these cases it is to be prefumed that the point of the needle may fometimes have been pushed into the lens, fo as always to raife it up again when it is elevated. This may probably occur most easily, when the needle has not been pushed far enough into the eye; and when it does occur, the lens will always be observed to rife together with the point of the needle. In order to obviate this trifling difficulty, nothing more is necessary than to draw the needle a little out of the eye, and then repeat the opera-

Mr. Willburg has endeavoured to improve the operation of deprefling the cataract, fo that the lens may easily be loofened, and depreflied without lacerating it, its rifing up again prevented, or at least rendered a rare occurrence, and its being injured by the point of the needle, as much as possible guarded against. He directs us rather to turn round than deprefs the lens, so as to direct its anterior surface upwards, but its posterior straight downwards, and its inferior margin outwards. For this purpose, the point of the needle, after having been introduced into the eye in the above-mentioned manner, is to be raised, moved round the superior margin of the lens, and applied, with one of its stat sides directed towards the iris, and the other towards the lens, to the anterior surface of the crystalline lens, a little above the centre; upon which the whole lens must be pressed gently

backwards

tackwardt, in order to loofen it from its adhefions; and then the needle is to be applied a little higher and nearer to the fuperior margin of the lens, and the upper part of the lens preffled downwards and backwards; and in this manner the whole lens is to be laid at the bottom of the eve in a korizontal direction. In operating according to this method, we may also use the round needle instead of the two-edged one; only when that is done, we must not infert it to near to the edge of the transparent corner as we do the first, but at two lines diffance at least, in order that the point of the needle may be able to follow the superior margin of the lens, buckwards into the eye, during the operation. Or, it may be fifth more advisable, to introduce the needle as usual at the distance of a line from the margin of the transparent cornea, in order to prevent its point from injuring the iriz, by being passed or and before the lens; and then turning over the superior part of the lens, to push the needle gradually deeper into the eye, that its point may follow the upper part of the lens backwards into the eye.

"The furgeon flould operate upon the patient's left eye with his right, and upon his right eye with his left hand; fince all the propolals that have been made for operating upon the right eye with the right land, as for example by the operator's flauding behind the patient, or using a croosed needle, tend rather to render the operation more difficult than to facilitate it. At farthest it is possible to operate with the common cataract needle upon the right eye, over the patient's nose, and consequently with the right hand, provided that during the operation the eye be turned a good deal outwards; unless the patient's eyes were very deep feated and his nose very large. However, the power of operating with the left hand also is easily obtained by a

Little amotice

After the operation, particularly during the first days, but also for some time longer, the patient should constantly obterve two rules; namely, to avoid all violent and quick motion, or concussions of the head and body, and he must be cautious never to place his head in a low dependent position, and least of all to bend it forwards. Coughing and blowing of the nose are faid to hinder the depression of the lens, and must consequently be avoided also after the operation. Vomiting, which is frequently a sympathetic consequence of the operation, must be prevented by the use of opiates. It is not necessary that the patient should constantly lie upon his back; but he may either walk, fit, or lie down; however, whenever he changes his posture, he ought always to do

it gradually and cautioutly.

The membranous cataract, which proceeds from an opacity of the capfule of the crystalline lens, whether its feat be difcovered before or dering the operation, requires the common method of operating, as in this; especially when the crystalline lens is turned down, its captule is always depressed together with it. This happens so uniformly, that we may assume it as a rule, whenever the capsule is opaque, always to present the turning down of the lens to every other method of operating. Should the capsule, in some care instances, even break whilst we are depressing the lens, and not be entirely depressed together with the lens, it may be pressed down afterwards by itself. A two-edged needle is, in such cases, always to be preserved to a round one, as it lays better hold of the capsule.

The fecondary catara? feldom occurs after the operation of deprefion, and when it does take place, we eught not to be too hafty in undertaking a fecond operation, os it frequently difuppears fontaneously, in a gradual manner, and sometimes yields to internal remedies. The fecondary cataract is either in consequence of an inflammation of the capsule, in which case it generally comes on soon after the

operation, and is attended with violent inflammation of the whole ball of the eye, and fometimes disappears together with that inflammation; or, if it fill remains behind, yields to the operation of veficatories, and the internal use of disfolvent remedies, especially antimonials, camphor, cicuta, volstils alkali, &c.: or, it is an effect of the continued arthritic, venerical, or ferophulous action which caused the first opacity; and then it generally comes on late, nay, even some years after the operation; being sumitimes attended with inflammation of the eye, and at other times rot. In this case, the internal medicines, adopted to the particular cause of the disease, are now and then of tie.

When there remedies produce no advantage, the furgion must attempt a ficound method of operating, in which he must depress the opaque capfule; but when this cannot be done, lacerate or puncture it, in order to produce an access for the rays of light to enter the eye, for which purpose the two-edged needle is a more convenient infirmment than the round one. The fame operation is also needlary in the various species of spurious cataract, especially in the opacity of the crystalline membrane; only, in this case we are not to attempt to depress the nembrane, but rather to lacerate and perforate it, in order to form a poseture through

which the rays of light may enter.

The concreted catarad is attended with more or lefs difficulty in the operation, according to its different species. The first species, namely, when the capfule adheres to the lens, is attended with no difficulty at all; nay, we do not

even discover it whilst we are depressing the lens

In the fecond species, when the capsule adheres to the hyaloid membrane, every thing depends upon separating the capsule from the substance of the vitreous humour, which is performed by moving the needle several times behind the iens, upwards as far as the superior margin of the lens, and downwards to its inserior margin. By this means it is evident that the separation may be effected, especially if we use a two-edged needle, and direct one of its edges upwards and the other downwards, whilst we are performing the operation.

When, in the third species, the whole anterior surface of the cataract adheres to the iris, we ought rather to omit the operation, as it will fearcely be possible to effect the feparation; and should it be possible, it might become ineffectual, in confequence of the inflammation that is to be apprehended. But when the cataract adheres to the iris at one or a few points only, the operation probably may prove successful; but in this case, it will be bed not merely to move the needle up and down behind the lens, according to warmen's method, but also to apply it alternately to the superior and inferior margin of the lens, and alternately to rate and depress it, in order to loosen its pretenatural adhesions. Should this manceuvre not be sufficient, all that is left for us to do, is to pass the needle round the superior margin of the lens into the posterior chamber of the eye, and then to press it down, with a view to separate the adhesion of these parts.

In the shirt catarast we may also operate with the needle. As in moit cates we immediately defery the needle at the centre of the capfule, it will be the best method immediately to lay open the anterior membrane of the capfule with it, and to fifter the diffolved lens to flow into the aqueous humaur. We must, however, not merely puncture the crystalline membrane, but also, by moving the needle apwards, downwards, and laterally, form a confiderable aperture init; and is not entirely, yet in a great measure to lacerate and deshoy is, which may likewise be most conveniently performed with a

two-edged needle.

The milky or gelatinous fubliance which has found its way out of the capfule into the aqueous humour, generally renders

renders this turbid, but in general it gradually becomes again clear. However, when there is fo large a quantity of the milky fluid as to render the aqueous humour altogether opaque, it feems to be most advisable to evacuate the watery fluid, together with whatever remains of the opaque fubRance, by an aperture in the cornea. If we know with certainty before hand, that the cataract is of a fluid confiltence, we may, with a view of entirely avoiding the lesion of the vitreous humour behind the cataract, and thortening the operation, thrust the needle at once into the eye, in such a manner as to make it penetrate flraight into the capfule, and then perforate its anterior membrane in the manner before-mentioned. Nay, it has been advited in this cafe, even to thruit the needle through the transparent cornea and pupil, to open the anterior membrane of the capfule, and let out the fluid.

When the foft cheefy cataract has some degree of confiftence, and the capfule is not very thin or easily lacerated, the lens passes downwards to the bottom of the eye together with its capfule, and the operation may be easily and fuccessfully completed according to the ordinary method; though, on account of the greater violence done to the vitreous humour, its event is always doubtful. When the cataract is very foft and the capfule thin, the needle is generally foon feen behind the pupil, in the middle of the lens; and in this cafe it will be belt, as in the fluid cataract, when the needle is feen in the capfule, to perforate the anterior membrane of the capfule with its point, to enlarge the orifice fufficiently to procure a free passage for the aqueous humour into the capfule, in order that it may diffolve the lens, and then to roll the needle round between the fingers, in order to break the lens into fiveral fmall pieces, and thereby to promote its diffolution and complete absorption. If we see before-hand, with certainty, that the cataract is foft, we ought, in order to prevent the lesion of the vitreous humour, rather immediately to thrust the needle through in such a manner as to make it penetrate into the capfule, and then destroy the lens and open the capfule. Should we, however, observe, after some time has elapsed, that there remain behind more folid portions of the lens, which do not feem likely to be diffolved, we have it flill in our power to open the cornea and extract them.

The hamorrhage which occurs either during or after the operation, arises perhaps from injuring a vessel in the tunica conjunctiva or the choroid membrane, or elfe from a lesion of the iris or ciliary processes. The hamorrhage from the conjunctiva may fornetimes be prevented by rubbing the eye, at the external canthus, with the finger, before we introduce the needle. This hemorrhage is, nevertheless, of little confequence, and generally ceases gradually, even when it excites a spreading echymosis. The hamorrhage from the choroid membrane is, indeed, most easily excited by a twoedged needle, but it is then also least to be dreaded, as the blood is always discharged externally through the small incifion in the sclerotica. Moreover, a hamorrhage will feldom occur, even though we use a two-edged needle, provided we introduce it according to the method above directed, namely, with one of its flat fides directed upwards and the other downwards. Though, when the round needle is used, a hæmorrhage more rarely occurs; yet, should it occur, it is also more dangerous, as the blood cannot be difcharged externally through the fmall puncture that has been made with the needle. However, a fmall quantity of extravalated blood is foon re-absorbed under the use of general remedies. When the bleeding proceeds from the iris or ciliary processes, the blood generally penetrates immediately into the anterior and potterior chamber of the eye, and imparts Vol. VII.

a red tinge, more or less deep, to the aqueous humour Should the hæmorrhage (which, indeed, rarely happens,) be very profuse and of long continuance, as may be known from the deep, opaque, and continually augmenting reducfs of the aqueous humour, we ought to draw the needle as foon as possible out of the eye, open the transparent cornea, and let out the aqueous humour together with the extravafated blood. When the hamorrhage is flight, it is no impediment to the operation, and the extravafation foon disappears under the use of antiphlogistic remedies, though we should always be very attentive to check the violent inflammation which may fupervene. The small puncture in the membranes of the eye generally heals up without any difficulty; and when, as fometimes happens, a little fungous excrescence arises, this commonly yields foon to the application of astringent remedies.

Of extracting the cataract. .

The operation by extraction requires the fame preparation and polition both of the patient, furgeon, and affiltant, as have already been directed for the operation of depression; the prognofis also depends upon the same circumstances: but with regard to this operation, the following particulars are to be observed. In patients, whose eyes are fitnated very deep in the head, and the division of the eye-lids is very fhort, the operation is always attended with some difficulty; whilft, on the contrary, it is always easier in proportion as the eye-lids are more open and the ball of the eye more prominent. In persons whose cornea is uncommonly convex, and confequently the anterior chamber of the eye large, the operation is particularly easy and secure; whilst, on the contrary, with those persons whose cornea is flat, it is always attended with the danger of injuring the iris. When the eye is very reftlefs, it is likewife difficult and dangerous; and in children it is fometimes entirely impracticable.

Whatever the confidence of the cataract may be, it may always be extracted, though this can be done molteafily when it is firm. The fluid cataract generally discharges itself as soon as the capfule is opened, but frequently a portion of opaque mucus remains behind, which must be extracted feparately. The worst for extracting is the fost or cheefy cataract, which either is protruded at once and entire, in which case, as it is generally very large, it distends the pupil to a great degree, and requires a strong and continued pressure to be made upon the eye; or it breaks, and must be extracted piecemeal. When the pupil is wide, open, and moveable, we may, ceteris paribus, expect an easy and successful operation. When it is very small, but yet moveable, it does not, indeed, hinder the operation, but it renders the passage of the lens difficult. Alfo, when it is fmall and immoveable, the operation may still be performed, provided it does not at the fame time adhere to the lens. When it does not dilate itfelf during the operation, it perhaps admits of being widened with the lancet. When the pupil is large and immoveable, provided this does not proceed from amaurofis, there can be no objection against the operation.

With a view to render the operation as accurate as possible, feveral means have been proposed for fixing the eye in an immoveable position. La Faye's method of fixing the eye, by means of the middle singer of the hand with which the inferior eyelid is drawn downwards; Beranger's double hook, and the small forceps which Le Cat employed for laying hold of the conjunctiva; are rough expedients, by which the eye is very much irritated and inflamed. A better mode is Panart's spike, to which Casamata gave the form of an S, whereby the affiltant is enabled to lay the hand in which he holds the instrument upon the cheek of the patient, and moderate the pressure which it gives to the eye. But

H

as, with this conftruction of the inftrument, four hands must the transparent cornea; it is then thrust, in the direction of always be applied to the cheek of the patient, which is very inconvenient both to him and to the operator, this spike has been fixed to a thimble or ring, which is put upon the middle finger of the hand with which the lower eyelid is drawn downwards. Even this instrument, however, is still defective: Mr. Demours has lately proposed another, which has great advantages over all that had before been invented. It repre-· fents a thimble, with a wide opening before and behind, which when put upon the finger, covers only both fides of it, leaving the back and infide of the finger entirely bare. From the superior central point a small hook proceeds, first perpendicularly upwards, and then horizontally fidewards. The advantages of this inflrument are, that the finger which draws down the lower eyelid also applies the hook, and conoperation. As the finger is applied close to the patient's cheek, the operator has it in his power to moderate the degree of pressure with which the hook is introduced into the eye more than he can with other instruments of this kind. And, finally, the inner fide of the finger, which touches the lid and ball of the eye is bare, and confequently lies foft upon the eyelid. It likewife always remains in the operator's option, after he has applied the instrument to his finger, whether to introduce the hook or not, as he may think proper. The hook must be inserted at the same place at which Pamart's spike is usually inserted; namely, as Mr. Gleize advises, into the conjunctiva at the side of the superior margin of the cornea in the inner angle of the eye.

However, all these, and several other instruments of the fame kind, as perfect and well adapted to this purpose as they may appear, are in most cases productive of far more injury and inconvenience than benefit; and it likewife always is a difficult task for the surgeon to operate at one and the fame time with both hands, and pay the necessary attention to each. In fact these instruments are in most cases really fuperfluous. For the voluntary as well as the involuntary motion of the eye may be checked by other and gentler means, some of which have already been mentioned. In order entirely to obviate the necessity of fixing the eye, for performing the operation for the cataract, Mr. Mina vifits his patient twice a day for some time before he undertakes the operation, and places himself with his lancet in his hand before him, just as if he was about to operate. He directs him to turn his eyes in various directions, and endeayours to render him fo practifed in doing this as to be able 11 days the eye becomes fo eafy and obedient, as never to require any inftrument for fixing it during the operation.

applies here that has been faid in speaking of the operation of couching, and in the same manner also are the eyelids to be opened and fecured. The operator holds his lancet like a writing pen, and preffes the hand in which he holds it as close as pollible to the patient's cheek. As foon as the eye is in a polition convenient for the operation, the lancet mult be thrust in suddenly, in the same manner as the needle. The tracted, must be semicircular; beginning rather above the centre of the cornea towards the external angle of the eve, and extending through its lower half as far as its middle towards the inner canthus, at all points a quarter of a line from the fuch a manner as to form a flap of the form of a crefcent. In edge downwards and its back upwards, at the external canthus of the eye, a quarter of a line from the albuginea, into

the transverse diameter of the cornea, through the anterior chamber, in such a manuer that its point comes out again from the cornea, in the inner angle of the eye, at the fame distance from the albugines. This incision forms an orifice which is full as large as the transverse diameter of the cornea, that is, as large as it ought and can be; it is no where opposite to the pupil, and, consequently, if it should have a cicatrix, vision will not thereby be impeded. When we can forefee with certainty that the cataract is hard and small, or fluid or very foft, and confequently that no large orifice will be necessary for its extraction, we may introduce the lancet and bring it out again at the distance of half a line from the margin of the cornea, and thereby greatly diminish the danger of injuring the iris. When the cornea is very flat, its distance from the iris very fmall, and confequently the anterior chamber of the eye also very small, there is great danger of injuring the iris; on which account the operator is necessitated, in making his incision into the cornea, to keep as far as posfible from the iris. When, on the contrary, the cataract is very large, the furgeon must rather be careful to make the incifion fufficiently large, than attend too much to the poffi-

In making this incision, we are particularly to attend to the rule, that the aqueous humour must not be suffered to instrument must be used for the operation, and the lancet or knife with which the incifion into the cornea is made, must possess the following properties: the blade, from the point and regularly, both in breadth and thickness, in order that as of the eve, the wound of the cornea may not only be gradually lengthened, but at the fame time also so accurately filled up as entirely to prevent the aqueous humour from iffuing through it; moreover, the blade must be at its widelt to lofe these dimensions in sharpening it. The blade of the lancet must be from 14 to 2 inches in length, for were it longer, the furgeon would not be able to apply the hand in which he holds it close to the check of the patient, at the bewhen the instrument is held like a pen, it can be firmly upon the back of the hand. Both fides of the blade must be requifite degree of strength, and partly that it may accurately blade are flat, the aqueous humour always iffues out along them. The back of the lancet mult be blunt, but by no means thick and broad; it must also be rectilinear, not curved

The operator holding the knife in the manner already deferibed, and applying his hand to the cheek of the patient, thrusts in the point of the instrument, as soon as the eye is directed thraight forwards, but at the fame time a little upwards and outwards. The lancet is first directed straight forwards, with its point towards the iris, fo as to form a right angle with that part of the cornea into which it is inferted. As foon as the point of the lancet has arrived at the chamber of the eye (of which, however, the operator ought brought out again at the internal angle of the eye. In this direction the lancet is thrust flowly, and without turning it any nea, may be too far from its margin, and too near to the pumore, straight through the anterior chamber of the eye. The lancet, after it has once been pushed into the eye, must on no account be retracted, though ever so little, as this can never be done without letting out the aqueous humour. It must always be thrust with an uninterrupted course through the anterior chamber of the eye. The knife must be put into the cornea in fuch a manner that its back is directed a little towards the iris, and its edge from off it. Should the operator by miltake have thrust in the lancet in a faulty direction, this must immediately be corrected before he proceeds to push it farther. Only he must take care not to turn the lancet too fuddenly, or elfe the aqueous humour will certainly flow out too foon; he should therefore rectify the direction of his lancet gradually, whilft he is thrufting it deeper into the eye.

Though all these rules should be observed, the incision fometimes happens to be too small, which is owing either to the motion of the eye towards the inner canthus, or to the iris coming before the edge of the lancet. The latter very embaraffing circumstance may be prevented, by removing all unnecessary pressure or irritation from the eye, according to the rules before mentioned, by thrulling in the lancet at a proper distance from the margin of the cornea, and by preventing the too early discharge of the aqueous humour. Should the iris nevertheless come to be fituated opposite to the point of the lancet, it must not be retracted, as this would occasion a discharge of the aqueous humour, and a still greater protrusion of the iris; but it ought also not to be thrust in further, as in that case the iris would be injured. If the furgeon is not able, in this case, to bring the point of his lancet over the iris, by moving it a little forwards towards the cornea, his best method will be, to press the lancet ftraight downwards, without moving it either forwards or backwards, and in this manner to complete only half of the incision, that is, to make an incision resembling only a quarter of a circle, and afterwards to enlarge this with the fcif-

When the iris comes under the edge of the lancet, the back of it should be turned strongly towards the iris, and the edge forwards towards the cornea, in order to remove the edge from the iris, and complete the incision. In this case, indeed, the incision never goes so far downwards as it ought; however, it may afterwards be enlarged if it be too fhort, and we may still hope that it will not leave behind any opaque cicatrix, which would certainly be fome impediment

If, after the lancet has been thrust through the anterior chamber, the eye should turn towards the inner canthus, the incision cannot be completed in the proper manner; in which case one of three expedients may be adopted. As soon as the operator perceives that the eye begins to turn, he may immediately apply the instrument for fixing it; or he may endeavour to draw back the eye from the canthus with the lancet inferted in it, and then complete the incision; or he may defit from the attempt to complete the incifion with the lancet, press the lancet straight downwards, so as to separate only a quarter of the cornea, and afterwards enlarge

tion downwards at the middle of the cornea; or the incision may approach more or less towards a rectilinear direction, that is, with its middle too far distant from the lower margin

and too near to the pupil; or, finally, the termination of the

incifion at the inner angle, though in the middle of the cor-

the incision with the scissars. The incision in the cornea may be too fmall in three different ways. It may either be only a quarter of a circle, with its beginning externally at the middle, and its terminapil. In the first case, which is the most favourable, the enlargement is performed by a double incision, that is, by an incifion first in a horizontal direction, and afterwards directed obliquely upwards and outwards. The two latter cases are most embarrassing. In the second case, to bring the incision as near as possible to its proper length and form, its two ends must be lengthened straight upwards. In the third case, the best practice is to enlarge the inner end of the wound obliquely upwards. When the incision is so mishapen that it is impracticable to enlarge it, the best method will be to defist from the operation for the prefent, and after having fuffered the wound to heal, to repeat it again in some days time. In each of these cases the wound may best be enlarged with the scissars, the handle of which ought to be short, in order that the furgeon may apply the hand in which he holds them close to the cheek of the patient. Their points should be smooth and round, in order to avoid injuring the iris, when they are introduced into the anterior chamber of the eye.

As foon as the incision into the cornea has been completed, the capfule must be opened by means of some cutting instrument, for which purpose La Faye's Cystitome seems to be very well adapted. The blade, as well as the sheath in which it is concealed, must be thin and narrow, in order that they may be eafily introduced iuto the pupil without injuring the iris. Two rings are attached to the two fides of the instrument. In using it the fore-singer is put into one and the middle finger into the other ring, whilft the thumb is applied below to the knob, and in this manner it may be held fleady and secure. It is held in the right hand, which is applied to the patient's cheek; the flap of the cornea is raised by means of the sheath, introduced into the pupil, upon which the blade is repeatedly pushed out of the sheath, and whillt this is done, the inftrument is moved backwards, and forwards, upwards and downwards. This being done, the blade is suffered to draw back completely into the sheath, and the cystitome is withdrawn from the eye. Only we must take care, in applying this instrument, not to press it too forcibly against the lens. In order that the blade may be prevented from being thrust too far out of the sheath, a director is adapted to it, which enables the operator, by fcrewing it higher or lower, to determine with accuracy how far the blade can be protruded out of the sheath.

However, as this part of the operation, even though we use the instrument just described, is always attended with much difficulty and danger, Mr. Siegerist has invented a new instrument for performing it. This is a knife with a straight back, and with a blade gradually increasing in breadth, both of the fides of which are gently convex; but which differs from all others in this circumstance, that its point terminates in a thin two-edged needle, full half an inch in length, and of equal thickness and breadth from its point to the blade of the knife. At the place where the needle terminates, and the blade of the instrument begins, it is very sharp, and does not form an abrupt augle, but the needle gradually extends and loses itself in the blade; if this construction be not obferved, the infirument cannot be puthed forwards without much difficulty, after it has penetrated into the cornea as far as the abovementioned point.

This knife is thrult, according to the ordinary method, through the cornea, into the satemer chamber of the eye, till its point is opposite to the pupil, the point is then preffed down into the pupil, and the capfule opened, after which the knife is drawn back a little, the point again raifed out of the pupil, and then the incilion in the completed according to the usual method. Thus, with 'e same intirument, and with the fame operation, both the cornea and the

captule

capfule are opened, and the operator is spared the trouble and danger of having to open the capfule with another infrument and by another operation, after having completed the incision in the cornea. Only in case the crystalline membrane is opaque, or the pupil contrasts strongly during the passage of the knife through it, or when any oblacle prevents the capfule from being opened during the incision of the cornea, it will be advisable to defer the opening of it sillaster the incision has been completed.

As foon as the crystalline membrane is cut through, the lens is protruded into the pupil, and dilates it foreibly, and by a fmall preffure with the finger, applied to the lower part of the ball of the eye, it is forced through the pupil and out of the eye. We muth however, take great care to apply this preffure in a gradual manner, otherwise as the lens is suddenly forced out of the eye, it dilates the pupil so suddenly as to becerate or render it paralytic; in the latter case the pupil loses its power of motion, or its form is changed, and both are generally attended with injury to the sense, and both applied to the eye, and increasing it in a gentle and gradual manner.

It is a very embarraffing circumflance, when, after the incifion has been made into the cornea, the pupil is violently contracted, and does not dilate, even though a ftrong preffure is applied to the eye. As in this case we can feldom obtain our purpose by using force, which indeed it will not be advisable to attempt; our best method will be to close the patient's cyclids for some moments, as the pupil sometimes dilates spontaneously after a short time, or upon the application of gentle pressure. Should it fill remain obstinately contracted, we may apply externally to the eyelids a cataplasm with saffron, camphor, milk, sol. cicut. hyoscyam, alb. capit, papav, alb. or extr. belladon; but if the contraction still continues after several hours have clapsed, and cannot be removed by the application of moderate pressure, it will be better either to depress the lens, or to enlarge the pupil at both sides by two small cuts with the scissars than to incur a greater danger by applying more violent pressure to the eye.

Whilit we are prefling the lens out of the eye, it may not be amis to darken the chamber a little; but as soon as it has been extracted, it ought to be as light as possible; in order that we may be able accurately to examine whether the pupil be completely clean, as sometimes some opaque substance remains behind, which, if not extracted, will subsequently be more or less an impediment to vision. Whilst we are making this examination, the light should fall obliquely upon the eye, lest the reslection from the pupil might prevent the surgeon from observing any opaque substance that may exist there, particularly as even after the most careful examination some opaque substance may still remain undiscovered in the eye.

Any thing of this kind that may be found fill remaining in the eye, mult be manafed by means of Daviel's Ipoon. This Ipoon mult be formewhat curved, every where Imooth and even, and made either of gold of fiver. When the Ipoon is introduced, a flight prefuse mult be applied to the eye, below the cornea. (but with great caution, for fear left the vitreous humans anglet be protrad in order to dilate the pupil and facilitate the introduction of the instrument. During its introduction the concave field of the Ipoon mult be directed forwards towards the cornea, and the convexity backwards towards the capfule. When we have brought the opaque fubilitance into the Indian of the instrument.

flide downwards, along the internal furface of the cornea, and out of the eye. Sometimes it is not necessary that the fodon should be introduced into the eye; as, by gently stroking the cornea with the convex side of the curette from above downwards, and at the same time applying a gestle pressure with the singers below the cornea, all the remaining opaque particles may be brought out of the eye without irritation. This operation must, however, be performed with great care, led a prolapsus of the vitreous humour should be produced.

When the eye is fo reftles that the spoon cannot be introduced without injuring the internal parts of the eye; when repeated experiments to lay hold of and extract the remaining opaque partieles with the spoon have miscarried; when the spoon has already been introduced several times, and the extraction has generally been attended with irritation and difficulty, and only a very small quantity of opaque matter remains behind; it is better to suffer what is still left to the cataract to continue in the eye, than by repeated introductions of the curette, to expose the patient to the danger of a violent inflammation and even total loss of his eye; especially as such remaining particles have repeatedly been known to be absorbed and disappear gradually, which might perhaps also be promoted by the use of discussions.

both by the furgeon and the affillant during the performance of the operation, especially by an incautious application of pressure to the eye, the vitreous humour may be protruded, and the cataract, or part of it, remain behind. Moreover the cyffic cataract, the passage of which through the pupil is generally attended with difficulty, and requires a long continued and pretty forcible pressure, generally slies suddealy through the pupil; and, if the operator be not very much upon his guard, the vitreous humour comes after it. Sometimes also this happens without any particular occasiofound to be preternaturally thin and diffolved. It is also frequently protruded, when the capfule of the crystalline lens has not been opened by means of a cutting infirument, but And even after the operation has been completed, we canfrom various causes, several hours, nay even days, after the preventing this occurrence, but they are all inadequate, as most depends upon shunning the occasional causes, which for the greater part are of that nature that they may very well be avoided. When the eye is in a spalmodic state after the operation, quieting and fedative remedies should be applied to the eye, and also exhibited internally: during the first days after the operation, the patient should be directed not to open his eyes without necessity, and should it be neceffary for him to open them, to do it as cautioufly as pofvent him from rubbing, or in any way preffing his eyes.

But though the greatest skill and caution should be employed, we are not always secure against this accident; however it is frequently unattended with any bad consequence, nay even sometimes it is productive of advantage, and may commonly be soon removed. Moreover the loss of a small portion of the vitreous humour is generally restored in the space of a few days; nay, instances have even been known in which half of it has been lost, and yet the eye has after some time recovered its natural size, and the patient his perfect

fense

fense of vision. Some indeed recommend immediately to cut off the part of the vitreous humour that is protruded during the operation, with the scissars, near to the cornea; but this practice is very much to be reprehended: on the contrary our best method will be, as soon as we see it protruded, immediately to let the patient shut his eyes, and without minding the protrusion, to bind up the eye. The wound of the cornea gradually contracts, and separates the protruded portion of the vitrous humour, as if by means of a ligature. The wound of the cornea, at the place where it has been kept open longer than essentially essentially dispersively and insurance of the vitrous humour, generally remains for some time opaque, white, thick and missapen; but these irregularities generally disppear sooner or later under the external use of a lotion containing vitriolated zine, or acetated cerus.

When the vitrous humour is not protruded till after the operation, and the eye has been bandaged, it is frequently not discovered till the eye is again opened, on the 8th or 1cth day. But it is seldom of any consequence that we are able to discover the protrusson earlier, since even though we should discover it, we can do nothing to remedy it, but

must leave the whole to nature.

When the cataract has formed such extensive adhesions with the iris, that the patient cannot distinguish light from darkness; when the cataract is situated immediately behind the pupil; and this is angular, preternaturally small, and quite immoveable, the probability of the operation not succeeding is so great, that we had better not undertake it. But when the patient's eye is still sensible to the impression of light at one side or the other; when the cataract on that side is not quite close to the pupil, and the pupil has still some degree of mobility at this point; and while it moves becomes oblique, angular and wrinkled; the adhesion of the cataract with the iris is not so considerable as to deprive us of all hopes of succeeding with the operation: only in giving our prognosis we must not forget the difficulties with which it is likely to be attended.

In order to separate the cataract from the iris, we introduce a flat probe, pretty much curved towards the point, into the anterior chamber of the eye, between the cataract and theirs; and then endeavour, partly by turning the probe round its axis, and partly by prefing it against the cataract, so as to push it back from the iris, to separate these two parts

at the points where they adhere.

The adhesion of the lens with its capfule cannot be discovered before the operation; and should it ever be discovered, it would be impossible to separate the parts. Sometimes the lens is protruded, together with its capfule, upon the application of slight, pressure, and then this species of cataract requires no patticularity of operation.—The third species of the adhering cataract, in which the lens has formed adhesions not only with its capsule, but also with the hyaloid membrane, may be suspected to exist; if, after the incision into the cornea has been judiciously made, and we are convinced that the capsule has been properly opened by means of La Faye's Cyssisome, the lens shews no disposition to be protruded upon pressure applied first gently and gradually increased, even though the pupil be dilatable, and presents no obstacle to the passage of the lens.

The best method of separating this species of cataract is, to introduce a round cataract-needle through the pupil into the posterior chamber of the eye, and giving it a rotatory motion with the singers, to push it into the centre of the lens; then to move the lens by means of the needle, at first gently, but, by degrees, so the more firmly, in every direction, upwards and downwards, right and left; after which the needle is again to be withdrawn from the eye,

and the eye prefied with the finger, in the ufual manner, to promote the paffage of the lens through the pupil. Frequently the lens protrudes readily; and when it does not, the former manœuvre is to be repeated; and should it still remain immoveable, it will be advisable to design from the operation.

When, in the membranous cataract, the anterior membrane of the capfule is opaque, no deviation from the ordinary mode of operating is required; or, if any, it is only that in opening the capfule, the crystalline membrane should be cut a little more open than usual. As foon as this has been done, the lens falls into the pupil, and must be extracted whether it be opaque or not. When, after the extraction of the crystalline lens, the orifice in the opaque membrane of the capfule is not fufficiently large, and its opaque edges can be diffinely feen in the pupil, we may, perhaps, attempt to feize and extract them by means of a very fmall forceps. If we know with certainty before the operation, that the anterior membrane is opaque, we may also, after opening the cornea, introduce a small pair of forceps into the pupil, lay hold of and extract the anterior membrane of the capfule with it, and then press out the lens.

When, after the lens has been extracted, the pupil remains equally opaque, and this opacity is fituated farther behind the pupil than before; when the preternatural colour of the pupil is not exactly the fame after the operation as it was before; when the opacity refembles a convex furface anteriorly; or when the crystalline lens that has been extracted is transparent, and the pupil remains still equally opaque as it was before the operation, there is reason to believe, that the posterior membrane of the capfule, or the hyaloid membrane, is opaque: only we must be well assured that the opacity of the pupil does not proceed from any thick mucus remaining behind in the capfule. In this case it will probably be the best practice, to perforate the posterior membrane of the capfule, with the cyflitome or fome other instrument, repeatedly, and as completely as possible; at the same time gently preffing the finger upon the eye below the cornea, in order to bring the opaque membrane nearer to the pupil, to dilate the pupil, to expose the greater part of the opaque membrane, and thus to be able to make a larger orifice in it. When, in performing this operation, the vitrcous humour protrudes, it is not only advantageous, but some surgeons think it is even advisable to promote this protrusion by a gentle and cautious preffure upon the eye.

The fecondary cataract, which takes place foon after the operation, fometimes within a few days, always supervenes during a violent inflammation, and frequently also disappears together with it. Every thing which tends to prevent the inflammation of the eye after the operation, as also what tends most powfully to remove it after it has come on, tends equally to prevent and remove the secondary cataract. As long as the eye still appears red, there is always ground to hope that the fecondary cataract will disappear, together with the inflammation, under the use of cold saturnine lotions, and other antiphlogistic remedies. And should it even remain behind after the inflammation, we may still hope that it will gradually vanish, with the use of internal discutient means, especially sulph. aurat. antimon. mercury, cicuta, &c. But when the fecondary cataract comes on later, frequently months or even years after the operation, it is an effect of some internal cause; and this cause, which is generally of an arthritic kind, then requires remedies particularly adapted to counteract it. When these means produce no benefit, the cornea might be opened a fecond time, and the opaque capfule extracted the more cafily and fuccefsfully,

as in this case there has been no previous inflammation; and,

confequently,

confequently, adhesions of the capfule with the neighbouring part are not fo much to be apprehended as in the for-

As the symptoms of the membranous cataract are frequently very uncertain, and as the opacity of the posterior membrane of the capfule cannot possibly be discovered before the operation, if the lens be likewife opaque; and, confequently, however favourable the circumstances may appear, the event of the operation is always precarious; the belt practice will be always to extract the capfule at the same time with the lens. For this purpose, nothing more is necessary than to omit the opening of the capfule, and after the incition into the cornea has been made, immediately to prefs out gradually both lens and capfule by a cautious application of preffure. Sometimes the capfule, after having been entirely protruded, together with the lens, out of the orifice in the cornea, still remains adhering a little to the vitreous humour. In this cafe, it must be carefully separated by means of Daviel's fpoon, and at the same time we must be cautious not to draw forwards the vitreous humour. But shough this operation may frequently be performed with great facility and fuccels, it is, neverthelefs, often combined with fo many difficulties, that it will feareely be generally adopted.

The iris always protrudes more or lefs forwards during the operation, approaching nearer to the cornea; and fometimes it becomes diffinctly convex. The more this takes place, the greater is the danger of injuring the iris, for fometimes, in spite of all the caution that may be used, it gets before the point and under the edge of the inftrument, efpecially when part of the aqueous humour is loft. When the latter circumstance is observed to take place, the edge of the lancet must immediately be turned a little upwards, and thus the incision completed; which, in this case, does not become altogether of the form of a crescent, but, however, is generally fill fufficiently large for the extraction of the lens. When the iris gets before the point of a knife, the point need only to be inclined a little outwards towards the cornea, in order to remove it from the iris, and as foon as this is done, it may be pushed a little farther forwards, but afterwards again moved downwards, and thruft completely through in the common direction. When this cannot well be accomplished, the lancet ought to be pressed ftraight downwards, without pushing it forwards, and thus half of the incition completed, which may afterwards be finished with the sciffars. Otherwise, the lesion of the iris is feldom attended with very bad confequences, as experience has shewn that it may be injured in various ways without daily to administer one or two gently opening injections. producing violent inflammation.

Of the symptoms particularly to be apprehended after the operation, inflammation is the chief, on which account it will be far more fafe for us to endeavour to prevent it, than to rely upon the remedies usually recommended for discussiing it. In order to prevent it, the following rules are principally to be observed, besides those preparatory to the ope-

ration: As foon as the lens has been got out of the eye, and the pupil is clean, the eye must be dressed, and all attempts, particularly repeated ones, to investigate the power of vision which the eye has acquired, are to be wholly omitted. Should the flap that has been cut out of the cornea be reverted, it must be reduced by means of Daviel's spoon into its natural fituation, fo as to make it fit close at every point. When any part, for example the lower part of the iris, projects a little out of the wound, it must be gently pressed back by means of Daviel's spoon, in order that the lips of the wound may fit close together. But when the eye is fuffered to close, the upper eye-lid must first be permitted to fall down as low as possible, in order that it may

cover the whole cornea, before we allow the lower eye-lid to rife upwards; for otherwife the latter fometimes gets under the flap of the cornea and produces violent irritation.

The dreffings ought properly not to press the eye in the smallest degree, nor leave any access for the air or light to the eye. For this purpose, a very thin compress is applied, which must be long, and broad enough to reach at the bottom, as far as the cheek, at the fide, as far as the nofe, and at the fuperior extremity to the eye-brows. This compress is generally secured by means of the monocular bandage. When we have no other end in view in applying the dreflings, than to close the eye, the upper eye-lid may be fastened to the lower by means of two narrow flips of adhefive plafter. Befides thefe, we may also, with a view to keep the rays of light from the eye, apply an eye-bandage that occasions but little pressure, and which consists of a roller to which a compress is attached, to hang down loose over the eye upon which the operation has been performed.

The patient may choose his posture as he finds most convenient, after the operation; that is, he may either lie down in bed, or fit upon the chair: only he must avoid all concusfion or violent motion of the head and body, and not fuffer his head to fall forwards. But it is indifpenfably necessary, during the first nights after the operation, that the patient should have some person to watch beside him, in order to prevent his lying in his fleep upon the wounded eye, or applying his hands to it either to rub or press it.

When the patient experiences no difagreeable fenfation at all in his eye after the operation, it will be best to abstain entirely from the use of external remedies, and merely to apply dry bandages. If, on the contrary, he experiences various fymptoms that require attention, some external applications are, indeed, necessary, but they ought always to be adapted to the particular state of the eye; consequently, they are not to be exclusively emollient, as some recommend, or spirituous, as is recommended by others. The same applies also to the use of internal remedies, the choice of which is likewise to be directed according to the peculiar state of the symptoms that supervene upon the operation; and consequently, none can be recommended indifcriminately.

When no troublesome symptoms are observed, and the parequired; and all that can and ought to be done, with a view to prevent inflammation and other fymptoms, is to recommend repose to the patient, to remove all accidental causes or irritation, to direct a strictly antiphlogistic regimen, and

The wound of the cornea generally unites within the space of 48 hours, during which the aqueous humour flows out. Should this discharge continue longer, we may suppose some preternatural cause of it to exist in the eye, and examine it in order to find it out. When the aqueous humour ceases to be discharged at the proper time, and the patient experiences no pain or other troublesome symptom about his eye, the eye ought not to be opened before the eighth day; at fartheit, it may be opened on the tenth day, even though no bad fymptoms be prefent; and afterwards it must be opened daily, and gradually accustomed to the air

However it is not always in our power, by the observance of these general rules, to prevent the inflammation and other troublesome symptoms; and it is always necessary to pay the greatest attention to the particular state of the patient. Sometimes he experiences, foon after the operation, tenfion, and spasms; sometimes he is very languid and debilitated; fometimes he is depressed and low-spirited without any apparent cause; sometimes he is affected with great anxiety or vomiting, or colic pains, or obltruction and

an inflated state of the abdominal viscera; and sometimes he is attacked with spasmodic horrors. Whilst these spasmodic fymptoms continue, most patients complain that the eye is very restless, and moves backwards and forwards. Some imagine they see light or other appearances before the eye upon which the operation has been performed, notwithstanding that it is covered with the bandages. Sometimes the eyelids open themselves against the will of the patient. In this spasmodic state, external and internal sedative and antispasmodic remedies are necessary; such as warm pediluvia, warm fomentations applied to the abdomen, frequent emollient injections: internally, a mixture of antimonial wine and tincture of opium, or extract of hyofcyamus, &c. When the eye is very reitless, we may apply to it a thin-spread, warm cataplasm of bread-crumb, elder-flowers, saffron, &c. or frequently moilten the compress with a decoction of capit. papav. alb. and flor. malv. &c.

Sometimes, (especially when the eye has suffered much during the operation,) it becomes painful immediately after the operation, and at the same time the pulse is irritated, full, quick, the patient restless, heated, &c. in which case we must endeavour to moderate the violence of the impending inflammation by immediately letting blood, and by administering nitrous remedies, cooling laxatives, glysters, &c. Sometimes there appear symptoms indicative of an essuance of bile, such as a foul tongue, a bitter, disagreeable taste in the mouth, a sense of pain and weight in the forehead, verigo, &c. in which case the irritating bile must be timely evacuated by means of purgatives and emetics, in order to

prevent fever and inflammation.

Should an inflammation of the eye come on in fpite of all the caution that we may use to prevent it, it is to be treated according to the manner directed under the article OPHTHAL-MIA. When, after the inflammation has been removed, a languid redness remains for a long time in the eye, whilst the sense of vision is weaks, and the cornea dull, and tears are discharged from the eye, these symptoms may be owing to the application of the bandages having been too long continued: and in this case the eye must be opened and washed with fresh water. Sometimes at the end of the instammation an acrid watery shuid flows out of the eye, which keeps it for a long time red, painful, and inordinately sensible to the light.

Sometimes, in the cataract, the veffels of the retina and choroidea are varicofe, in which cafe, fhortly after the operation, a hæmorrhage may supervene, which is profuse, but generally ceases spontaneously; however, in these cases the operation is feldom successful. Sometimes a small vessel full of water, which is transparent, very tense, and fensible, projects out of the wound of the cornea, some days after the operation; this can only be cut off with the scissor close to the

cornea: but fometimes the vehicle returns again.

When the edges, especially the superior edges, of the wound of the cornea become white, thick, and soft, or actually suppurate in a small degree, the external application of saturnine remedies is to be recommended. When the cornea is dim after the operation, white vitriol may be em-

loved

The patient must be very cautious in making use of his newrestored sense or vision, as the eye is not able immediately to support the action of a strong light. At first, therefore, it will be proper to let him have his eye open for only one hour in the morning and evening, or till he feels that it becomes fatigued, irritable, or even painful. After some days the patient may be suffered to remain during the whole day, with his eyes open, in not too light a chamber; and when at length

he goes into the open air, he should for some time have his

eyes covered with a piece of black crape.

Finally, we ought to mention the method which Mr. Conradi has proposed, for performing the operation of couching in a fimilar manner, which is grounded upon the gradual diffolution of the cataract. According to his method, we are to introduce into the cornea a small, lancet-like, cataractneedle, (in the fame manner as the knife in the operation of extraction, only at a little greater distance from the iris); then to bring its point into the pupil and open the capfule, after which the needle is to be withdrawn, and flight bandages applied to the eye for two or three days, as in that space of time the small wound of the cornea in general difappears entirely. After this, we are to await the gradual diffolution of the lens. The needle used for this purpose needs not be quite fo long as Richter's cataract knife, and not more than I or two lines in breadth. It ought not to be thicker than is necessary in order to render the blade sufficiently firong, and it ought to be two-edged throughout half of its length.

The advantages of this method of operating are faid to confift in the following circumflances: it is much more eafily performed than the others; the very fmall and infignificant wound of the cornea produces none of the trouble-fome fymptoms that are to be apprehended partly during, and partly after, the extraction and depreffion of the lens. Should the cataract not be diffolved within eight or twelve weeks, any other operation may full be performed upon it equally well as if the former puncture had never been made. Bernstein's Handbuch fur Wundärzte, Leip. 1799.

As this article would be extended to a difproportionate length, if we were to fubjoin all the observations which relate to catavaa, it is our design to offer some further remarks, (chiefly including the practice of English surgeons,) under the two heads of COUCHING and EXTRACTING; to which we therefore refer our readers.

CATARACTA, in Ancient Geography, a town of Italy, in the country of the Samnites, according to Diodorus Siculus, who fays that it was taken by the Romans.

CATARACTA, in Ornithology; catarrades, Gefn.; catarrade, Aldr. &c.; fynonymous names among old naturalits for the skua gull; LARUS catarrhades, which fee.

CATARACTE, in Military Language, fignifies a wooden grate, lattice, or portcullice, made in the form of a harrow, with feveral pieces of timber laid lengthwife and crosswife, and itrongly fastened together, armed with iron fpikes. It is let down by means of a moulinet or roller, to which it is fufpended by a rope, to cover any breach or opening that is made by a petard or otherwife. It is not fo good, however, for this purpose as an orgue, which is composed of several long and thick pieces of timber that are armed with iron at the bottom, are about fix inches apart from one another, and are in like manner suspended perpendicularly by a rope, but have no cross pieces except those that are fastened across them near the top to keep them steady, and in their respective places. For the cataracte may be prevented from coming down by fetting a piece of wood upright in one of the grooves, made in the door-case or gate for it to slide in, or by placing a piece of wood upright, or nearly fo, against the gate, or by putting a chevalet under it.

The cataracte goes also by the name of herse or harrow, and sometimes under the denomination of sarrazine. Both the besiegers and besieged, for want of chevaux de frise to throw into the ways or roads where cavalry must pass, and on the breaches where the insantry enter, make use of them occa-

fionally

fionally to retard and interrupt the march both of cavalry which becomes lefs frequent and lefs laborious, until all

CATARI, a people placed by Ptolemy in Pan-

CATARIA foliis cordatis, Hall. helv. 245 .- Herba. Dod.

pempt. 99. See NEPETA cataria. CATARIA Hiffanica, Tourn. Just. 202. See NEPETA

CATARIA Montana, Buxb. Cent. Sce DRACOCEPHALUM

CATARINGA, in Geography, a town of the island of

Borneo, on a river of the fame name.

CATARRH, in Medicine, defluxus, diflillatio, from anagina, defluo, I flow down, a difease which conflits principally in an unufual discharge of mucus from the membranes lining the nofe, throat, or bronchiz (the branches of the tracked or windpipe, leading to the air-cells of the lungs), accompanied generally with fever. From its well

ease is commonly denominated a cold.

The attack of catarrh is usually marked by a fense of fulness about the nose and forehead, and of a straitening of the passage of the nostrils, which is either accompanied, or foon followed, by a discharge of a thin, watery, and somewhat acrid fluid, from the Schneiderian membrane lining those passages. There are also a dull pain and a fense of weight in the head, from which the Roman physicians gave thele symptoms the appellation of gravedo. Hippocrates, probably from the heat and acrimony of the discharge, described them under the term of coryza, which has been deduced from xxfx, caput, and ζίω, bullio. Sometimes cold shiverings, or a sense of chilliness, are among the sirst symptoms. The eyes are frequently flightly inflamed, with some degree of stiffness in their motion, and an increased and acrimonious secretion from the lachrymal glands. There is a frequent disposition to fneeze from the irritation of the nostrils, and the voice becomes more obtufe in confequence of the impediment to the paffage of the air through them. The discharge gradually becomes more copious and thicker, fometimes affuming an appearance fimilar to that of pus; and, after a course of fome days, gradually diminishes and disappears. In the mean time a fenfe of roughness is fe't in the throat, and a troublesome irritation about the glottis or entrance of the wind-pipe, which excites a dry and flight cough; fome pains are felt about the chelt, but especially under the sternum; the neck, back, and, limbs are also sometimes affected with pains refembling those of rheumatism; there is a fense of general lassitude; the pulse is quickened, especially towards evening; the appetite fails, and fome degree of third arises, and the palate is depraved. In a short time the feexerction of mucus, at first thin and in small quantity, gra-

the fymptoms disappear

cumitances: hence the name of the difeafe, which, both among the Greeks and Romans, figuified defluxion; and hence Celfus thus begins his account of the different forms interdum etiam in pulmonem, quod pessimum est."

The mode of operation of cold on the body, when it a suppression of the perspiration, by which the matter that should have been thrown off by the cutaneous vessels is carried back, and determined upon the membranes, subject to this inflammation. This has been particularly flated by lation between the external and internal parts, especially between the lungs and the skin. But this mechanical account of the fact is somewhat unsatisfactory. The matter of perspiration, and the mucus produced in the catarrhal state of the membranes of the nostrils and bronchiæ, are altogether different in nature, and are elaborated by the vefknown and universal cause, except when epidemic, the dif- sels of the skin and of those membranes respectively. There cannot therefore be a transportation of a matter, which should be discharged by the one, back again through the the action of the cutaneous veffels by, which a larger proportion of blood must circulate to the internal parts; but how this should be determined upon the membrane of the nose it is not easy to explain. An application of cold to the skin, indeed, is not necessary to produce catarrh, according to an observation stated by Mr. Mudge; who cautions ter, as breathing through it for a fhort time will almost infallibly produce a catarih. In this case, then, the speculathe balance of circulation, are altogether nugatory.

was the immediate refult of the operation of cold, and afapplication of heat. As in other fibenic diseases, the excitability of the body having been accumulated or increased catarrh, in another pleurify, and fo on. This hypothesis, however, is not, we believe, generally true; as many people forms of disease, to give any account of its production that

brile symptoms abate, generally after a free perspiration; an tacks of catarrh with impunity, is a proof, as Dr. Cullen has dually becoming more thick and copious, attends the cough, this is far from being the case invariably. In any state of conflitution, if it be neglected, or if cold is repeatedly ap- and with a very gentle effort, fpit off in a concocted finte."> plied during its course, it may lead to inflammation of the lungs, and all its dangerous consequences. In old people, and those of relaxed and debilitated habits, it thus often goes on to a fatal form of peripneumony, which has been called peripneumonia notha; in which a rapid effusion takes place into the cells of the lungs, which fuddenly depresses the powers of life, and often proves fatal. In those who are predifposed to pulmonary confumption a neglected catarrh frequently lays the first foundation for, or accelerates the approach of the difease; and in others a permanent afthma has been often traced to the fame fource, or a constant and troublesome dyspnæa. In the old and infirm, it has been occasionally observed to induce hydrothorax, or dropfy of the cheft, and fometimes even to bring on a general dropfy. So that, although fimple catarrh is a flight complaint, when carefully attended to, great numbers die of its occasional consequences: an observation which strongly points out the necessity of not neglecting it.

In common cases of the disease, when the symptoms are moderate, it is merely necessary to avoid any exposure to cold, to dispense with the use of animal food, and of wine, and fermented liquors, and to drink freely of gruel or fome diluting liquor, by which a gentle perspiration may be kept up. Saline diaphoretic medicines may be administered; and to those of weak habits a little thin wine-whey may be proper. A few days will generally remove every fymptom under this management. When the fymptoms are more violent, the disease must be treated as a slight degree of pneumonia, or pulmonary inflammation; the antiphlogistic regimen must be more strictly adhered to; and more active remedies employed. The most useful expedient, especially if there is pain in the chest, is the application of blisters to some part of the thorax. For allaying the cough, which is often troublesome, and produces confiderable irritation by the mechanical agitation of the body, mucilaginous medicines are useful; they are less disagreeable to the stomach, in general, than oily medicines, or even spermaceti. The stimulant expectorants, fuch as gum ammoniac, fquill, volatile alkali, &c. are frequently employed for the same purpose; but their efficacy is doubtful. If the inflammatory fymp-toms are confiderable, they are probably hurtful. When the inflammatory condition is allayed, opium constitutes the most effectual remedy for the cough; but there is little doubt, that the free use of it, from the early stage of a severe catarrh, has contributed to render it extremely obstinate, and fometimes to extend it to a fevere pneumonia. When properly used, opium not only allays the irritation of a frequent cough, but feems to contribute even to render the expectoration more free and easy: by diminishing the fenfibility of the parts, it produces a temporary suppression of the expectoration, during which the mucus and exhaling fluid of the lungs accumulate, and are then removed with

greater facility. An expedient has been fuggested by Mr. Mudge of Plymouth, which he terms "a radical cure for a catarrhous cough;" namely, the inhalation of the vapour of warm water into the lungs, by means of an instrument, which he calls an "Inhaler." He observes, that when the inhaler is used in the very recent and ordinary state of the cough, viz. the evening of the attack, the patient is fure of being furprifed with an immediate cure; fo fudden, indeed, that it is more than probable he will cough no more, except once or twice perhaps the fucceeding morning, to discharge what is drilled into the branches of the bronchiæ, and which, as the VOL. VII.

p. 129. Mr. Mudge's inhaler is now to be procured in the shops. Where there is a fense of rawness in the trachea, the steam alleviates the uneafiness considerably, and in most cases relieves the cough; but in some instances it rather aggravates the fymptoms and oppreffes respiration.

Where the catarrh is violent, the patient must of course avoid every fource of irritation which may tend to render the fymptoms more inflammatory; fuch as great heat, exertions of body, stimulating diet, &c.; and the bowels must

be kept moderately loofe.

The best means of removing the chronic remains of a catarrhal affection is by fome exercise of gestation diligently employed, according to Dr. Cullen; and the best means of fecuring the patient from a recurrence of the difease after a recovery, is by the use of warm clothing, especially by casing the body in flannel, as the fusceptibility of the skin to the impression of cold is sometimes very great, particularly where

much perspiration has been excited.

CATARRH chronic, or catarrhus senilis, as it is sometimes denominated, differs fo much from simple catarrh in its nature, and requifite mode of treatment, as to render a distinct confideration of it necessary. In old people, of relaxed conflitutions, catarrh, after being frequently repeated, becomes at length almost habitual, and is much aggravated by cold feafons, or by occasional exposure. The mucous glands of the bronchiæ pour out a large quantity of fluid, and this fecretion contributes in every way to increase the debility of the patient: not only by a diminution of the circulating mass, but by clogging up the air-cells, and thus preventing a free and regular circulation through the lungs, and a proper change in the blood, and by rendering great exertions necessary, to expel the load of mucus from the lungs, which exhault his strength. Hence the symptoms of this form of catarrh are, a constant, haraffing cough, with a copious expectoration of viscid mucus; great difficulty of breathing; a fense of load, fullness, and constriction in the breast, with much anxiety; a feeble, labouring, and often irregular, pulse; a slightly livid tinge in the lips and cheeks; inability of much exertion; occasional vertigo; and lowness of spirits, with languor, loss of appetite, &c.

The object of medicine in fimple catarrh, in young and strong habits, is to avoid, or to allay any tendency to inflammation, to support a diaphoresis, and to obviate particular fymptoms as they occur: but in the chronic form of the difease, the chief object obviously is to enable the patient to free his lungs from the load of accumulating mucus. to lessen the secretion, and to support his strength. Expectorants, emetics, blifters, gentle fudorifies and ftimulants, are the remedies which feem belt adapted for these pur-

Of the expectorant medicines, the active or stimulant ones, fuch as have been called incidentia, must be employed; as gum ammoniac, afafœtida, &c: Where the heat of the body is not much increased, the volatile alkali is extremely beneficial, and when combined with fquill, or the gumrefins just mentioned, it appears to afford the most effectual affiltance to the expectoration, and also contributes to support the strength. When the mucus becomes hard and difficult to be moved, the inhalation of the steam of warm water is fometimes of material benefit in foftening and loofening it. . But the most considerable and immediate relief is frequently obtained from emetics, which not only evacuate the contents of the flomach, but also of the bronchial vessels, and excite a diaphoresis. Blisters too are often thinner parts have during the night evaporated, is easily, productive of relief, especially where there is any particular pain of the breaft: they feem also to promote expectoration. Antimonials are occasionally useful, but chiefly

where some degree of feverishness is present.

While these medicines are administered with a view to relieve the lungs, we should endeavour to support the general strength of the patient. A light and nutritious dict should be taken, such as milk; and the chamber of the invalid should be well supplied with a pure air, by which the important function of respiration may be aided. Rest should be also obtained from the exhausting exertions of coughing; with which view a small quantity of opium may be combined with the volatile alkali, or other expectorants, which will counteract the detrimental effects that might ensue from opium given alone.

CATARRH epidemic. See INFLUENZA.

CATARRHAL Feven fignifies that form of catarrh, in which the fymptoms of general fever are confiderable, and which requires a first adherence to the antiphlogistic

method of treatment. See CATARRH.

CATARRHUS SUFFOCATIVUS, of fome of the older authors, is the more active form of the catarrh of old people, or the peripaeumonia notha which enfues, when this catarrh is aggravated by a fresh application of cold. It was so demoninated, because it often terminates speedily by inducing

fuffocation. See Chronic CATARRH.

CATARRHUS veficæ, a term ufed by Lieutaud and other writers to defignate a difeafe, which confilts in a copious discharge of mucus from the bladder along with the urine. Other authors, especially the nosologists, have applied various other denominations to the same complaint. Sauvages, by a fort of folecism, has described it under the terms of pyuria mucosa, and P. viscida. (Nosol. Method. class ix. ord iii. genus 28.) Linnæus denominates it glus, and defines it simply, "Urinæ viscosæ micturitio." (Class ix. ord. iv.) Dr. Cullen considers it under the genus dysuria, species 6. D. mucosa. And Hossman has detailed a case at length, under the title of "Rarus vesicæ morbus," in his par Consu 1 (tRespons, Med. Cent. II. cas. 93. By some it has been termed cystirrhesa.

The patient is troubled with a frequent defire of making water, which paffes with fome difficulty, and in a fmall fiream. He feels a painful fenfation of relitance about the neck of the bladder, which extends, together with a fenfe of great heat, along the urethra. The urine has a whitifi milky appearance when emitted, and frequently contains many floating flaments; and after standing fome time, a thick, vifcid mucus, not unlike the white of eggs, is depo-

fited in the veffel.

A discharge of mucus from the bladder is frequently a confequence of the existence of a calculus in that organ, and is generally enumerated among the symptoms of that complaint. And other discharges, as of purulent matter, or fanies, occasionally occur from the same cause, or from ulcerations and injuries of the substance of the bladder. These disorders can only be removed by curing the original disease, of which they are merely fymptoms. But there are feveral cases on record; and other examples must have occurred to the observation of every experienced practitioner, in which fuch discharges with the urine appeared to arise from some particular condition of the internal furface of the bladder, which, without any extraordinary or morbid irritation, poured out the unufual fecretion. Such cases have continued for fome time; and, either by the aid of medicine, or the efforts of the constitution, have at length terminated in persect health. The remedies recommended for the relief of this discharge, have been chiefly such as are obviously carried in part to the bladder, and probably exert fome flimulus

there; fuch are the various balfams, especially balfamum copaibæ; the oil of turpentine, &c. Linnæus affirms that he has feen the disease cured by a copious use of onions in diet. On the same principle the cantharides might perhaps be usefully adminitered. Hostimann recommends two medicines, which he thinks he has found beneficial; these are a compound of effence of cascarilla with essential with essential cureded kali, or oil of tartar per deliquium. Alkaline medicines, as in other irritations of the bladder, have been found to give relief; and the uva ursi has also been recommended. It must be added, however, that, in some cases, a variety of medicines has been fuccessively tried with little benefit; and, after they were altogether relinquished, a spontaneous cure has ensued. Hostimann suggests the propriety of avoiding great corporeal agitations, particularly on horseback, and of dispensing with the use of strong liquors.

CATARZENA, in Ancient Geography, a country of Afia, in Greater Armenia, placed by Ptolemy in the vici-

nity of the Moschic mountains.

CATASARCA, from xx12, under, and ox; field, in the Greek Church, denotes the undermost altar-cloth, or that next the altar; which fee.

Over the catalarca is the antimenfa; which fee.

CATASCOPIUM, from xxxxxxxxxxx, I explore, in Antiquity, an exploratory veffel, answering in some measure to a brigantine among us. See BRIGANTINE.

We find catascopium used in this sense by Cicero, ad

Attic. lib. v. ep. 11.

CATASCOPUS, in Antiquity, denotes a fpy; which fee.
In Ecclesiaflical Writers, catascopus is said sometimes to

denote an archdeacon.

CATASTA, from xxlistypi, I place, in Antiquity, a wooden feaffold, wherein flaves were placed for fale naked, that those disposed to purchase might see every limb and part. The word was also used for an elevation, on which persons were executed; and for an engine of torture, otherwise called equileus.

The catasta does not appear to have been the same with the equileus, but rather a kind of frame or feasifold, on which the equileus was mounted, to render the executions more public and visible. Prudentius calls the eratis, or grid-irco, on which some of the martyrs were broiled, "ig-

nea catasta.

CATASTASIS, in *Poetry*, the third part of the ancient drama; being that wherein the intrigue or action, fet on foot in the epitalis, is supported, carried on, and heightened, till it be ripe for the unravelling in the cataltrophe. The word comes from xxxxxxxxx, constitution; this being, as it were, the mean, tenor, state, or constitution of the piece.

CATASTROMATA, from x2/25,200,001, I cover, in Ancient Military Writers, a fort of featfolds or floorings in ships of war, whereon the soldiers were posted for their defence in fight. The cataltromata appear to have been chiefly erecled over the head and stern of the vessel, it being in these parts

that the foldiers were most commonly posted.

CATASTROPHE, from xxlxsft2x, I finish, in Poetry, the change or revolution of a dramatic poem: or the turn which unravels the intrigue, and terminates the piece. The catastrophe made the fourth and last part in the ancient drama, or that immediately succeeding the catallass; or, its seat in modern tragedy is the sist hat. See Acr.

The catastrophe is either simple, or complex; whence also the fable and action are denominated. In the first there is no 'change in the state of the principal persons, nor any discovery or unravelling; the plot being only a mere passage out

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of agitation, to quiet and repose. This catastrophe is rather ferious, pathetic; and speak no language but that of accommodated to the nature of the epopea, than of tragedy. Indeed, we meet with it in some of the ancients, but it is rejected by the moderns. In the fecond, the principal perfon undergoes a change of fortune; fometimes by means of a discovery, and fometimes without. Mr. Dyden thinks a catastrophe resulting from a mere change in the sentiments and refolutions of a person, without any further machinery, may be so managed as to become exceeding beautiful, nay preferable to any other. The qualifications of this change, or peripetia, are, that it be probable and necessary: in order to be probable, it is required to be the natural refult or effect of the foregoing actions; i. e. it must fpring from the subject itself, or take its rife from the incidents; and not to be introduced merely to ferve a turn. The discovery in the catastrophe must have the same qualifications as the catastrophe itself, of which it is a principal part: it must be both probable and necessary. To be probable, it must spring out of the subject itself; nor be effected by means of marks or tokens, rings, bracelets, or by a mere recollection, as is frequently done, both by the ancients and moderns. To be necessary, it must never leave the persons it concerns in the same sentiments they had before, but always produce either love or hatred. Sometimes the change confilts in the discovery; sometimes it follows at a distance; and sometimes results immediately from it, which last is the most beautiful kind.

Boffu divides the catastrophe, at least, with regard to the epopea, into the unravelling, or denouement, and the achevement, or finishing; the last of which he makes the result of the first, and to consist in the hero's passage out of a state of trouble and agitation, to rest and quiet. This period is but a point without extent or duration; in which it differs from the first, which comprehends every thing after the knot, or plot laid. He adds, that there are feveral unravellings in the piece; because there are feveral knots, which beget one another: the finishing is the end of the last un-

ravelling.

The ancients were fond of unravellings, which turned upon what is called an "Anagnorifis," or, a discovery of some person to be different from what he was taken to be. When fuch discoveries are artfully conducted, and p oduced in critical fituations, they are extremely firiking; fuch as that famous one in Sophocles; which makes the whole subject of his Œdipus Tyrannus, and which is, undoubtedly, the fullest of suspense, agitation, and terror, that ever was exhibited on any stage. Among the moderns, two of the most distinguished Anagmorises are those contained in Voltaire's Merope, and Mr. Home's Douglas; both of which

are great matter-pieces of the kind.

Another rule concerning the catastrophe is, that it ought always to be simple; to depend on few events, and to include but few persons. Passion never rises so high when it is divided among many objects, as when it is directed towards one, or a few. And it is still more checked, if the incidents be fo complex and intricate, that the understanding is put on the stretch to trace them, when the heart should be wholly delivered up to emotion. Dr. Blair observes, that the catastrophe of the Mourning Bride offends against both the preceding rules. In the last place, the cataltrophe ought to be the reign of pure fentiment and passion. In proportion as it approaches, every thing should warm and glow. No long discourses; no cold reasonings; no parade of genius in the midth of those folemn and awful events, that close some of the great revolutions of human fortune. There, if any where, the poet mul be fimple,

It is a dispute among the critics, whether the cataltrophe should always fall out happily, and favourably on the fide of virtue, or not? i. e. whether virtue is always to be rewarded, and vice punished, in the catastrophe? But the reasons on the negative side seem the strongest. Aristotle prefers a shocking catastrophe to a happy one; because the moving of terror and pity, which is the aim of tragedy, is better effected by the former than the latter. But it is not effential to the catalbrophe of a tragedy, that it should terminate unhappily. In the course of the play, there may be sufficient agitation and diffiels, and many tender emotions raifed by the fufferings and dangers of the virtuous, though, in the end, good men are rendered successful. The tragic spirit, therefore, does not want scope upon this system; and, accordingly, the Athalie of Racine, and fome of Voltaire's finest plays, such as Alzire, Merope, and the Orphan of China, with some few English tragedies likewise, have a fortunate conclusion. But, in general, the spirit of tragedy, especially of English tragedy, leans more to the fide of leaving the impression of virtuous forrow full and strong upon the heart. See DRAMA and TRAGEDY.

CATATANUS, in Ancient Geography, an episcopal see of

Afia Minor, in Lycia.

CATATHRÆ INSULÆ, illands belonging to Africa; being the fame, according to Ptolemy, with the Chalonitides. CATAVANA, CATABANA, or CATAMANA, a place of Afia, marked in the Itinerary of Antonine upon the route from Germanicia to Edessa, by Samosata.

CATAWESSY, in Geography, a township of America, in the county of Northumberland, and state of Pennsylvania; fituated on the S.E. bank of the east branch of Susquehannah river, opposite the mouth of Fishing creek, and about 20 miles N.E. of Sunbury.

CATAX, in Entomology, a species of PHALENA, (Bombyx) with ferruginous one-coloured wings, and a white

point: found in the European oak.

CATAZETI, in Ancient Geography, a people of Afiatic Sarmatia, whose habitation is affigured by Pliny on the other fide of the Tanais.

CATBALOGAN, in Geography, a town of the island of Samar, one of the Philippines, in the East-Indian ocean.

CATCH, in Music, is a fong in parts generally of a facetious kind; in which, by the disposition and arrangement of the words, some latent humour or jest is produced in finging, which, in reading the words, does not appear. We can trace attempts at this species of humour up to the time of Henry VII. and canons much higher. See Ca-NON. But among the productions for vocal purposes mult not be forgotten canons, rounds, and catches; of which ingenious and exhilarating species of composition, the first collection that was ever printed, appeared during the reign of James I, under the title of "Pammelia Musicks Miscellanie; or mixed varieties of pleafant roundelays and delightful catches of 3, 4, 5, 6, 7, 8, 9, 10 parts in one. None so ordinarie as mufical, none fo mufical as not to all very pleafing and acceptable. Lond. printed by William Barley, for R. B. and H. W. and are to be fold at the Spread Eagle at the north doore of Paules, 4to. 1609." The names of none of the compolers of these epigrammatic and pointed effusions have been preserved; but many of them seem of great antiquity, which is discoverable both by the words and ftyle of composition. Great musical science is manifested in the canons, and the harmony and contrivance of the rest are excellent. The words, indeed, except those of the canons, which confilt of small portions of the Plalms and other parts of Scripture, in Latin (which seems to imply that they were set before the reformation), are, in general, devoid of wit, humour, poetry, and common sense. But our lyric poetry, during the toth and part of the 17th century, was in a barbarous state, and sar inferior to the music of the times. But the composers seemed so little folicitious about the words they had to set, as frequently to prefer the swill be set of solimisation "Ut re mi sa sol la; hey down down, derry down;" or merely, sa la, to songs of Spencer and Shaketpeare.

The fecond collection of catches, Hilton ventured to publish in 1652, in spite of the Pfalm-roaring, and fanatic gloom which then prevailed, under the title of "Catch that Catch can," or a choice collection of catches, rounds, and canons, for three and four voices. They helped to folace the royalits in private, during the triumphs of their enemics, and suppression of all public anusements. Though many of these rounds and catches were afterwards reprinted by Playford, and retailed in later collections; the book, which is of a small oblong form, is not only scarce, but valuable; as it contains several canons and ingenious compositions

which are not yet common.

40 hymns and canons.

The third publication of catches had John Playford for editor, in 1667, under the fame title as that of Hilton; it Catch that Catch can," or the mufical companion; which was, indeed, but a fecond edition. However, in a fecond part to this publication, there appeared dialogues, glees, area, and ballads, of two, three, and four voices, wholly different from Hilton's fecond part, which confits of about

But we must not terminate this article without an honourable and grateful memorial of the catches, rounds, and glees of Purcell, of which the humour, ingenuity, and melody, were so congenial with the national taste, as to render them almost the sole productions of that facetious kind that were in general use for near fourscore years. And though the countenance and premiums bestowed of late years upon this species of composition, as well as modern resinements in melody and performance, have given birth to many glees of a more elegant, graceful, and exalted kind, than any which Purcell produced; yet he seems hardly ever to have been equalled in the wit, pleasantry, and contrivance of his

Canons, rounds, and catches were never published in score till after the institution of the Catch-Club, in 1762. This society was first suggested by the then earl of Eglington, lord March, the present duke of Queenshury, and — Meynel, esq. who soon instituted under their banners the lords Sandwich, Orford, Fortescue, &c. &c. This institution has given birth to many excellent glees, in purer harmony and more polithed melody than those of former times could boalt; but of catches and canons the stock has not been equally augmented. Purcell's catches are still the best models of that species of composition; and except Dr. William Hayes's pleasant canon, "Let's drink and let's sing together," Bird's "Non nobis Domine" is the only canon that has continued in constant savour and circulation, among all our efforts at similar productions.

CATCH-drain, in the Conflruction of Canals, is the same with Counter-drain; and sometimes it denotes a fort of levels or feeders for a reservoir.

CATCH-fly, in Botany. See LYCHNIS.

CATCH-land, in Agriculture, is a name given to such common field-land as is not certainly known to which parish it feelbeur de la Louisiane of Busson.

belongs: and, therefore, the minister who first gets the tithes of it enjoys it for the year.

CATCH-fole, or CATCH folle, (one that catches by the pole,) a term now ufed, by way of reproach, for a bailiff's follower, or affillant. Anciently, it was a term of credit, applied to those we now call ferjeants of the mace, bailiffs, or any other that use to arrest men on any action.

CATCH-word, among Printers, denotes the last word of a page, which is put also at the top of the succeeding page, in order to show how the leaves and sheets follow each

other, and facilitate the folding and binding.

The French foretimes only put the catch-words at the

CATCH-work, in Hufk-ndry, is a term made use of in the practice of irrigation, to lignify the method of forming the cuts and trenches for throwing the water of fpringe and (mall streams over such lands as lie on the sides, slopes, and decli-

vities of hills.

CATCH-work meadow, that fort of meadow which is formed by turning the water of a fpring or a ftreamlet along the flope of a hill or declivity. fo as to water the lands between the cut or main carriage, and the original watercourse, which, in this inflance, becomes the main drain. This is fometimes effected in particular cases, simply by making the new-cut level, and flopping it at the end; fo that when it is full, the water may run out at the fide, and flood the land below it. But, as the water would foon cease to run equally for any great length, and would wash the land out in gutters, it has been found necessary, accordor 30 feet, to catch the water again; and each of these being likewife stopped at its end, lets the water over its fide, all the intermediate beds, to the main drain at the bottom of the meadow, which receives the water, and carries it on to water another meadow below; or, if it can be fo contrived, another part of the fame meadow, on a lower level. And in order to draw the water out of these parailel trenches or carriages, and lay the intermediate beds dry, a narrow, deep drain croffes them at right angles, at about every nine or ten poles' length, and leads from the main-carriage at top to the meadow is to be watered, the ends of the carriages adjoining the crofs-drains are thopped with turf dug on the fpot, and the water thrown over as much of the meadow as it will cover well at a time, which the watermen call a fitch of work; and when it is necessary to lay this pitch dry, they take out the turfs and let the water into the drains, and proceed to water another pitch.

This fort of watered meadow is feldom expensive. The stream of water being usually small and easily manageable few hatches are requisite; and the land lying on a declivity much less manual labour is necessary to throw the water over it regularly, and especially to get it off again, than in other forts of watered meadows. The expense of forming such meadow-lands is, in general, from about three to five pounds the acre; while the improvement is frequently from fifteen to forty shillings the acre, and the usual charge for keeping up the works and watering the lands, which is mostly done by the acre, feldom comes so high as seven and supence. See Serigation, and Watering of

Land.

CATCHER, CRAB-CATCHER, in Ornithology, the name by which Sloane distinguishes aleedo aleyon, var. S., Martin-fecheur de la Louisiane of Buston.

CATCHER, SPIDER-CATCHER, certhia muraria, is fo named by Willughby.

CATCHES, in Clock Work, those parts of a clock that

hold by hooking, and catching hold.

CATCH-OWL, in Geography, one of the Nicobar islands. N. lat. 7°. 55'. E. long. 93° 58'. CATCHWANA, a town of Hindoostan, in the coun-

try of Agimere; 36 miles W.N.W. of Agimere. CATEAU CAMBRESIS, or Le Catteau, a town of France, in the department of the North, and chief place of a canton, in the diffrict of Cambray, belonging, before the revolution, to the archbishop of Cambray, and exempt from imposts. In 1559, a treaty of peace was made here between Henry II. king of France, and Philip II. king of Spain: 15 miles S.E. of Cambray. The place contains 4000, and the canton 17,026 inhabitants; the territory comprehends 1621 kiliometres, and 16 communes. Near this place the French were defeated, in 1794, by the prince of Coburg, with the lofs of 5000 killed.

CATECHESIS, from xxlnxew, I teach first principles, in a general fense, denotes an instruction given any person in the first rudiments of an art or science, but more particularly

in the principles of the Christian religion.

Those who give fuch instructions are called CATECHISTS,

and those who receive them CATECHUMENS.

CATECHESIS is also used for a book containing the rudiments of the Christian religion, adapted to the use and instruction of novices. See CATECHISM.

The catechefes of St. Cyril, are the principal works of

that father.

CATECHETIC, or CATECHETICAL, fomething that relates to oral instruction in the rudiments of Christianity. In the early ages of the church there were catechetic schools, wherein facred learning and philosophy were taught. These were public auditories, diffinct from the church, but probably adjoining to them. In a novel of the emperor Leo, they are called xarnxeuma, and reprefented as a fort of edifices belonging to the church. St. Ambrofe speaks of these auditories as held in the baptistery. Bingh. Orig. Ecclef. lib. iii. cap. 10. § 4.

CATECHISM, Catechifmus, in its primary fense, an instruction or institution in the principles of the Christian religion, delivered viva voce, and fo as to require frequent repetitions from the disciple or hearer of what had been faid. Anciently, the candidates of baptism were only to be inftructed in the fecrets of their religion by tradition, viva voce, without writing; as had also been the usage among the Egyptian prielts, and the British and Gaulish druids, who only communicated the mystery of their theology by word of mouth. Shaftelb. Charact. vol. iii. p. 241. not.

CATECHISM is more frequently used in modern times, for an elementary book, wherein the principal articles of religion are fummarily delivered in the way of question and

CATECHIST, Catecheta, he that catechifes, i. e. in-

ftructs novices in the principles of religion.

CATECHIST more particularly denotes a person appointed by the church to instruct those intended for baptism, by word of mouth, in the fundamental articles of the Christian

The catechists of churches were ministers usually distinct from the bishops and presbyters, and had their auditories or catechumena apart. Their business was to instruct the catechumens, and prepare them for the reception of baptism. But the catechills did not constitute any distinct order of the clergy, but where chosen out of any other order.

CATECHU, in Botany. See ARECA.

CATECHU, in Chemistry and the Materia Medica, or Terra Japonica, (improperly fo called,) is an extract prepared in feveral parts of India from a species of Mimosa, by decoction of the inner wood, evaporation, and inspissation in the fun. The tree is called in the Bahar province coira, and the name given to the extract in the country is catechu, cutch, or cachou.

Mr. Kerr gives the following account of its preparation. (Medical Observations, vol. v.) After the trees are felled, all the exterior white part of the wood is cut off and rejected. The inner wood, which is red, is then cut into chips and boiled with water, till half of it is evaporated. This strong decoction is then poured off, without straining, into a shallow earthen vessel, and evaporated to one third by fuel, after which the thorough drying is completed by the heat of the fun, the foft extract being spread on a mat, and exposed to the air.

There are two varieties of catechu brought to this country, that from Bombay and that from Bengal, each differing but flightly from the other in chemical qualities.

Catechu is of a reddish brown colour, sometimes nearly black, shining in its feature, and without smell. When taken in the mouth, it gives an aftringent and rather bitterish taste, which is succeeded by a peculiar sweetness, which is very permanent, and by no means difagreeable. It diffolves flowly and totally in the mouth, the foreign impu-

By the analysis of Mr. Davy, (Phil. Trans. for 1803,) it appears, that there is very little difference between the two species, and they are both very remarkable for containing a larger portion of tan than any other vegetable matter,

the gall-nut not excepted.

Catechu is almost totally soluble in hot water. This solution is of a deep reddish brown, and slightly reddens litmus. By adding the folution of ilinglass, or other animal jelly, a very copious precipitate is formed indicating a large quantity of tan; and the folutions of iron strike a deep black, thewing the prefence of gallic acid. Befides thefe two important ingredients, catechu contains a peculiar extract, and also a substance resembling mucilage. The latter is left nearly pure after the action of alcohol, which dissolves all the other ingredients. This mucilage scarcely differs from common gum mucilage, which latter is also procured from another species of mimosa. The extractive matter of catechu is foluble in water, but less casily than the tan is, and hence, they may be feparated almost with accuracy, by repeatedly pouring cold water on the powdered catechu, and allowing it to remain only a short time in digestion. The tan will be known to be exhausted, when the water, the last added, no longer gives any precipitate with folution of ifinglass, after which the red extract is left nearly pure, most of the mucilage being also dissolved by the water. This residuary extract is but flightly aftringent, but confiderably

Mr. Davy found that 200 grains of the Bombay catechu contained about 109 of tan, 68 of extract, and 13 of mucilage, with 10 of earthy refidue. The fame quantity of the Bengal catechu contained of the above fubitances, in the fame order, 97 grains, 73, 16, and 14.

Catechu is used largely in the East, medicinally, but efpecially when mixed with the betel-nut, for chewing, a practice almost universal over the Indian continent.

In this country it is employed medicinally in those cases in which a mild unirritating and powerful aftringent is required, as in immoderate alvine flux, autumnal diarrhoas, &c. It is one of the most useful medicines of this kind, and is employed either in watery folution, or tineture.

The former is the mildest form, and is prepared almost immediately by pouring hot water on the powdered catechu. With this indication it may be usefully joined with the bitter, tonic, and aromatic barks.

It is also used in the form of troches, mixed with gumarabic and sugar, to dissolve slowly in the mouth, and in this form it often much assists the clearness of the voice, in persons that have occasion to speak long in public. Catechu is, besides, applied externally as a topical allringent, to ulcers in

the mouth, and other parts of the body.

CATECHUMEN, compounded of nara and nxw, I found, in Ecclefiaflical Hiftory, a candidate for baptifm; or, a perfon who prepares himfelf for receiving it. Towards the end of the first century Christians were divided into two orders, diffinguished by the names of believers and catechumens. The latter, as contradillinguished from the former (fee Believers), were fuch as had not yet been dedicated to God and Christ by baptism, and were, therefore, admitted neither to the public prayers, nor to the holy communion, nor to the ecclefialtical assemblies. They were distinguished from the fideles, or believers, not only by name, but also by their place in the church; being disposed of with the penitents, in the portico or gallery at the extremity of the church, opposite to the choir. As they were not allowed to affift at the celebration of the eucharift, the deacon difmissed them, after fermon, with this formula, proclaimed three times, " Ite, Catechumeni; missa est." Catechumens formed the lowest order of Christians in the primitive church; and were admitted into this state by the imposition of hands, and the fign of the cross. The children of believing parents, it is faid, were admitted as catechumens, as foon as they were capable of inflruction, but it is not certain at what age those of heathen parents might be admitted; nor does the time of their continuance in this state seem to have been fixed by any general rules. The methods of instructing the catechumens differed according to their various capacities. Those, in whom the force of natural reason was small, were taught no more than the fundamental principles and truths, which are, as it were, the basis of Christianity. Those, on the contrary, whom their instructors judged capable of comprehending, in some measure, the whole system of divine truth, were furnished with superior degrees of knowledge; and nothing was concealed from them, which could have any tendency to render them firm in their profession, and to assist them in arriving at Christian perfection. The care of instructing such was committed to persons who were distinguished by their gravity and wildom, and also by their learning and judgment. Hence it was, that the ancient doctors generally divide their flock into two classes; the one, comprehending fuch as were folidly and thoroughly instructed; the other, those who were acquainted with little more than the first principles of religion; nor do they deny that the methods of instruction applied to these two forts of persons were extremely different.

There were divers orders or degrees of catechumens in those churches and ages where the term of catechising for two or three years was observed; but ecclesialtical writers are not agreed as to the precise number and appellations of these different orders. Some, however, have reckoned sour orders; the first were those that were instructed privately without the church, and who were kept at a distance for some time from the privilege of entering the church, in order to make them more folicitous for obtaining it. Those of the second degree were the "audientes," or "auditores," (fee Audients), so called from their being admitted to hear fermons, and the scriptures read in the church; but not allowed to join in the prayers. The third fort is said to have

comprehended the catechumens, denominated " genu-flectentes," because they received imposition of hands kneeling. Those of the fourth order were the "competentes," (see COMPETENTES) and "electi," denoting the immediate candidates for baptism, or such as were appointed to be baptifed at the next approaching festival; before which, they were firicily examined as to their proficiency in the feveral stages of catechetical exercises. After examination they were exercifed for twenty days, and laid under an obligation of falling and confession: for some days before baptism they were a veil; and it was cultomary to touch their ears, faying " ephatha," be opened; and also to anoint their eyes with clay; both which ceremonies professed to be imitations of the practice of our Saviour, and intended to shadow out to the catechumens their true condition both before and after their admission into the Christian church.

CATECHUMENUM, a name given to an upper gallery in the ancient churches. The name catechumenum was also given to a fort of school-house near the church, where the catechumens met to receive the instruction of the

catechids.

CATEGOREMA, from xxxxyoquw, I declare, is defined a noun fubilantive, fo absolute and independent, that it may stand at the head of a class apart.

CATEGOREMA properly denotes the name whereby a category, or class of beings, is represented. See CATE-

CATEGORIÆ, in Literary History. Aristotle has a book extant under the title of Kathyojiki, which Curio, Tonstius, Vives, and others, deny to be written by him, and ascribe to Andronicus; but without much foundation, fince that work is cited as Aristotle's by Simplicius, Ammonius, and Lucianus.

CATEGORIARES, a minister in the Greek church, whose business is to publish or proclaim the fealt days. He had also the care of the lights, and to see the church kept clean.

CATEGORICAL, in a general sense, is applied to those

things ranged under a category.

CATEGORICAL, also imports a thing to be ADSOLUTE, and not restrained to conditions. In which sense it stands opposed to HYPOTHETICAL and CONDITIONAL. A categorical answer denotes an express and pertinent answer, made to any question or objection proposed.

CATEGORUMENUM, denotes the PREDICATE, or that part of a proposition which is affirmed of the subject.

Some mistakenly call this categorema.

CATEGORY, in Logic, a fystem, or assemblage, of all the beings contained under any genus, or kind; ranged in order. The word category was borrowed by the schools from the forum, or courts of jultice; for as, in a trial, the plaintist or prosecutor in accusing the criminal, or prisoner, must charge him expressly, or assemblate the kind of this or that in positive terms: whence the word category, viz. from xxxvifesus, to awer, or declare a charge of accusation: so in the doctrine of categories every higher may be expressly and abfolutely predicated, or assimpted, of every lower.

The school philosophers distribute all beings, all the objects of our thoughts or ideas, into certain genera, or classes, in order to get a more distinct and precise notion thereof; which classes the Greeks call categories, and the Latins predicaments: and which Mr. Harris has styled in the title of

his work, Philosophical ARRANGEMENTS.

The ancients, after Ariflotle, generally make ten categories; under the first all substances are comprised; and all accidents or attributes under the nine last; viz. quantity,

quality

quality, relation, action, passion, time, place, situation, and habit; which are usually expressed, or signified by the following technical diffich:

" Arbor, fex, fervos, ardore, refrigerat, uflos,

Ruri, cras, stabo, nec tunicatus ero."

But as these ten categories of Aristotle, which logicians make fuch mysteries of, are arbitrary, they are now almost excluded. Accordingly, some philosophers think all nature may be better confidered under thefe feven things, spirit, matter, quantity, fubiliance, figure, motion, and reit: and others make but two categories, fubiliance and attribute, or fubject and accident. This arrangement of the ten categories was borrowed from the Pythagorean school, in which the number ten was esteemed the most perfeet. It is faid to have been first invented by Archytas of Tarentum. From him Plato received it, when he converfed with him in Italy; and from Plato it would of course pass to Aristotle. Sec on the subject, and in vindication of the categories of Aristotle, Harris's Philosophical Arrangements, chap. ii. where this ingenious writer reprefents the dectrine of categories, perdicaments, primary genera, or philofophical arrangements, as a valuable, copious, and fublime theory; a theory which, when well understood, leads, by analogy, from things fentible to things intelligible; from effect to cause; from that which is passive, unintelligent, and fubordinate, to that which is active, intelligent and supreme; a theory, which prepares us not only to thudy every thing elfe with advantage, but makes us knowing withal in one respect, where particular studies are sure to fail; knowing in the relative value of things, when compared with one another; and modelt, of course, in the estimate of our own accomplishments. In another part of his work (ch. xviii.) he observes, that in contemplating these orderly, these comprehensive arrangements, we may see whence the subordinate fciences and arts all arise: history, natural and civil, out of fubstance; mathematics, out of quantity; optics, out of quality and quantity; medicine, out of the fame; aftronomy, out of quantity and motion; music and mechanics, out of the fame; printing, out of quality and fite; ethics, out of relation; chronology, out of when; geography, out of where; electricity, magnetism, and attraction, out of action and pasfion; and fo in other instances.

CATEIA, in Ancient Writers, a kind of dart or javelin, in use among the ancient Gauls and Germans, made of heavy matter, and therefore not fitted to fly far, but doing great execution where it did reach, having withal an apparatus by which the person who threw it might draw it back It is spoken of by Virgil, Æn. lib. vii. ver. 741.

"Teutonico ritu foliti vibrare cateias."

CATEL, WILLIAM, in Biography, a learned counsellor of the parliament of Toulouse and a good magistrate, was born at Toulouse in 1560; and being profoundly versed in literature, he wrote "A History of the Counts of Toulouse," 1623, fol. and "Memoirs of Languedoc," fol. 1633. He was the first who verified history by ancient charters and other documents. He was a judicious writer, and rejected false or exaggerated facts. Catel died in 1621. Nouv. Dict. Hift.

CATELA, in Aucient Geography, a place of Syria, on the route from Confiantinople to Antioch, fix miles from Laodicea, according to the Itinerary of Antonine.

CATELÆ-VEGON, in Botany, Rheed. Mal. See ARIS-TOLOCHIA indica.

CATELLA. Among the Romans this was a small chain which was put round the neck, and was a fort of military present.

CATEMA, in Geography, a town of Arabia; 120 miles

S.E. of El Catif.

CATENA, in a general fenfe, a CHAIN.

CATENA, in Anatomy, a muscle, otherwise called TIBIALIS

CATENA patrum, in Ecclefiostical Writers, denotes a fort of commentary on scripture, composed of separate passages or interpretations of the fathers, reduced to the order of chapters and verfes of the book. The first who used catena in this fense was Thomas de Aquinas. The reason of the appellation feems to be this: that a chain confifts of feveral links connected together, so do these commentaries consist of a number of different passages, or the fentences and expofitions of different writers, tacked together fo as to form one work. Fabr. Bibl. Grac. tom. vii. lib. v. cap. 17.

CATENARIA, in the Higher Geometry, a mechanical curve line, which a chain, or rope, forms ittelf into, by its own weight, when hung freely, between two points of fulpension, whether those points be horizontal or not. It is

otherwise called the Elaflic curve.

The nature of this curve was inveffigated by Galileo, who supposed it to be the same with the parabola; but though Jungius detected this militake, its true nature was not discovered till the year 1691, when M. J. Bernouilli published it as a problem in the Acta Eruditorum. Dr. D. Gregory, in 1697, published a method of investigating the properties before discovered by Bernouilli and Leibnitz; (Phil. Trans. ab. vol. i. p. 39, &c.) where he undertakes to shew, that an inverted catenaria is the best figure for an arch. Bernouilli Opera, vol. i. p. 48, &c. and vol. iii. p. 491, &c. Cotes's Harm. Menf. p. 108. To conceive the general nature or character of this curve, suppose a line heavy and flexible (See Plate Geom. III. fig. 49), the two extremes of which, F and D, are firmly fixed in those points; by its weight it is bent into a certain curve FAD, which is called the catenaria.

Let BD and bd be parallel to the horizon, AB, its axis, perpendicular to the horizon and to BD, and D& parallel to A B; and the points B, b infinitely near to each other. From the laws of mechanics, any three powers in equilibrio, are to one another as the lines parallel to the lines of their direction (or inclined in any given angle); and terminated by their mutual concourfes: hence, if D d express the absolute gravity of the particle Dd (as it will, if we allow the chain to be every way uniform), then D & will express that part of the gravity, that acts perpendicularly upon Dd; and by the means of which, this particle endeavours to reduce itself into a vertical position; and as it proceeds from the ponderous line DA, it is, cateris paribus, proportional to the line A D, which is the cause of it. Farther, the lineola do will express the force which acts against that conatus of the particle D d, by which it endeavours to restore itself into a position perpendicular to the horizon, and hinders it from doing fo. This force is constant, being no other than the refistance of the point A; and may therefore he expressed by any given right line a. Supposing the curve FAD, therefore, as before, whose vertex (the lowest point of the catena) is A, axis A B, ordinate B D; fluxion of the axis D &=Bb; fluxion of the ordinate d3; the relation of these two fluxions is thus expressed, viz. D $\delta: \delta d:: DA$ curve : a:which is the fundamental property of the curve, and may be thus expressed (putting AB = x, and BD = y, and AD = z,

 $\dot{x}:\dot{y}::z:a$, or $a\dot{x}=\dot{y}z$ i.e. $\dot{y}=\frac{a\dot{x}}{z}$

From this fundamental equation, we may eafily deduce by proper analogy, or fimilar combinations of the terms, this other property; $\dot{x}: \sqrt{\dot{x}^2 + y^2}$ or $\dot{z}:: z: \sqrt{a^2 + z^2}$, or $z \stackrel{.}{\sim} = \stackrel{.}{\sim} \sqrt{a^2 + z^2}$, or $\stackrel{.}{\sim} = \frac{z \stackrel{.}{\sim}}{\sqrt{a^2 + z^2}}$; and the fluents of

thefe give $x = \sqrt{a^2 + z^2}$. But, at the vertex of the curve, where x = o, and z = o, this becomes $o = \sqrt{a^2 + o} = a$; and, therefore, by correction, the true equation of the fluents is $x = \sqrt{a^2 + z^2} - a$, or $a + x = \sqrt{a^2 + z^2}$; and hence also $z = \sqrt{a + x} = \sqrt{a^2 + x^2}$.

Any of these expressions will give the equation of the curve in terms of the are and its absciss; in which it appears, that $a+\kappa$ represent the hypothenuse of a right-angled triangle, whose two legs are a and z. So that if in BA and HA, parallel to BD, and representing the direction in which the tension at A acts, produced, there be taken AD z=a, and AE = the curve z or AD; then will the hypothenuse DE be $z=a+\kappa$ or DB. And hence, any two of these three, a, κ , z, being given, the third is given also.

Again, from the first simple property, viz. $\dot{x}:\dot{y}::z$: a, or $a\dot{x}=z\dot{y}$, by substituting the value of z above found, it becomes $a\dot{x}=\dot{y}\sqrt{2\,a\,x+x^2}$, or $\dot{y}=\frac{a\dot{x}}{\sqrt{2\,a\,x+x^2}}$, and the sluent of this equation is y=z a x hyp. log. of $\sqrt{x}+\sqrt{z}$ a. But, at the vertex of the curve, where x=a, and y=a, this becomes a=a x hyp. log. of x is therefore the correct equation of the sluents is y=z a x

hyp. log. of $\frac{\sqrt{x} + \sqrt{2 a + x}}{\sqrt{2 a}}$; an equation to the curve

also, in terms of x and y, but not in simple algebraic terms. This last equation, however, may be brought to much simpler terms in different ways; as, first, by squaring the logarithmic quantity, and dividing its co-efficient by 2: then y

= $a \times \text{hyp. log. of } \frac{a+x+\sqrt{2ax+x^2}}{a} = a \times \text{hyp. log.}$ $\frac{a+x+z}{a}$; and fecondly, by multiplying both numerator

and denominator by $\sqrt{2a+x} - \sqrt{x}$, then fquaring the product, and dividing the co-efficient by 2, which gives $y = a \times \text{hyp. log.}$ $\frac{x+x}{\sqrt{1-x}} = a \times \text{hyp. log.}$ $\frac{x+x}{\sqrt{1-x}} = a \times \text{hyp. log.}$

 $z \times \text{hyp. log. } \frac{z+x}{x-x}$

CATENATION, in Medicine and Phyliology, from catena, a chain, a term, employed by Dr. Darwin, and adopted by some other modern writers, to express the connection or affociation of certain actions of animal bodies. animal motions which have occurred at the fame time, or in immediate succession, become so connected, that when one of them is reproduced, the other has a tendency to accompany or succeed it." Zoonomia, sect. iv. 7. This law of the animal economy, which Dr. Darwin has illustrated, is one of important confideration, not only with the physiologist, but with the practical physician. All the mechanical arts of man consist in the acquisition of these catenations, by which the motions of many of his mufcles become gradually linked together in trains, tribes, or circles of motion. However difficult the first attempt at these combinations may be, the force of the catenations is pointed out by this circumstance, that when they have been once formed by frequent repetitions, we can exert our attention flrongly on other objects,

and the concatenated circle of motions will nevertheless proceed in due order; as whilst we are thinking on any subject, we use a variety of muscles in walking along the threet, or directing a horse on which we ride. This may be most satisfactorily exemplified in the art of playing on a mufical inftrument; " and when we recollect," fays the author of Zoonomia, "the variety of mechanic arts which are perwith the effects they produce, as in knitting, netting, weavcaused or catenated by volitions or sensations, as in our shall gain some idea of the innumerable catenated trains and circles of action, which form the tenor of our lives, and which began will only cease entirely with them." Sect. xvii. 2. In to the characters of the music book, and endeavour by many of which they are fymbols. The ideas excited by the mufical chord, and much effort is necessary to produce every note length a train of voluntary exertions becomes catenated with certain irritations. As the various notes by frequent repecome to many fucceffive or functionous links in this circle become catenated with the mufical characters, and thefe no fooner strike the eye, than the finger presses down the key, without any voluntary attention between them; the activity of the mulical fymbol on the eye. But not only is this facility acquired, we can even play with great exactness an accustomed tune, and think, and converse at the same time on other fubjects. To the same tendency to catenation of motions, the odd habits and fingularities of individuals are to be

In diseases the catenation of motions is frequently conspicuous, and contributes to prolong their continuance. Thus in typhous fever, even if it commences with violence, the affufion of cold water on the body of the patient, or the exhibition of a frong emetic, will often completely interrupt the progress of the disease, if resorted to within the first three days; but if the febrile action, however slight, be allowed to continue longer, they become so strongly catenated, that no expossible to sufficient to different the affective to trains.

By some extension of the meaning of the term, many other animal actions are faid to be carenated with our daily habits of life, or with certain portions of time, or degrees of exhaustion, &c. Thus, if the pain of hunger be not relieved by taking food at the usual time, it is liable to cease till the next period of time, or other habits recur. "Our times even of respiration are not only governed by the stimulus of the blood in the lungs, or our defire of freth air, but also by our attention to the hourly objects before us. Hence, when a person is carnestly contemplating an idea of grief, he forgets to breathe, till the sensation in his lungs becomes very urgent; and then a sigh succeeds for the purpose of more forcibly pushing forwards the blood, which is accumulated in the lungs."

Upon the fame principle our periods of sleeping and waking, of evacuating the bowels, &c. are much regulated; and hence the propriety of Mr. Locke's recommendation for obviating coffivencis. The periods of female menstruation are catenated with longer but more regular times. In diseases

the hectic and quotidian fever obey the intervals of folar or lunar periods; the tertian is connected with a folar interval of 48 hours; the quartan with one of 72. Similar periods are observed in gout, in althma, in hemicrania, in hemorrhoids often, and in returns of arterial hemorrhages; and often in lunacy, whence its name has been derived. See Darwin Zoonom, vol. i. fect. xxxvi.

CATENNENSES, in Ancient Geography, a people of Afia, in Pamphylia, who, according to Strabo, inhabited the

territory of Selga.

CATERER. See PURVEYOR.

CATERGI, the name of the public carriers in the Grand Seignior's dominions, who give earnest to the merchants, and others, as a security that they will carry their goods, or not set out with them.

CATERPILLAR, in Botany. See Scorriurus.

CATERPILLAR, in Entomology: more properly LARVA, the worm-like state in which all the lepidopterous, and most other infects appear on quitting the egg. See LARVA, article ENTOMOLOGY.

CATERPILLAR, in Gardening, a well-known highly defructive infect, that frequently does great injury to various forts of trees of the fruit and other kinds, by thripping them of their foliage, and preventing the fetting of the fruits.

There are feveral kinds; but those that are most destructive to vegetables and fruits in the garden or field are the yel lowish-green, the black, and the dark rough-skinned leathery The first is generated from the ova of the white butterfly, deposited upon the leaves and other parts of the plants. Those of the second fort mostly shew themselves in March, when the weather is dry, upon trees of the pear, apple, and other kinds, fometimes contained in large webs: they deposit their ova on the leaves, and in the crevices of the bark of the trees, from which new infects are generated during the fummer months. Mr. Hit supposes some of them to remain in these situations during the winter; having found them in nail-holes and under pieces of old bark in February. The last fort is generated in the middle of the inclosed leaves of different forts of plants; fuch as those of the cabbage, brocoli, and other fimilar kinds. These produce much mischief by eating through the stems and other parts of the plants. Darwin observes that there are two breeds of these infects in the year, the larva of the first devouring the spring leaves, and those of the second the summer shoots. Various methods have been attempted for deftroying the different forts of caterpillars, both such as are destructive to esculent plants, and to trees of the fruit kinds. With respect to the first, much advantage may be gained by a careful attention in picking them off from the leaves or other parts of the plants on their first appearance. The beds or other places where the vegetables grow should also be carefully examined early in the mornings, in order to destroy them before they retire into the holes and crevices that conceal them during the day-time; and as they are in general the most prevalent when the wea ther is dry, it feems not improbable that confiderable benefit may be obtained by watering the plant frequently, both with common water, and with fuch liquids as contain ammonia or volatile alkali, either from the effects of fuch waterings on the caterpillars themselves, or from their promoting the growth of the plants in fo vigorous and rapid a manner as to render them incapable of being devoured by them.

Mr. Forfyth advices that during the winter and fpring months, every chryfalis that can be difcovered, either under the copings of walls, on gates or palings, and about the eaves, doors, and windows of houses, should be completely removed and destroyed. Where caterpillars abound, all the

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leaves that are affected should be removed with care, and fwept up in order to be destroyed by fire, or formed into a

compost with other substances.

The ten-threaded caterpillar is eagerly fought after by birds, and is capable of being eafily deftroyed; but when neglected, the out are deposited in great abundance in the latter part of fummer, as about July, on the underfides of the leaves in rows, with little white speeks, and quickly hatched on account of the heat of the feason, the young caterpillars coming forth in swarms to destroy the autumnal leaves. At this season they may be picked off the infected leaves, and their generation be by that means prevented.

Buthes or plants that are much affected with caterpillars one year, are extremely liable to be attacked with them

terwards

In the fecond case, or with fruit-trees, " the best method of preventing them from being infelled is, according to Mr. Forfyth, to scrape the slems with a piece of bone or wood, made in the form of a knife, taking care not to bruife the bark; and afterwards to wash the tree and wall with an equal quantity of foapluds and urine mixed, and as foon as the leaves are off the trees in autumn, they should be raked and fwept up; then carried to the melon-ground, and mixed up with other leaves and dung for hot-beds;" by this means a great number of eggs of infects that are deposited on the under sides of the leaves may be got rid of. Afterwards all the stems of the trees, and all the ends of the buds, should be washed, taking care not to hurt the buds; in doing this, it is observed, that what falls will destroy the slugs that take shelter on the offsets of the walls and in the borders, before they are dug for planting lettuces, endive, &c. This washing should be repeated about the beginning of February, which will destroy any eggs of different insects that may still remain about the trees. A painter's bruth may be used for laying the mixture on the trees, and a foft broom or brush made of the ends of garden matting for washing the wall. The matting feems preferable, as, being foft and flexible, it will enter the holes and crevices. And the mixture that falls on the borders and offsets of the walls, in this fecond washing, will destroy those slugs and insects that made their appearance early. The stems and branches of the trees may be washed two or three times, or oftener, in the fpring, before the buds begin to swell: but the branches must not be rubbed after the trees come into flower; they may, however, be sprinkled over with the mixture from a watering pot with a rofe just before the buds begin to open, but by no means after they are open; as it would, by its glutinous nature, render the bloom liable to be fcorched by the fun. These washings, &c. are recommended for all trees, standards as well as those on walls; particularly apple, cherry, and plum-trees. Where any caterpillars remain, they may be discovered by the curling of the leaves; for every curled leaf has one or more caterpillar, or other infect in it; fuch leaves should therefore be carefully pulled off, and the infects crushed, as when neglected they frequently devour every leaf, leaving the tree quite naked, and of course destroy the fruit for that season at

In order to remove the gregarious forts of caterpillars, which are inclosed in great numbers in nets or bags resembling strong cobwebs, and fixed to the branches of trees or strubs, the nets should be carefully picked off, and the infects crushed, by which vast numbers of them may be destroyed. After the trees have been thus cleared, they should be washed as above, to destroy those strangers that may still remain on them. But after the trees come into slower, instead of washing them with urine and soapsuds, they should

be well watered with clear lime-water, and cleaned with to- be all taken off at once; or if the malady appears upon a

It is remarked by Mr. Forfyth, that as there are several forts of moths, that in the caterpillar state are very hurtful to plums and other fruit-trees, it would be a great advantage to dellroy them on their first appearance. In clearing trees from infects of other kinds, caterpillars should also be carefully looked for and picked off. They will be found to shelter themselves at the ends of the shoots in the flowers, and at the bottoms of the footstalks of the flowers.' It is added, that there are two or three forts that infeit fruit-trees, two of a brown and one of a green colour.

The fuccess of this method of clearing and washing has been very evident in the practice of Mr. Forfyth, in different forts of apple-trees, they recovering themselves afterwards in

a rapid manner.

It has long been a common opinion that cold and fevere frosts have considerable effects in dettroying caterpillars as well as the larve and ove of different infects: but the experiments of Reaumur and Bonnet feem to shew that this is not the cafe, as on the former fubjecting a " parcel of young caterpillars to a degree of cold lowered to lifteen degrees below zero on his thermometer, according to Dr. Anderson, they suffered no injury; and the latter found the fame thing to be the cafe with the common cabbage caterpillar, and also the chrysalis of the common butterfly. It feems therefore not improbable but that cold frosty winters produce the good effects that are generally faid to be found from them, in destroying these animals, by preventing them from obtaining food in that proportion which is necessary for their existence. The circumstance of long frosts being the most effectual is also favourable to the same supposition."

With respect to the gooseberry caterpillar, a method that has been recommended as fuccefsful by Dr. Anderson, is " to notice the bushes with care in passing through the garden, towards the beginning of June, and whenever the appearance of a leaf stripped by the caterpillar is perceived, instantly to examine the place with a view to eradicate the difease. It will always be perceived that the first appearance of this malady is towards the bottom of the bush. If one leaf be eaten up, you may be affured the caterpillar has been there; and if fearch be made with care it will infallibly be found. This is a gregarious reptile, and while they are young they herd very close together; fo that at this early period, the whole nest will frequently be found upon one leaf, and by picking off that leaf the whole destroyed at once. As they advance in fize they grow more hardy, and separate more, and therefore spread upon a number of leaves at once; but before they have attained the fize of half an inch in length; they are generally found gress is always from the bottom upwards; and this will generally be found upon those leaves, on the same branch, that are immediately above those that have been already caten and abandoned, leaving only the hard ribs of the leaf standing. They always fix on the under side of the leaf, and begin to gnaw off its edges. If they have but newly fixed on the leaf, no indication of them will be perceived there when viewed from above, but if the least bit be feen wanting, on one fide of a leaf, it may be concluded they are there. These leaves and all others suspected should be pulled off, by pinching away the footftalk, with the thumb gently, fo as not to shake them off; though they adhere to from it. If there be feveral leaves in one tuft, they may

young shoot of this year (which is very often the case),

hour; but if they be once suffered to disperse, and have wish to try the efficacy of this mode of proceeding should it is effectual or not. They may order fervants to practife it; but if they wish never to be deceived, let them make felves only, and they will thus, with little trouble, fatisfy themselves whether it be practicable or not, and can check their fervants if they attempt to impose on them."

In the third volume of an ufeful periodical work, the thruction of this and the cabbage caterpillar. The writer fays, he has " tried the effect of tobacco juice, and of quick-lime, both to bushes and cabbages, to deliroy these infects, but without accomplishing the end in view; he took every different method that folicitude could fuggest or fedulous attention could execute; and that fmonking with brimstone has been lately recommended. This method he has also attempted, but without success. He applied cabbage with a watering pan, and then feattered on it powdered quick-lime; and fecondly by putting quick-lime into a watering pan, with which the infected buth or plant was sprinkled; but also with little effect. It is further being destroyed by minute vermin, which completely answers the purpose. A pinch of snuss put on the back of a frog or toad, occasions to these reptiles instant convulsions and death. be attended with a powerful effect. But having applied it to his bushes in both ways, in which he tried the quick-lime, to death, are otherwise wonderfully tenacious of life. Failing in these modes of application of those remedies, he

wished to see what power they had to deflroy caterpillars, when applied to them in the closest possible manner. this view he put a small quantity of tobacco snuss into one plate, and fome quick-lime into the other. Into these he put a number of caterpillars; but they having crawled off without being built; he mixed thefe articles with water. Out of this folution the infects also crawled, feemingly unhurt; he then prevented them from getting out of the liquor, and they expired. This was fatisfactory evidence to him that caterpillars cannot be deftroyed by any ordinary application of tobacco or quick-lime to a bush on which they fwarm. Afterwards he tried how far the smoke of brimftone is baneful to these infects, by the following experiment. He put a dozen of them on a plate, over this he inverted a bowl which had in it some burning brimstone. This did not kill the caterpillars, which made him have recourse to a more effectual method of confining the vapour. He placed a few of thele infects in a fmall bottle, into which, having thrust a bit of paper with inslamed fulphur, he stopped the aperture of the bottle with a cork. The effect of the vapour then became too powerful for any animal life to refilt, and the infects died. This experiment, however, convinced him that the fmoke of brimitione cannot be effectually applied for exterminating caterpillars on bushes. Despairing of success from any mode of general destruction of these vermin, he fet fervants and others to work to pick them off as above, or rather to crush them on the bushes. This effectual method at first glance may, he says, appear an infurmountable labour; but let it be tried, and it will be found by no means fo tedious or laborious as at first suspected. Indeed it is a matter of absolute necessity, and as such is practifed by fome gardeners, who know well, that if a fwarm of caterpillars, on any one bush, are not quickly destroyed, they will go over and ruin every bush and berry in the garden. Not only will black currant bushes, which they are not fo fond of, become a prey to their voracity, but he has had experience of the fame vermin adjourning to peach trees, and other fruit trees. Nor is there any tree, though even diftant, that they will not rob of its leaves, rather than want food for their voracious appetites. Neither is this all, for if these vermin are left to plunder and to live, they infallibly fecure an abundant potterity to destroy all the small fruit of the enfuing and fucceeding fummers." The only effectual means are, he thinks, by picking them off as directed above, the labour of which may, it is supposed, be somewhat abridged by shaking well the infected bush, and crushing with the foot those caterpillars that fall to the ground. The writer is informed that the Messirs. Culleys, those active and enterprifing farmers, on the fame principle, make the caterpillars be hand-picked from their extensive crops of turnips. And it is remarked that cabbages and greens may in general be preferved from caterpillars by plucking off the large undermost leaves (which may be given to cows) in the month of August, or when the common white butter-fly begins to appear in numbers. These butterslies lay their eggs, which produce the cabbage caterpillar, on the under fide of the largest leaves of the cabbage and kale plants. There is also faid to be another remedy, which he cannot answer for. The learned professor of natural history in the university of Edinburgh has affured him, that fowing beans among cabbages will greatly prevent the breeding of thefe worms. It is faid the butterfly has an antipathy to the flavour of beans. And he adds that "the moths (phalana groffulariate of Linnæus) from which the goofeberry and currant caterpillars (which are the fame) are bred, are small, having yellow bodies, with many black spots, and their wings white, with yellow streaks spotted with black. They

appear in the month of July, in the evenings, and ought to be carefully killed by all attentive gardeners. They feldom fly far from the bushes on which they deposit their eggs. They live about twenty days, during which (for many of the moth tribe have not even mouths) they eat little or none. The eggs, which are yellow, are glued below the clefts, and under the longer arms near the bottom, and fometimes on the leaves of the bulkes that are proper for ferving the young progeny for food. One moth produces upwards of one hundred and fifty eggs: the young worms generally appear, he thinks, in fpring, but they are frequently hatched in autumn. He has observed the young in great numbers devouring the leaves of the goofeberry bush as early as the 15th of August, that is about three weeks after the eggs are laid. They fometimes cat up the embryo of the new leaves and flowers of the bush in October, which renders any hope of fruit for the enfuing year abortive. Neither the froit or fnow of winter destroys them. He has taken particular notice of fome of thele remaining on a current bush, without being affected with cold or hunger, from November till March. During winter, and the early parts of spring, they lurk in clusters below the cleft, and then is the time they ought to be crushed. At all times, till they are ready to go into the intermediate, or nymph flate, previous to their being changed into moths, they have, though ordinarily voracious, a valt power of living without food. If put into a box, even in fummer, they will not feem the worse for being kept without meat."

Another writer in the same work has found great advantage from the use of fulphur vivum in destroying these caterpillars, after other methods had failed. "It was used," fays he, "in the following manner: the bush was first lightly fprinkled with water, fo as to moiften the upper part of the leaves, and immediately after dufted with the fulphur, which was put into a tin box, with the lid perforated like a pepper holder. The moistening of the leaves made the fulphur adhere to them; and the weather continuing dry, it remained upon them. The consequence was, that by next morning not a fingle caterpillar could be feen upon any of the bushes that had been so treated, unless in crevices, or upon fome of the grains that it had not reached. Hitherto, he fays, the fulphur does not appear to have been at all hurtful to the foliage, as the bushes, to which it was applied, are in the same state of forwardness, and look equally well as others that were not infelted with the vermin." enfure fuccefs, it fecms effential, he fays, that the fulphur should be used in dry weather, as, if rain fall immediately after the application, it will be washed off and its effect

leffened."

It is ingeniously suggested by Mr. Forsyth, that by a better and more intimate acquaintance with the habits and economy of these animals, we might, probably, be enabled to discover more certain methods of deltroying them.

CATERPILLAR-caters, in Entomology; fee ICHNEU-

CATERVA, in Ancient Military Writers, a term used in speaking of the Gaulish or Celtiberian armies, denoting a body of 6000 armed men.

The word caterva, or catervarius, is also frequently used by ancient writers to denote a party or corps of soldiers in disorder or disarray: by which it stands distinguished from cohort or turns, which were in good order.

CATESBÆA, in B.tany (a name formed by Gronovius, in honour of Mark Catelby, author of the Natural Hiftory of Carolina). Linn. Gen. 130. Willd. 153. Schreb. 166. Juff. p. 199. Vent. vol. ii. 571. Claß and order, tetrandria monogynia. Nat. ord. Luridæ, Linn. Rubiacce, Juff. Vent.

K 2

acute, permanent. Cor. monopetalous, funnel-shaped; tube long, straight, gradually enlarging upwards; border semiquadrifid, broad, erect, flat. Stam. filaments four, within the neck of the tube; anthers oblong, erect, rather longer than the corolla. Pift. germ inferior, roundish; style filiform, the length of the corolla; stigma simple. Peric. berry oval, crowned, one-celled (two-celled, Vahl). Seeds many, angular.

Eff. Ch. Cor. monopetalous, funnel-shaped, very long, Superior; stamens within the throat of the corolla. Berry

many-feeded, two-celled, Willd.

Sp. 1. C. Ipinofa, Linn. Sp. Pl. Lam. Illust. Pl. lxvii. fig. 1. Curtis, Bot. Mag. Pl. 131. (C. longislora, Swartz. Prod. 30. Frutex spinosus, &c. Catefycard. tab. 100.) "Tube of the corolla very long; berries oval." A shrub. Stem, twelve or fourteen fect high, about four inches thick; bark fmooth, of a greenish ruffet colour; wood tough and hard. Leaves small, resembling those of box, growing in clusters, with intervals of about an inch; each clufter accompanied by two tharp pliant thorns. Flowers five or fix inches long, yellowish, pendant, folitary in the axils of the upper leaves. Fruit the fize of a pullet's egg; with a smooth yellow skin, and a pulp like that of a ripe apple, which has a grateful tartness and a pleasant smell. Found by Catesby, near Nassau Town, in Providence, one of the Bahama islands, who brought feeds to England. 2. C. parviflora, Willd. Mart. Swartz. Prod. 30. Vahl. fymb. ii. p. 31. Eclog. i. p. 12. Lam. Illutt. Pl. xlvii. fig. 2. bad. (Rhamnus foliis buxeis, &c. Sloane, Jam. 2. tab. 207, fig. 1.) "Tube of the corolla four-cornered, abbreviated; berries roundish." A native of Jamaica. Obf. Swartz, though at first he received this species as a catesboxa, has since made it a diffinet genus, which he calls scolosanthus, with the following character: Cal. very fmall, four-cleft; Cor. tubular, border curved, four toothed. Stam. four. Pift. germ superior; style bifid. Peric. drupe white, one-feeded. A branched, thorny firub. Leaves opposite, nearly sessile, roundish. Flowers, some so itary; at the extremity of the young spines, abortive; others in the axiles of the leaves Bosc. in Nouv. Dict. art. Scolofanthe.

Propagation and culture. The first species has been propagated in England both by feeds and cuttings. The feeds fucceed best when they are brought over in the entire fruit preferved in fand. They should be fown in small pots filled with light fandy earth, and plunged into a moderate hot-bed of tanner's bark. The plants will appear in about fix weeks if the feeds were good, and the pots have been occasionally, but sparingly watered. It will then generally be proper to turn over the tan to the bottom; and if the heat be not fufficient, to increase it by adding a little fresh tan. When the pots are plunged again into the tan-bed, they should be supplied with fresh water every day according to the warmth of the feafon, and frequently refreshed with water in small quantities: if the weather prove cold, the glaffes should be covered with mats every evening. In the autumn the pots should be removed into the stove, and plunged into the tanbed: during the winter the plants should be watered with great caution; and in the fpring thould be carefully taken up and planted in separate pots, which should be plunged into a fresh hot-bed of tanner's bark. In summer they should have a good deal of air; but in autumn must be removed into the stove, where they should afterwards constantly remain, and be treated like other tender exotic

Gen. Ch. Cal. perianth superior, very small, four-toothed, and sulv, in small pots filled with light earth, plunged into a moderate hot-bed of bark, and closely covered with small bell-glaffes. In two or three months they will put out roots, when they should be transplanted into separate pots,

and treated as the feedling plants. Miller.

CATESBY, MARK, in Biography, an eminent English naturalit, was born about the latter end of 1679, or the beginning of 1682. An early propenfity to the fludy of nature first led him to London, which he emphatically styles subject in distant parts of the globe. Having some relations in Virginia, he vifited that country in 1712, where he remained feven years, industriously employing himself in collecting the various productions of the country, and occalionally transmitting feeds and specimens of plants to his correspondents in England, and particularly to Dr. William Sherard. On his return to England in 1719, he was encouraged by the affiftance of feveral of the nobility, of Sir Hans Sloane, Dr. Sherard, and other naturalifts, to return to America, with the professed design of describing, delineating, and painting the more curious objects of nature. He arrived in Carolina, which was felected as the place of his refidence, in 1722; and having first examined the lower parts of the country, on occasional excursions from Charlestown, he afterwards fojourned, for fome time, among the Indians in the mountainous regions at and about Fort Moore; and he also extended his researches through Georgia and Florida. Having spent nearly three years on the continent, he vifited the Bahama islands; and residing in the Isle of Providence, he profecuted his plan, and made various collections of fishes and submarine productions. After his return to England in 1726, being well received by his patrons, he acquired the art of etching; and, retiring to Hoxton, he devoted his time to the completion of his great work, which he published in numbers, of 20 plants each. The figures were etched by himself, from his own paintings; and the coloured copies were done under his own inspection. Although his attention was principally restricted to plants, yet most of his plates exhibit some subject of the animal kingdom. The first number appeared towards the close of the year 1730; and the first volume, confifting of 100 plates, was finished in 1732; the second in 1743; and the appendix, of 20 plates, in 1748. Of each number, a regular account, written by Dr. Cromwell Mortimer, fecretary of the Royal Society, was laid before the fociety as it appeared, and printed in the Philosophical Transactions. The whole work is entitled, "The Natural History of Carolina, Florida, and the Bahama Islands, &c .: " and is comprifed in two volumes, imperial folio. It contains descriptions of many curious and important articles of food, medicine, domestic economy, and ornamental culture; and has been allowed to be the most splendid work of its kind that had then been published in England, or even on the continent; that of Mad. Merian excepted. The principal defect of the work is the want of a separate delineation of all the parts of the flower, the necessity and importance of which however, the flate of botanical science at the time did not suggest. This work has been republished in 1754 and in 1771; and, to the last edition, a Linnaan index has been annexed. Soon after his fecond return from America, Mr. Catefby was elected a fellow of the Royal Society, and lived in focial and friendly intercourse with many of the most respectable members of that body; being " greatly effeemed for his modelty, ingenuity, and upright behaviour." He was the author of a paper, printed in The cuttings should be planted during the months of June the 44th volume of the Philosophical Transactions, "On Birds of Paffage;" in which he proves the reality of their emigrating in tearch of proper food, from a variety of observations which he had an opportunity of making during his voyages across the Atlantic. He died in London in 1749, at the age of 70, leaving a widow and two children. His name has been perpetuated by Dr. Gronovius, in the plant called "Catefbean." Pulteney's Hilt, and Biog. Sketches of the Progress of Botany in England, vol. ii.

ch. 44.

CATFALL, in Ship-Rigging, denotes the rope that forms the tackle for heaving up the anchor from the water's edge to the bow. It reeves through the sheaves at the outer end of the cat-head, (which see,) and through the

sheaves of the cat-block alternately.

CATFINTHVOE, in Geography, a bay on the northeast coast of the island of Shetland; 10 miles N. of Lerwick.

CATHA, in Botany, Forsk. Arab. See CELASTRUS

edulis, and paniflorus.

CATHÆI, in Ancient Geography, a people of India, mentioned by Arrian, who fays, that they felected the molt handfome man among them for their king; that they were valiant, and furpaffed their neighbours with regard to their experience in the military art; and that their females had the custom of burning themselves after the death of their husbands. Strabo adds, that they determined, within two months after the birth of a child, whether his form was so perfect as to render him worthy of being preserved; otherwise they destroyed him. They are also said to have tinged their beards with various colours by way of ornament; and their marriages were the result of mutual choice on the part of the contracting parties. See Cathala.

CATHÆNA, a town of India, mentioned by Steph.

Byz.

CATHÆRETICS, in Surgery, καθηςετικα, from καθαιζω, to remove; corroive remedies which detroy and eat off fuperfluous flefth, by chemically decomposing its natural texture. Cathæretics have been otherwise denominated farcophagous medicines, q. d. fless-caters; such as red precipitate of mercury, burnt alum, verdigris, preparations of vitrol, &cc. &c. which differ only in degree from eaussies, or escharetic applications, these latter being much more violent and destructive in their operation. Dr. Cullen observes that, as the operation of the different medicines of this class is not always the same, nor their different operations well explained, the pro-

priety of the general term may be doubtful.

CATHAIA, or CATHEA, in Geography, a country in the north-eastern part of Asia, about the precise situation of which authors are not agreed. Some have supposed that it was the country of the Sophites, and that it was called by Curtius Sophites; and they place it between the rivers Hydaspes and Acesines, where lay the extensive and rich country of Porus, containing about 300 cities. Others fay that it lay beyond the Acesines and Hydraotes, on the borders of the territory of Porus, a coufin of the Porus who was captured by Alexander. Arrian fays, that Sangala, which probably lay between Lahore and Moultan, was a city of great strength and importance in the country of the Diodorus Siculus calls the same people " Catheri," or " Katheri," and they may very eafily be recognized under the name of "Catry," in Thevenot; that is, the "Kuttry" tribe, or "Rajpoots." Thevenot, speaking of the people of Moultan, fays, " there is a tribe of Gentiles (i. e. Gentoos, or Hindoos,) here, called Catry, or Rajpoots; and this is properly their country, from whence they spread all over the Indies. Diodorus Siculus marks them by the custom of their women burning themselves alive, on the that the Cathei were confederated with the Malli and Oxydracæ, that is, the people of Moultan and Outch, and which lay to the S.W. of the place where Alexander might be fupp fed to crofs the Hydraotes (or Rauvee) in his way into India. Sangala, therefore, lies to the S W. of Lahore; and as to its diffance, Alexander reached it the third day after croffing the Hydraotes, and for these three marches it will be fufficient to allow 48 road miles or 36 geographical miles in horizontal distance. Although no idea is given in Arrian, Diodorus, or Quintus Cartius, of the distance between Sangala and the Hyphasis; yet we may collect from Arrian's manner of speaking, that they were not near each other. Diodorus places the kingdom of Sophites and of Phigeus between the Catheri and the Hyphafis; and hence we may infer that there was a confiderable space between them. See SANGALA. In the name of this country the learned Bryant (Anal. Mythol. vol. iii. p. 553.) perceives traces of the Cuthite migration. One of the most confiderable colonies, (he fays) which went from Babylonia, was that of the Indi, or Sindi; who had been further diftinguished by the name of the Eastern Ethiopians. They fettled between the Indus and Ganges; and one of their principal regionswas Cuthaia, rendered Cathaia by the Grecians. They traded in linen and other commodities, and carried on an extensive commerce with the provinces to the fouth. A large body of them passed inland towards the north, under the name of Sacæ, or Sacaians; who ranged very high and got possession of Sogdiana, and the regions upon the Jaxartes. From thence they extended themselves eastward quite to the ocean. They were (fays Bryant) of the Cuthic race, and represented as great archers; and their country was called Sacaia and Cutha. The chief city was Sacaitan. These people got possession of the upper part of China, which they denominated Cathaia; and this learned writer fuggetts, that Japan was in fome degree peopled by them.

CATHARA, a town of Asia, in Mesopotamia, situated

near the Tigris, according to Ptolemy.

CATHARCLUDORUM Regio, a country placed by Pliny in the mountains which lie to the west of the Indians.

CATHARI, in Ecclefassical Writers, ancient Christians, who made profession of greater purity in discipline and sanctity of life than others. The appellation cathari was chiefly given to the sect of Novatians. In after-times, however, the same was also applied to several other sects, who pretended to extraordinary purity, and particularly to a fanatical sect, who came from Greece into Italy, and were first discovered in the Milanese about the middle of the 11th century. They were called in France, and other countries, Albigenses, Bonshommes, Paterini, and Publicans.

See also PAULICIANS and PURITANS.

Thefe Cathari held many tenets of the Manichean heretics, blended with other opinious, common to them and the Vaudois, againft the doctrines, and hierarchy, and fuperfitious practices of the church of Rome. The Cathari, however, were entirely free from the Manichean errors, and would not have confented to a public confession of the Roman Catholic doctrines, as the true Christian faith, even to fave their own lives. But the Cathari thought it lawful to diffemble in these points, and had secret or inward doctrines. It appears that on their examination before the inquisitorial commissioners at Toulouse, they scrupled to swear to their belief of opinions which they salleiy professed; yet, at the end of a written deciaration of their furth, they interted words which in reality amounted to an oath. But though they adopted many inconsistencies and absurdities

among their articles of belief, the fevere inquifition which they underwent could not discover a fingle evidence of any criminal act, punishable by the lay courts, that could be alleged against them. However, in 1179, the council of Lateran issued a canon, for excommunicating all the Cathari in the fouthern parts of France, as audacious heretics, who openly propagated their notions, and likewife all who afforded them protection or harbour in their houses or lands, or carried on traffic with them; declaring, that any perfons who should die in that fin should have no benefit from any indulgence granted to them, nor from any oblation made for them, nor be allowed Christian burial. After all, it is certain that many, who held none of the errors of the Cathari, but only joined them in oppofing the flagrant corruptions of the church of Rome, were, in the following century, confounded with them, and involved in the maffacre, which, under the orders of Simon de Montfort, the general of the pope, deluged all the fouth of France with innocent blood.

of India. See CATHAIA.

CATHARINE of France, in Biography, the youngest 1401, and in 1420, by the conditions of the treaty of Troyes, married to Henry V. king of England, then declared fuccessor to the crown of France. In consequence of this inarriage the became mother to Henry VI. crowned in his cradle king of both countries. After the death of Henry V. Catharine formed a connection with fir Owen Tudor, a gentleman of Wales, of fmall fortune, but defeended from the ancient princes of the country. By a clandestine marriage with him, she had two fons, the eldest of whom, Edward earl of Richmond, was father of Henry VII. king of England, the first of the line of Tudors. Catharine died in 1438, and was buried at Westminster. Hume's Hist. vol. iii. Moreri.

CATHARINE of Arragon, the fourth daughter of Ferdinand and Ifabella, king and queen of Castile and Arragon, was born in 1483, and married in 1501, in pursuance of a design that had been projected and negociated for 7 years, to Arthur, prince of Wales, fon of Henry VII. At this time the prince was nearly 16 years of age, and the infanta 18. In a few months after this marriage, the young prince fickened and died, much regretted by the nation. Henry, defirous reftore Catharine's dowry, which was 200,000 ducats, obliged his fecond fon Henry, whom he created prince of Wales, to be contracted to the infanta. The prince, who was then a youth of 12 years of age, relifted this injunction to the utmost of his power; but the king was invincible, and the espoufals were at length, by means of the pope's dispensation, cellion of Henry VIII. to the crown, in 1509, the king began to deliberate on his former engagements. The previous marriage of Catharine with his brother, and the inequality of their years, were the chief objections urged against his the interest of cementing a close alliance with Spain; the necessity of finding some confederate to counterbalance the power of France; and the expediency of fulfilling the enprimate, to give Henry their advice for celebrating the mar-

papal authority before the reformation, the prejudices of the people were in general averse to a conjugal union between fuch near relations, as Henry and his brother's widow; and felf of a proper opportunity of annulling the contract. He tended much to increase his remorfe, and to render his confcience more ferupulous. The queen was fix years older the more thruck with this misfortune, because the curse of marriage was called in quettion; and it was apprehended, that if doubts of Mary's legitimacy concurred with the weakness of her fex, the king of Scots, the next heir, would advance his pretentions, and might throw the kingdom into confusion. Besides, Anne Boleyn had lately appeared at interest, to feek the diffolution of his inauspicious, and, as it was esteemed, unlawful marriage with Catharine. The archadvise with his brethren. All the prelates of England, except Fisher, bishop of Rochester, unanimously declared, under their hands and feals, that they deemed the king's marriage on any general doubts concerning the papal power to permit for this particular marriage. It had been faid in the preamble, that the buil had been granted upon Henry's folicitation; peace between the two crowns; though it is certain, that no ground or appearance of quarrel then subfifted between them.

These salse premises in Julius's bull seemed to afford Clement a fufficient reason or pretence for annulling it, and granting Henry a dispensation for a second marriage. Clement, though at first disposed to favour Henry's application, and though he actually concerted measures for its successful iffue, was overawed and embarraffed in his proceedings by the interference of the emperor, Charles V., Catharine's nephew; and the negociation was protracted to fuch a length as to tire Henry's patience, and to induce him to adopt other measures for accelerating the accomplishment of his wishes. hands a commission to Wolsey, as legate, in conjunction with the archbishop of Canterbury, or any other English prelate, to examine the validity of the king's marriage, and of Julius's dispensation. He also granted them a provisional dispensation for the king's marriage with any other person; and promifed to iffue a decretal bull, annulling the marriage with Catharine; but he enjoined fecrecy, and conjured them not to publish these papers, or to make any farther use of them, till his affairs with regard to the emperor were in fuch a train as to fecure his liberty and independence. After confiderable hesitation and delay, the legates, Campeggio and Wolfey, to whom the pope had granted a new commission for the trial of the king's marriage, opened their court in London, May 31st, 1729, and cited the king and queen to appear before it. They both prefented themselves, and the king answered to his name, when called; but the queen, instead of answering to her's, role from her feat, and throwing herfelf at the king's feet, made a very pathetic harangue, which her virtue, her dignity, and her misfortunes rendered the more affecting. She concluded with declaring, that she would not submit her cause to be tried by a court, whose dependence on her enemies was too vifible, even to allow her any hopes of obtaining from them an equitable or impartial decision. She then rose, and making the king a low reverence, the departed from the court, and never would again appear

After her departure, the king did her the justice to acknowledge, that she had ever been a dutiful and affectionate wife, and that the whole tenor of her behaviour had been conformable to the strictest rules of probity and honour. He only infilted on his own fcruples with regard to the lawfulnefs of their marriage; and he explained the origin, the progress, and the foundation of those doubts, by which he had been fo long and fo violently agitated. He acquitted cardinal Wolfey from having any concern in encouraging his scruples; and he craved a sentence of the court agreeable to the justice of his cause. The legates, after citing the queen anew, declared her contumacious, notwithstanding her appeal to Rome, and then proceeded to the examination of the cause. After the prolonged investigation of various particulars, Campeggio, very much to the furprife of the king, who every day expected a fentence in his favour, fuddenly, without any warning, and upon very frivolous pretences, prorogued the court to a future day; and the evocation of the cause to Rome terminated all the hopes of success which the king had fo long and fo anxiously cherished. Thus disappointed, the king's mind was agitated by a variety of contrary motives; but at length an expedient was proposed. which, as it promifed a folution of all difficulties, was embraced by him with the greatest joy and satisfaction. Dr. Cranmer fuggested, that the readiest way, either to quiet Henry's conscience, or extort the pope's consent, would be to confult all the universities of Europe with regard to this controverted point: If they agreed to approve of the king's marriage with Catharine, his remorfe would naturally cease;

the folicitations of fo great a monarch, feconded by the opinion of all the learned men in Christendom. The king was delighted with the proposal, and swore, with more alacrity than delicacy, that Cranmer had got the right fow by the ear: and having previously consulted this learned divine, engaged him to write in defence of the divorce; and ir mediately employed his agents to collect the judgments of all the univerlities in Europe. Several of thefe, without hefitation, as well as without interest or reward, gave verdict in the king's favour. Those of Oxford and Cambridge made fome difficulty; because, being alarmed by the progress of Lutheranism, and dreading a defection from the holy see, they ferupled to fanction measures, which in their confequences might prove fatal to the ancient religion. Their opinion, however, conformable to that of the other universities of Europe, was at last obtained; and the king, in order to give additional weight to all these authorities, engaged his nobility to write a letter to the pope, recommending his cause to the holy father, and threatening him with the most dangerous consequences in case of a denial of justice. The convocations too, both of Canterbury and York, pronounced the king's marriage invalid, irregular, and contrary to the law of God, with which no human power had authority to dispense. But Clement, still subject to the influence of the emperor, continued to fummon the king to appear, either by himself or proxy, before his tribunal at Rome; and the king, apprized that no fair trial could be expected there, refused to fubmit to fuch a condition, and would not admit of any citation, which he regarded as a high infult, and a violation of his royal prerogative. In the progress of this business, the queen's appeal was received at Rome. The king was cited to appear; and feveral confistories were held to examine the validity of their marriage. The king retained his purpofe of not fending any proxy to plead his cause before this court, and alleged, that the prerogatives of his crown must be sacrificed, if he allowed appeals from his own kingdom. For the purpose of adding greater security to his intended defection from Rome, he procured an interview with Francis at Boulogne and Calais, and renewed his alliance with that monarch; and it is faid, that he even perfuaded Francis to follow his example, in withdrawing his obedience from the bishop of Rome, and administering ecclesiastical affairs without having further recourse to that see. Fully determined in his own mind to hazard all confequences, he privately celebrated his marriage with Anne Boleyn, Nov. 14th, 1532; and in April of the following year he publicly owned it; and in order to remove all doubts with regard to its lawfulness, he prepared measures for declaring, by a formal sentence, the invalidity of his marriage with Catharine. Catharine, however, did not quit the kingdom; but fixed her abode for some time at Ampthill, near Dunstable in Bedfordshire, where, after feveral preliminary steps, Cranmer pronounced a fentence which annulled the king's marriage with her as unlawful and invalid. By a subsequent sentence he ratified the marriage with Anne Boleyn, who was foon after publicly crowned queen, with all the pomp and dignity suited to that ceremony. Catharine still continued obtlinate in maintaining the validity of her marriage; and she would admit no person to her prefence who did not approach her with the customary formalities. Although Henry employed menaces against fuch of her fervants as complied with her commands in this particular, he was never able to make her relinquish her title and pretentions. As far as the pope was concerned in this business it terminated in the king's final breach with Rome; and in a parliament assembled in 1534, the marriage of the king with Catharine was declared unlawful, void, and of no if they condemned it, the pope would find it difficult to refult effect; the primate's fentence, annulling it, was ratified; and

the marriage with queen Anne was chablished and confirmed. Catharine had removed from Dunstable to Kinth Mon callle in the county of Huntingdon, where she was seized with a lingering illness, which at last brought her to her grave. She died on the 5th of January, 1536, in the 5th year of her age. A little before she expired, she wrote a very tender letter to the king, in which she addressed him as "her most dear lord, king, and husband," and inculeated upon him counsels of moral and religious prudence; concluding with these words; "I make this vow, that mine eyes defire you above all things." The king is faid to have thed tears on occasion of receiving this last tender proof of Catharine's affection. In her retreat she is faid to have composed fome devotional treatifes. Hume's Hist, vol. iii, and iv.

CATHARINE De Medicis, queen of France, was the only daughter of Lorenzo de Medici, duke of Urbino, and of Magdalen de la Tour. She was born at Florence in 1519, and by the influence of her uncle, pope Clement VII., was married in 1534 to Henry, duke of Orleans, fon of Francis I. She contributed, in a high degree, by her perfonal and mental accomplishments, to adorn the splendid court of her father-in-law, and by her complaifance and diffimulation contrived to ingratiate herfelf with perfons of oppolite characters and interests. At the death of Francis I., her hufband fucceeded to the crown under the title of Henry II., and the became queen. Although the had been barren for the first ten years after her mairiage, the had afterwards ten children; three of her fons being fuccessively kings of France, and one daughter queen of Navarre. During Henry's life, the devoted herfelf to the education of her children; and in this employment the gained that afcendancy over them, which enabled her for a long time to maintain supreme authority. Upon the death of her husband, in 1559, her fon, Francis II., succeeded to the throne, at the age of 16 years; and during his reign, though the was obliged to concur in fome degree with the violent and perfecuting measures of the family of the Guifes, they were not agreeable to her inclinations, and the manifested her defire of more moderate proceedings, by raifing to the post of chancellor, the virtuous Michael de l'Hopital. In 1560, Henry II. was fucceeded by his brother, Charles IX., in his eleventh year. Catharine still maintained her authority, and, in order to counteract the power of the Guifes, inclined to the party of the king of Navarre and the affociated princes. Upon the death of the duke of Guile in 1562, the two contending parties, that had occasioned a civil war, were reconciled; and Catharine, possessed of full powers, began to difplay in their full extent her diffembling politics. Whilft The courted the catholics, the laid plots for the total destruction of the Hugonots, the consequence of which was the renewal of civil war; and the purfued fuch a course of diffimulation and treachery, in her attempts to deftroy that party which could not be subdued by force of arms, and received fuch affittance from her execrable fon, whom the had initiated in every art of difguife, as to prepare the way for that maffacre on ST. BARTHOLOMEW's day, 1571, which has doomed to infamy the name of Catharine de Medicis, one of its chief contrivers. Initead of thus composing the flate during the remainder of this reign, which was terminated by the death of Charles in 1574. Upon this event Catharine was declared regent, till the return of her next fon, Henry III., from Poland, of which kingdom he had been elected the fovereign. In this high official character, the exerted herfelt with wifdom and vigour, in preventing those diffurbances which the collision of existing parties had a tendency to produce, and thus delivered the kingdom to her fon

in a condition, which, with prudence and virtue, on his part might have augured a proferous reign. But he had derived his principles from her influction, and his conduct was formed on her example of infincerity and diffinulation. Her own character was fuch, that it warranted no confidence in any measures of which she had the direction. The party of the Guifes revived; the league was formed; war was renewed with the protestants; and during the prevalence of public diforders, aggravated by Henry's attachment to his minions on the one hand, and the popularity of the Guifes on the other, Catharine lost her authority, and she lived only to lament the misgovernment of her son, as the result of the infidious policy, which she had laboured to inculcate. Soon after the affallimation of the duke of Guife, from the guilt and reproach of which she endeavoured to exculpate herself with strong executions, Catharine, having incurred the deschation of, all parties, died in January 1529, in her 70th year. Under a suspicion of having been concerned in the duke's murder, notwithstanding all her protestations, the Parisans threatened to throw her body, if it was brought into their city for interment, into the river or common sewer. On her death-bod she is fand to have given excellent advice to her for; though little conformable to her former precepts and example.

his brief account of her, " is faid to have been possessed, in a degree superior to any woman of her time, of all the arts ordinary courage and prefence of mind, firong judgment, and great fertility in expedients. But the had the common fault of her country, of aiming at excessive refinement of policy; and by alternately careffing and fiding with every party, the in the end loft the confidence of all. With refpect to her moral qualities, there is nothing diabolical in the human character with which she has not been charged by her enemies; and even her friends are obliged to make large of her fex, the was loose and voluptuous in her own conduct, and was continually attended by a train of beauties, whose complaifant charms the employed in debauching those minds which the could not gain by the common allurements of interest. Nearly indifferent to modes of religion, she was much addicted to superflition of the darkett kind; and believed in and employed the delusive practices of magic and judicial astrology. The depth of her dissimulation, and bloody firain of her perfidious policy, have fufficiently been thewn in the sketch of her actions; and many instances might be brought of the favage pleafure or indifference with the heaviest charge against her is the detestable principles in which she brought up her children, whom she early inured to blood and perfidy, while the weakened their minds by debauchery, that she might the longer maintain her power over them. Accordingly, except Francis, who can fearcely be faid to have displayed any character, her other sons, Charles, Henry, and the duke of Alençon, were compounds of every thing abominable and despicable. To conclude, the historian Davila, who was peculiarly attached to her fervice, and favoured by her, terminates a copious eulogy on her perional and mental qualifications, with confessing that the was totally void of faith, and more indifferent to the shedding of human blood than became a woman." Moreri. Nouv. Dict. Hift. Mod. Un. Hift. vol. xx. p. 373, &c. vol. xxi. p. 1. 40. Gen. Biog.

CATHARINE I. empress of Russia, was of obscure origin, being a natural daughter of a country girl at Ringen, a fmall village upon the lake of Virtcherve, near Dorpt, in Livonia, and where the was born, according to her own account, on the 5th of April, 1680, but according to other more probable statements, in the year 1683. Count Rosen, a lieutenant-colonel in the Swedish fervice, and proprietor of the village of Ringen, supported, according to the custom of the country, both the mother and child; and for this reason was supposed to be her father. At the age of three years the loft her mother; and, Rofen dving about the fame time, the was left in a condition to destitute, that the was received by the clerk of the parish into his house. Soon afterwards Gluck, a Lutheran minister of Marienburgh, took her under his protection and employed her in attending his children. In 1701, the married a dragoon of the Swedith garrison of Marienburgh, who, as some fay, lived with her eight days after their marriage; but others have afforted, that on the morning of the nuptials her hufband was fent with a detachment for Riga, so that the marriage was never confummated. At the time, however, when Marienburgh furrendered to the Russians, the diagoon was absent, and Catharine faw him no more. On the capture of this place general Baner faw her among the prifoners, and being fmitten with her beauty, took her to his house, where she superintended his domelic affairs, and was supposed to be his miltrefs. In a little while the passed into the family of prince Mentchikof, who was no lefs her admirer than the general, and she lived with him till the year 1704; when the became the mistress of Peter the Great, and gained such an interest in his affections, by her unremitting attention, by the gentleness of her disposition, and by the liveliness of her temper, that the emperor, who was thus foothed in his occational intervals of gloom, fuspicion, and even madness, privately married her in 1710 or 1711. From this time she became his constant companion in his journies into foreign countries, and in all his military expeditions. In 1711, the attended him in his campaign against the Turks; and the peace of Pruth, which rescued the Russian army from certain destruction, has been ascribed to her powerful interpofition. The occasion was this: when the emperor had led his troops into a very dangerous fituation, he formed the desperate resolution of cutting his way through the Turkish army in the night; and retiring to his tent in an agony of defpair, he gave positive orders that no one should be admitted, under pain of death. In this important juncture, the principal officers, and the vice-chancellor Shaffirof, affembled in the presence of Catharine, and drew up certain preliminaries for the purpose of obtaining a truce from the grand vizir. Plenipotentiaries were immediately dispatched, without the knowledge of Peter, to the vizir, and a peace was obtained on more reasonable conditions than could have been expected. With thele conditions Catharine, notwithstanding the orders issued by Peter, entered his tent, and obtained his fignature. By this conduct she gained great popularity, and the emperor himfelf specifies her behaviour at Pruth, as one of the reasons which induced him to crown her publicly at Moscow with his own hand. In 1712, her marriage, which had taken place fecretly in the preceding year at Lawerof in Poland, was publicly folemnized at Pe-·tersburgh. Catharine maintained her influence undiminished until a short time before the death of Peter, when an event occurred, which might have occasioned a total rupture, if death had not intervened. The emperor, probably not unapprized of some of her amours, suspected that she had an illicit connection with Mons, her first chamberlain. Having concerted measures for making a discovery, he surprised VOL. VII.

Catharine in an arbour of the garden with her favourite; while his fifter, madame Balke, who was first lady of the bed-chamber, was in company with a page, upon the watch without the arbour. Peter struck Catharine with a cane, and then retired without uttering a fingle word. Soon after Mons and his fifter were taken into cuftody. The former was examined, on a charge of bribery, in the presence of majorgeneral Ufchakof, and being threatened with the torture, infignia from the czar's own hands. As it was foon followthe was suspected of shortening the days of her husband by tharine at the time of his decease, and her subsequent elevation, this charge is destitute of proof; for the nature of the disorder with which Peter had been long afflicted, and the peculiar fymptoms of his last illness, fusiciently account for his death, without recurring to poilon. As it had been decreed in 1722, that the reigning fovereign should have the power of appointing his fucceffor, Peter ought to have made provision accordingly; but his last illness, and the circumstances of excruciating torture attending it, prevented the performance of this necessary duty. Amidst the cabals which succeeded his death, Catharine, by means of her friends, claimed the throne in right of her coronation and inauguration at Moscow; and these recent acts on the part of Peter were interpreted by them as a sufficient proof of his intentions. The art of Catharine, and the activity of Mentchikof, ultimately pervailed against the party, which supported the claims of Peter Alexowitz, the czar's grandfon; and, notwithstanding her mean and base origin, she was established on the throne of the czars of Russia, to the prejudice of its lineal heirs. The empress, who had neither inclination nor abilities to direct the helm of government, placed implicit confidence in Mentchikof, the original author of her good fortune, and the fole inftrument of her elevation to the throne; and the reign of Catharine was, in fact, the reign of this confidential favourite. To her humanity and compassion, which were diltinguishing features in her character, may be imputed the recal of many exiles from Siberia, as well as the demolition of the wheels and gibbets on which the bodies of criminals had been exposed during the fevere reign of her husband. She generally purfued in the course of her short administration the plans of Peter for the improvement of his dominions; and in 1725 completed the inflitution of an order of knighthood for the reward of those who had fignalized themselves in the service of their country. See ALEXANDER NEVSKOI. Her life, during her thort reign, was very irregular; averse from business, the would frequently pass whole nights in the open air, and indulged to excess in the use of Tokay-wine and strong liquors. These irregularities, joined to a cancer and a droply, hattened her end; and she died on the 17th of May. 1727, a little more than two years after her accession to the throne, and in the 30th year of her age. The personal attractions and mental abilities of this empress have been much exaggerated

aggerated by her panegyriths. In her person she was under the middle fize, and in her youth delicate and well-formed, but complexion, dark eyes, and light hair, which the was accultomed to dye black. She could neither read nor write. She ed with an air of eafe and grandeur; and Peter himfelf frequently expressed his admiration at the propriety with which fhe occupied her high flation, without forgetting that fhe was not born to that dignity. Her estimable qualities, after all the abatements of panegyric, were generally acknowledged. She was humane in an exemplary degree, good-humoured and obliging in her temper and manners, and duly mindful of the good offices which had been performed for her in her low condition. She availed herfelf of her afcendancy over Peter, in foftening the asperity of his passions and restraining their violence; infomuch that a word from her, in behalf of a wretch, who was about to be facrificed to his anger, would instantly disarm him; and if he determined to indulge his refentment, he would give orders for the execution when the was ablent, for fear the thould plead for the victim. Upon the whole she merited the honourable title, bestowed upon her by the celebrated Munic, of " the Mediatrix between the monarch and his subjects." Coxe's Travels in

Ruffia, vol. ii. ch. 11. CATHARINE II. empress of Russia, originally denominated Sophia Augusta Frederica, was the daughter of Christian Augustus, prince of Anhalt-Zerbit-Dornburg, and of the princess of Holstein, a woman eminent for talents and beauty. She was born at Stettin in Prussian Pomerania, May 2, 1729, educated by her mother, and in early life diftinguished by her good humour, intelligence, and spirit. During the first 15 years of her life, she lived alternately in Stettin and in Dornburg, or Zerbit, occasionally accompanying her mother in feveral little journies, which much contributed to the forming of her mind and manners; and at this period, she devoted her time to reading, reflection, learning, and employment. About the beginning of the year 1744, she visited Berlin, and continued her journey to Russia. Her access to the court of Petersburgh was rendered easy by the marriage which had been projected between the empress Elizabeth, and her mother's brother, the prince of Holftein-Eutin, but which the premature death of the latter had prevented; and her mother, fully apprized of the tender remembrance preserved by Elizabeth for her brother, refolved to avail herfelf of it for fecuring a throne to her daughter. Accordingly, Elizabeth received the young princess with a partial regard; and determined to accomplish a matrimonial union between her nephew, the grand-duke, afterwards Peter III. and Sophia; who, though instructed, under the tuition of her mother, in the Lutheran doctrines, embraced the religion of the Greek church, and on this occafion changed her name to that of Catharine Aléxievna. As foon as the choice of Elizabeth had been announced to the council and to the foreign ministers, the day was fixed for the nuptials, and preparations were arranged for its celebration in a manner worthy of the heir of the throne of Ruffia. A circumttance, however, occurred, which retarded this wished-for event. The grand-duke was seized with the fmall pox, which, being of a very malignant nature, endangered his life; and so much deformed the comelines of his This metamorpholis produced a horror in the mind of the young princefs at the first interview, which, however, she had the way of their speedy union. The empress contemplated this alliance with pleafure; the princess of Zerbst was pas-

fionately delivous to fee it concluded; and the fuggestions of were accordingly folemnized; but, notwithstanding the atlove was fated to be of no long duration; nevertheless, they lived for fome time with an apparently good understanding, which Catharine supported as long as the conceived it to be necessary. Their dispositions and their accomplishments, however, were very different: whilft Peter blushed at the fuperiority of his wife, the often blushed at feeing him so little worthy of her; and, incapable of making each other happy, apparent. Whilst the enemies of Peter contrived to excite prejudices against him in the mind of the empress, and he was led by various artifices on their part, and by the jealoufy manifelted by Elizabeth, to retire from court, and to indulge himself in the vices of drinking and gaming, Catharine was was controuled by views of ambition; and if the did not the at least extorted her esteem. The princess of Zerbst, at empress; and taking advantage of the influence the had acquired, the mixed in the intrigues of the courtiers, made herfelf the dispenser of imperial favours, and pryed into the secrets of the most important concerns. Her arrogance difgulted the favourites, and her curiofity was vexatious to the ministers. At length they united together to rouse the jealoufy of the empress, and by degrees induced her not only to withdraw her misplaced confidence, but to issue orders that the princess should quit the empire. Catharine herself regretted her mother's departure; but the hope of the throne which had fortified her against other misfortunes, fupported her under this; and love foon became a fource of confolations, which heightened those which pride administered. In the number of those who formed the parties of the larly diftinguished by his tafte for the arts, as well as by the graces of his person; and vanity, perhaps, more than love, led him to conceive the nefarious defign of captivating the heart of Catharine. His continued attentions at length produced effect; he became mafter of the affections of the grand duchefs; and the passion which was at first seigned on tiality, avowed to each other, became too unguarded to be wounded their pride. They therefore determined to communicate to the empress their suspicious of an amour between the chamberlain and the grand duchefs. Elizabeth, though of an amorous disposition herself, declared, in the first bursts of her indignation, that Soltikof should pay for trived to avoid the danger that menaced him by complaining ciously spread; and by requesting that, in order to furnish no farther pretence to the jealoufy of his enemies, and to calm the mind of the empress, he might obtain permission to dered him to remain in his flation, and in an audience with much vehemence and by fuch a variety of arguments, that Elizabeth herfelf was inclined to afcribe to envy the inju-

rious reports that had been circulated against him. Catha- a reconciliation with the empress; but she would listen to no rine also pleaded his cause, and that of her own honour, with fo much eloquence, that her victory over the empress was more complete than that of the grand duke. The intercourse between Soltikof and the grand-duchels was renewed and continued; and Catharine acquired boldness from her fuecefs, and from the example of Elizabeth, whose manners were becoming daily more and more corrupt, and who, engaging from day to day in some new follies, seemed to afford some excuse for her passion. In 1754, when Soltikof thought himself perfectly secure, the grand chancellor Beftuchef contrived his ruin, and prevailed with the empress to appoint him minister plenipotentiary from the court of Ruffia to Hamburgh, where he was to refide. He also counteracted the influence which the grand duchefs was induced to employ for his recal; and her ambition imposed filence on love. For fome time they corresponded with each other; but in 1755 the young count Stanislaus Poniatowsky supplanted Soltikof in the attachment of Catharine, and in the following year they declared to one another their mutual affection, and confulted on the means of indulging their inclinations without refliaint. The empress Elizabeth was foon informed of this new intrigue of her adoptive niece, and fhe ordered Poniatowsky to quit Russia without delay. The chancellor Bestuchef, in the mean while, was gradually ftrengthening his party with that of the grand duchels; and in 1756 he engaged count De Bruhl, prime minister of the king of Poland, to procure the nomination of Poniatowsky as minister plenipotentiary of the republic and king of Poland to the empress Elizabeth. This measure having fucceeded, the plenipotentiary arrived, and Catharine made fo little fecret of the intimacy fubfifting between them, that public report was very loud to his prejudice. grand duke was the only man at court who knew nothing of what was passing. His time was wholly occupied in attending the useless manœuvres and painful exercises of his foldiers, and when these were finished, in indulging the excesses of the table, and boalting, in the delirium of intemperance, that he would one day be conqueror of the north, and the rival of the Persian hero. At length, however, the jealoufy of Peter was alarmed; and no time was loft in follering the furmiles of the hufband into proofs of the infidelity of the wife, in her love for the Polander, and the criminal correfpondence they mutually entertained. The prince was overwhelmed with grief and confernation; forbad the grand duchess to be seen with Poniatowsky; and hallening to the empress, belought her to avenge the affront he had received; informing her, at the fame time, that the grand chancellor had not only favoured the misconduct of the grand duchefs, but had repeatedly betrayed the confidence of his imperial aunt. Elizabeth, moved at the forrows of her nephew, and incenfed at the treachery of Bestuchef, gave orders to arrest him; and in the sequel he was deprived of his place, tried, pronounced guilty of high treafon, and fentenced to death, which fentence was afterwards commuted for banishment to an estate 120 verits beyond Mos-Catharine, apprehending every thing from the refentment of her husband, and forfaken by her courtiers, was reduced to a very diffressed and almost hopeless situation. In the year 1761, the health of Elizabeth began vifibly to decline, and the necessity of repose, added to her natural indolence, made her more negligent than ever of the affairs of government. Woronzof was grand chancellor, and on him depended the conduct of the public bufiness; and the emprefs, hardly able to purfue her cultomary diffipations, the amorous revels of her nephew Peter with one of the daughters of Woronzof. Catharine renewed her efforts for

accommodation, except on the most mortifying conditions. It was afterwards proposed to her by a message from Elizabeth, to confess her guilt, and to submit to the elemency of her hufband and the empress. From this moment Catharine fummoned up all her pride. She purposely avoided appearing at court, kept close to her apartments, and asked leave of the empress to retire into Germany; a permission which the knew would not be granted; because, well apprized of the extreme fondness of Elizabeth for the young Paul Petrovitch, she had no reason to apprehend that the princess would confent to the departure of the mother of a child, who would thereby be exposed to the hazard of being hereafter declared illegitimate. The stratagem succeeded, and an accommodation foon enfued. At the very moment when she was thought on the brink of irremediable difgrace, to the great aftonishment of the court, she made her appearance at the theatre, by the fide of the empress, who carefully drew upon her the notice of the spectators by the particularity of her attentions. The ambition of Catharine was roused by Elizabeth's approaching diffolution, and the felt the necessity of conciliating the popular favour by an exterior of piety, which, by those who best knew her, was supposed not to proceed from her heart. However, the was punctual in frequenting the churches at the frated times of public devotion; but more particularly at the prayers that were now daily put up for imploring the re-establishment of the health of the empress. She employed herself also for several days in framing the form of the proclamation acknowledging the emperor, as well as that of the oath to be taken by the troops. At length, on Christmas day, 1761, the empress Elizabeth expired; and Peter III. afcended the throne. In the beginning of his reign his conduct was not only blamelefs, but laudable; he appeared to be fuddenly transformed into a different being; as grand duke, he had been inconfiftent, impetuous, and wild; but as Peter III. he appeared equitable, patient, and enlightened. He was kind to all who had been attached to the late empress; he continued in their polts all the great officers of state: and he pardoned all his enemies. The grand duchefs received from him the most flattering falutations and marks of the greatest confidence. He feemed to forget the wrongs he had fuffered in the elegancies of her mind, and the force of her genius. He passed a great part of the day in her apartments, difcoursed with her in a free and friendly manner, and consulted her on all affairs of delicacy and importance. The courtiers were furprifed, and congratulated Catharine on her happy lot. Catharine was almost the only person who was not deceived. She faw that her husband was not capable of governing by himfelf, and the was too well acquainted with his character to miltake that for benevolence, which was only weakness. The first measures of his government were popular and auspicious. Unsteady and capricious in his temper, his private and public conduct was versatile and fluctuating, and indicated that levity of disposition which was the predominant feature in his character. His enthufiallic attachment to the king of Prussia gave offence to his fubjects, led him to flight all the foreign ministers, excepting the Prussian envoy and Mr. Keith, the British ambassador, and occasioned alterations in his plan of conduct and government, which created a great number of enemies, and evinced, that if he had fometimes good intentions, he was deficient in judgment, and especially in that energy of character so ne-cessary for the ruler of a nation. Together with the wisest plans, he often adopted such as were useless, and others that were even dangerous. The defire of making improvements induced him imprudently to hazard premature reformations. By converting the valt possessions of the church into domains of the crown, and affigning to the clergy yearly falaries, and by other measures of an ecclessatical nature, he irritated a numerous class of men, whose influence was very extensive. His enemies spread a report from one end of the empire to the other, that he had only seigned to embrace the Greek communion in order to qualify himself for filling the throne; but that he was still a Lutheran at heart, of which he was every day giving fresh proofs, by showing a prosound contempt for the rites, the ecremonics, and the religion of the Ruslina. It was industionally propagated, that he never spoke but with distain of the Ruslina empire, and never mentioned the Germans but with respect. All these reports, circulated with artises, soon alienated from the prince those hearts which the first measures of his reign had attached to him. To the army, also, he gave creat offence, by manifesting a decided preference of the German solicies to the Ruslian troops, and by a variety of other measures, which were subjects of general mummur. Besides, he displeased all parties by his declared intention of retaking by force of arms the duchy of Schleswick, on which the kings of Denmark had seized to the prejudice of the dukes of Holstein. Many of his measures were adopted in direct opposition to the counsel of the king of Prussia, who was well acquainted with the character of Peter and that of Catharine, and who had long foresten that event which afterwards happeaced. Moreover, Peter insensibly resumed his vicious habits; frequently passing the whole day in drinking and smoaking amids a company of base courtiers, most of whom were caugerly feeking his ruin, and persisional papulauding his fantastical humours and his most dangerous innovations.

other parts of his conduct. Whilit he was paying homage to the fuperiority of her mind, he would allow to escape from him fome intimations of the indignation which had taken fered. In the most facred and pompous ceremonies of the Ruffian church, fuch, e.g. as the benediction of the waters (fee Consucration), he caused her to appear adorned with all the marks of imperial dignity, while he contented himfelf with following her train in the rank of a fimple colonel, as if he intended to shew to his people, that she was born to reign, and that it was his province to obey. At court he would often leave her to execute the whole of the reprefentation; while he, dreffed in the uniform of his regiment, respectfully came and prefented to her his officers, whom he called his comrades. But this apparent honour conferred on the emprefs was of no long duration. As foon as he thought himmiliating manner. At the time of the celebration of the bition of the fire-works, was feated by the fide of Catharine, on feeing the countefs Woronzof, his miftrefs, pais by, called to her, and made her fit down by his fide; upon which Catharine immediately retired, without any endeavour to detain her being vouchtafed on the part of her hufband. Other instances of mortification occurred, which Catharine felt to fuch a degree, that her tears interested the spectators, whilt the hardhness of Peter excited their indignation. It was by fuch treatment, however, that the hopes of the empress revived. She opposed to his fights and rudeness great circumfpection and fingular arts of address; and thus gained the hearts, which the emperor was lofing. Instructed from her infancy in the arts of diffimulation, the affected, in the the fedulouily repaired every day to the churches of Peterfburg, praying with all the femblance of a fincere and fervent

devotion, punctual in the most superstitious practices of the rine on the throne of Russia. Proud of this hope, the had tions with a handsome stage-dancer of Petersburg, and had marriage with the young princess of Holstein-Beck, who passed her days in meditating the project for precipitating post in the artillery, while his two brothers were only comillustrious and the handfomest women of the court, the printo Siberia. The flory of this adventure reached the retreat

in which Catharine was compelled to do penance; and her curiofity to fee him being excited, was gratified by the contrivance of Catharine Ivanovna, the most ingenious of coninterviews, the empress unveiled to Orlof, of whose boldnels and differetion the had previously assured herfelf, the amplied with her wifhes; entered into a conspiracy with her, and engaged his brothers, together with feveral officers, by whose inflromentality be gained to his party some companies of guards; but without imparting to them his real delign. Catharine was only grand-duchefs when her connection with Orlof commenced; and her correspondence with him, as well as with other officers, was carried on with no lefs art than fuccefs. Some of the courtiers also participated her favours; but not having fulficient confidence in their talents, the merely made them her friends, without diffeloting to them her fecret. Lieutenaut-general Villebois was one of those whom the particularly diflinguished. When the was feated on the throne, the attached to her interest the remainder of man Kurilli Razamofsky, the prince Volkonsky, nephew of the exiled Betucher, and major-general of the guards, and count Panin, were the most powerful supports. She had aifo been able to form another conspiracy, contrived by the young prince's Dathkof, who, at the early age of 13 years, was fingularly active and impetuous. All the accomplices of these several factions acted without the knowledge of each other; and Catharine, who directed and animated them all, seemed to have no share in the plot. Princes Dathkof whom penury and the hopes of making his fortune had brought to St. Petersburgh; and by her interest with the empress, the obtained for him the title of private fecretary; in confequence of which appointment, Odart became one of her confidents in her ambitious defigns. The princels Dashkof and Odart contrived to engage Razumofsky, count Panin, prince Volkonsky, and the archbithop of Novgorod in their party. Glebof, whom the czar had raifed from the lowest forms of chicane to the important place of procureur-general to the fenate, joined this band of conspirators. The aim of all those who severally conspired against Peter III. was to dethrone him; but they had difplithing their purpole. Panin, Razumofsky, and Orlof thought it best to begin by seizing his person at Peterhof, not fail to take place on his coming thither to celebrate the anniversary of St. Peter and St. Paul. One of the conspirators, lientenant Passick, the most serecious of his countrymen, i fitted on affafficating him with a poignard in the midd of his court, and actually lay in wait for this purpofe; who differed as to the means of dethroning the czar, were fill less agreed on the manner of supplying his place. Catharine aspired to the sole possession of the supreme authority; and this pretention was supported by the princess that the thould govern cely in the name of regent; and that the title of emperor should devolve on the young grand-duke Paul Petrovich. And in this opinion the hetman Razu-mofsky concurred. Those who wanted to confer the fupreme power on Catharine, vied with each other in their endeavours to induce count Panin to alter his mind; and if their efforts had not been aided by the count's passion for

the princels Dashkof, they would have proved altogether ineffectual. The conspirators being agreed, proceeded to devile means for the execution of their plan. Whilft the fence. Culturine, under a preterce of leaving the apart-ments of the palace free for the fellival that was to be celeescape, was lodged in a remote summer-house, called Monthe morning, when the empress was in a profound fleep, she with a declaration; "Your majelty has not a moment to disappeared. Catharine, astonished and terrified, called Ivanovna; and having disguised themselves by their dress, palace, they kaftened to a carriage that was waiting for the reins, and fet off at full speed. An accident happened to the horses, which retarded their flight, and threw them into confusion. Their danger was imminent; and they refolved to make the best of their way on foot; but they had not proceeded far, before they met with a light country cart, Iwore to die in her deterce. Their example was foon folfix, fetched from the altar by the chaplain of the regiment of Ithmailof; and the Simemosky and the Preobaginsky guards joined those of Ithmailof. In the interval of two hours the empress faw herfelf furfounded by 2000 warriors, and a great part of the inhabitants of Peterfburg, who metended with a vaft concourfe of spectators, who mingled their acclamations with the flouts of the foldiers, and where the archbishop of Novgorod, accompanied by a great number of pricits, fet the imperial crown on her head,

proclaimed her with a loud voice fovereign of all the Russias, by the name of Catharine the Second, and declared, at the fame time, the young grand-duke, Paul Petrovitch, her fucceffor. A Te Deum was then chanted, accompanied with the shouts or hurras, i. e. huzzas, of the multitude. The empress then repaired to the palace that had been occupied flocked thither, who fell on their knees before her, and took rine had already 15,000 men of felect troops; the city was prevailed; and not one drop of blood was shed. Whilst the empress remained in the palace, the fent for her fon Paul view of the people, whose acclamations were redoubled at the new emperor. The principal nobles, who had taken no fhare in this conspiracy, as soon as they heard of it in the morning, reforted to the palace, and united their homage reign ministers of the day when they were to be admitted to present their compliments of congratulation on the event that had taken place. The troops, incessantly supplied with beer and brandy, expressed their fatisfaction by reiterated vociferations of hours, I and by tolling up their hats and caps; but one regiment of cavalry, of which Peter III. had corporated with the guards on his accession to the throne, took no participation in this tumultuous joy. The officers having refused obedience to Catharine, were put under arreit, and replaced by the officers of other regiments. Fearless of this regiment, the ruling party began to march the troops from the city, to proceed against the czar. Peter III. had yet no fuspicion of the important event that had occurred. her escape, and of the perplexity that had, in consequence of it, filled the whole palace of Peterhof; and upon his communicating the intelligence to Peter, he turned pale, and appeared much agitated. On his arrival at Peterhof, his agitation and confusion increased, when he found that the empress had actually left the palace; he was afraid to ask any questions, and his attendants could not summon resolution to give him any information. At length he received the certain and unacceptable tidings of the revolution that offered his fervices to haften to Peterlburg, engaging to bring the empress back. The chancellor, on entering the palace, found Catharine furrounded by a multitude of people in the act of doing homage; and forgetting his duty, he took the oath with the reft. He was permitted, however, at his earnest request, to return to his house, under the from the vindictive spirit of the partisans of Catharine, and from the suspicions of the czar. After the departure of the chancellor, Peter became a prey to the most distressing of the progress of the revolution. He was indecifive and irpurfued at this interesting crifis. Although his Holte's

guards were firmly attached to him, and the veteran marshal Munich offered to risk every thing for his service, he remained infutating and undetermined; and after a fruitless attempt to gain possession of the fortress of Cronstadt, and adopting some other measures, equally unavailing, for conciliating the empress, he sow it is not only expedient, but absolutely necessary, to submit unconditionally to her will. The empress deputed count Panin to announce to him her purpose; and he was compelled to sign a most humiliating act of abdication, in which he declared his conviction of his inability to govern the empire, either as a sovereign, or in any other capacity, and his sense of the distress in which his continuance at the head of assars would inevitably involve it. When his signature to this fastal act was obtained, count Panin left him; and Peter seemed to enjoy a greater composure of mind. In the evening, however, an officer with a strong effort came and conveyed him prisoner to Ropscha, a small imperial paiace, at the distance of about 20 verils story Peterhoss.

Thus was effected in one day and without fliedding a together with a dog, of which he was fond, his violin, a bible, and a few romances; affering her, that, difgufted out the knowledge of any persons besides the chiefs of the dine with him. While the officer amufed the czar with fome trifling discourse, his chief filled the wine-glasses, which are usually brought in the northern countries before lowed the potion; on which he was feized with the most proaches on him that offered it. Being pressed to take another glass, when he called for milk, a French valet-dechambre, who was greatly attached to him, ran in; and throwing himself into his arms, he said, in a faint tone of voice, "It was not enough then to prevent me from reignmidft of the tumult, the younger of the princes Baratinfky, who commanded the guard, entered; Oriof, who, in a threw a napkin with a running knot round his neck, and ed by the account of one who was in the confidence of

afterwards that herfelf up with Orlof, Panin, Razumofsky, modated themselves to a yoke, which they had in vain at-Glebof, and some other confidential persons, to deliberate whether the fenate and people should be immediately acquainted with the death of the emperor, or whether it might not be more advisable to wait for that purpose till the enfuing day: the latter alternative was adopted. When the news of this event was communicated to the public at large, the empress role from her feat with her eyes fuffuled , with tears; the dismissed the courtiers and foreign ministers, thut herfelf up in her apartment, and for feveral days exhibited tokens of real and profound grief. The body of the unfortunate czar was brought to Petersburg, and exposed for three days in the church of the monastery of St. Alexander Nefsky, and buried before the rails of the altar. The Holftein foldiers were, on the day following that of the interment, embarked for their own country; prince George, whom Peter III. had constituted duke of Courland, was obliged to renounce that title; but he was compensated by the empress with the administration of Holstein, where he fettled, and ever after ferved Catharine with fidelity and zeal. The chancellor Bestuchef, the most inveterate enemy of Peter, was recalled from exile, and restored to his rank of field-marshal, and to his place in the council, with an annual pension of 20,000 rubles. Several other exiles and prisoners were on this occasion fet free; but neither Ivan nor any of his family. Biren, who had been recalled by Peter, was reinstated by Catharine in his dukedom of Courland, where he favoured, to the utmost of his power, the views which the empress had already formed on Poland. Catharine, with a magnanimity which did her honour, wifely manifested no refentment against the few who had preferved their attachment to Peter, and received to favour marshal Munich, who readily transferred his fidelity from the dead to the living. She even pardoned her rival, countels Woronzof, and allowed her to retain the fruits of her lover's munificence.

Although none of the fovereigns of Europe were ignorant of the steps by which Catharine had mounted the throne, they made no hefitation in acknowledging her title. Whilit the was endeavouring to fecure peace with the kings of Europe, the neglected no measure that was likely to preferve it within her own empire. In the month of September she took a journey to Moscow, for the purpose of celebrating her coronation in that ancient capital of the empire. Her numerous cavalcade made a pompous entrance into the city; but the was received in a manner that thewed the was far from possessing the hearts of all her subjects. As soon as flie was crowned in the prefence of the foldiery and the people of the court, the haltened her departure, though the indultriously concealed her chagrin, and re-took the road to Petersburg. The presents and promotions which were made on occasion of the coronation, fell mostly to the share of her adherents in the late revolution. The revolts and confpiracies that disquieted the commencement of her reign were suppressed without much difficulty; and the only severities that were exercised on the occasion were a few banishments to Siberia. To foreign courts Catharine difplayed all the greatness of her character; and at home, combining policy with firmness, she found means to foothe the most dangerous of the priefts, and to put a stop to the cabals of the monks. She recalled to court princefs Dashkof, whom she had ordered to Moscow; and she fent away the Piedmontese Odart, who had incurred the hatred of the whole court. The health of the young grand duke was established; and the flattering expectations that were juttly raifed by the good conduct of that prince drew off the public atten-

tempted to shake off. Ambition, however, did not extinguish in the breast of Catharine the love of pleasure. By the latter she gained the increasing attachment of her courtiers; nevertheless, she could furrender pleasure when the more arduous concerns of government demanded her attention. She affifted at all the deliberations of the council, read the dispatches from her ambassadors, either distated or minuted with her own hand the answers that were fent to them, and afterwards attended to all the particulars of their execution. Jealous, fays one of her biographers, of folid renown, the fet before her the example of those illustrious monarchs who effaced their weakneffes by the grandeur of their exploits; and, with the infirmities of men, merited and obtained the grateful acknowledgments of all fucceeding times, as the friends and benefactors of the human race. She followed the maxims which she frequently quoted: " We should be constant in our plans. It is better to do amis than to alter our purpose. None but fools are irrefolute."

Catharine ratified the peace, which her husband had negociated, with Pruffia, and also with Denmark. As foon as she was fecurely established on the throne, she meditated a variety of enterprifes and plans of improvement, which would ferve to divert the attention of her subjects from the measures by which the late revolution had been effected, and which, in the refult, would redound to her own glory and the benefit of her country. She applied with unremitting affiduity and care to the administration of her large estates, the advancement of commerce, the augmentation of the marine, and efpecially to the means of recovering the finances, without being reduced to the necessity of observing a parsimonious economy. After engaging, in bufiness with her ministers, fhe would frequently converfe, in private, with Beltuchef and Munich. With one she studied politics and the re-fources of the several courts of Europe, and the other communicated to her the plan he had been meditating, during his exile in Siberia, for driving the Turks from Conftantinople; a plan, the object of which was fingularly gratifying to the afpiring mind of Catharine, and which, about 30 years after, feemed to have been on the point of being effected. In many of her manifestoes and ukases, she adopted a flyle that admirably expressed a regard to justice and to the true interest of her subjects. When she banished to Siberia for life an office: of the government-chancery of Novgorod, on account of his having taken money for administering the oath of allegimee, the at the fame time iffued a fevere decree against bribery and extortion. By an ukafe, dated Molcow, Oct. 13, 1762, she confirmed the abolition of the fecret-inquifition-chancery; rightly judging that the could obtain the love and attachment of the people by better means than by the encouragement of spies and informers; and, therefore, she was no fooner feated on the throne, but she put a complete end to the political inquitition. At the abolition of this inquisition, the objects of which were at first the capital crimes of high treason, attempts against religion, and treason against the state, but which afterwards extended its jurifdiction, Catharine fettled the practice to be purfued in future, in the ordinary tribunal, under charges of flate crimes, and fo plainly and diffinelly determined the particular cases of delinquency against the person of the fovereign, and against the welfare of the state, that there remained no room for malicious and finitler interpretations. The crimes denominated religious were entirely suppressed. Catharine farther ordained that the truth should be investition from the unfortunate Ivan; and the Rullians accom- gated entirely without torture; and, with Frederic of

Pruffia, the likewife, exhibited, in this reforce, a model for the reft of Europe. Her criminal laws breathe thoughout a mild and gentle spirit; and though she had not, like rare. Cutharme, in order to invite foreigners to fettle in her welcome and support in the Ruthin empire; and i on after har accession several for igners began to migrate thither. In order to hold out farther inducer ents to fuch, the marked out the diffricts that were unoccupied, and specified, by particular notices, which were forely, anable hand, meadow land, &c. and what alletin ints bordered upon rivers, and what the filheries might vield. Belides, the encouraged perfons to come and fettle for general purpofes in the Ruffian empire, in whatever town they would, such as merceants, artificers, and the like perfons. In order to increase the population, or more properly to cradicate a physical and moral cause of depopulation, the empress laid the foundstion of the foundling and lying-in hospital at Moscow, and the year 1763, when Catharine was alarmed with various much calmness and assiduity as if her reign was to be everlatting. She founded colleges and hospitals in every duftry; and ordered new thips of war to be put upon the manifest in a variety of instances. Courland, on the Baltic, with its havens, was subjected by her to the Russian sceptre; and on the opposite side of Europe the Euxine laves her extensive conquests; Otchakow, the Cherson, the Crim, and the Cuban, bear witness to the force of her arms. The ners are displayed. Her troops opened a road into Egypt, and there, in 1772, fought in support of Ali Bey, against the Turks. The free inhabitants of the extreme north-America. A multitude of Ruffian illands in the northern with the continent of the fourth quarter of the world; and even upon that the Russians have got a firm footing. The increase of navigation by these acquisitions, and the very fkins of the fea-otter, and other animals, is of the utmott confequence. The differences that arose with China in 1778, were at length compromised; and if no caravans go from Molcow to Pekin, yet the merchants of thele two great empires profecute their trade together, and perhaps Orenburg, in Afiatic Ruffia, is excellently fituated for require only three months for the whole journey; accordingly, at the half-way thither, at Balk, a town in Dactriana, or Khorafan, Ruffian and East-Indian caravans already meet together. From this detail we perceive, in part, the benefits refulting to Ruffia from the commercial spirit of the emprefs, and from the commercial regulations she established. Towards the end of the year 1763, Catharine gave a proper

form to the supreme college of the empire, the directing fenate, which had been intituted by Peter I. She divided it into fix departments, of which the four former should have their feat in St. Partments, and the true latter in St. Partments.

With a view to the introduction and diffusion of science and literature among her subjects, she established several useful indirations; the corresponded with person, eminent in various departments of knowledge, and encouraged their fettlement in her own country; and she are led herself in many way of the highest of distribution have commissioned

for the improvement of the empir

ing arrested at Smolensk, in his way to Germany, under the the road that leads from St. Petersburg to Moscow; and, placed immediately on his dethronement. Here he was fo closely confined, that he never was allowed access to the age of 24 years; and, whatever might have been his inearence. Accordingly, whilft the regiment of Smolensk was in garrison, in the town of Schlusselburg, a sub-lieutenant, him at liberty, and raising him to the empire. But the two officers, who flept with him in his cell, had a diferetionary order figned by the empress, enjoining them to put the unhappy prince to death, whenever any infurrection should be

made in his favour, provided that it could not otherwise be quelled. Mirovitch, having gained the concurrence of a few affociates, pointed a piece of artillery at the door of the dungeon, where the prince was confined, and prepared to batter the place; but at that inflant the door opened, and he entered, unmolested with his whole seite. In the meanwhile the officers who guarded Ivan, after previous confultation, determined to affaffinate the unfortunate captive, who, though naked, defended himfelf for a confiderable time. Although his hand had been pierced through, and his body was covered with wounds, he feized the fword from one of the monsters, and broke it; but while he was firuggling to get the piece out of his hand, the other stabbed him from behind, and threw him down. He who had his fword broken, now plunged his bayonet into his body, and feveral times repeating his blow, the unhappy prince expired: they then opened the door, and prefented to Mirovitch the bleeding body of the murdered prince, and also the order by which they were authorised to put him to death, if any attempt should be made to convey him away. Mirovitch, struck with horror, started back some paces; and after expressing his grief for the event that had occurred, surrendered himself to the governor, who confined him and his accomplices. Mirovitch was afterwards condemned to death, and publicly executed in pursuance of his fentence. The inferior actors, on this occasion, being about 58 in number, did not fuffer death, but were subjected to other punishments, perhaps not less severe. The officers, who affaffinated the prince, were amply rewarded for their fidelity, in confideration of their good intentions with respect to the tranquillity of the flate. Some have afferted that Mirovitch had been fecretly instigated to this attempt for the refeue of the prince by the court, and thus to juftify the execution of the orders that had been previously given to the guard; but the punishment of Mirovitch, and the confession which he is faid to have made, that the Scheme was wholly his own contrivance, feem to acquit the empress of this horrid crime. On the other hand, it has been alleged that his behaviour during his trial, and the composure with which he walked to the scaffold, on which his fentence was to be executed, manifested a kind of assurance, that he should obtain a pardon, which, report fays, had been actually promifed. But if he entertained this hope, he was cruelly deceived; the time of his execution was accelerated, and the unhappy wretch, if he had before been the instrument, was now the victim of a barbarous policy. Those who considered him in the former point of view were aftonished that the empress should suffer him to be put to death. But how could she have screened him from punishment without manifestly drawing upon herself the charge of having prompted his crime? And if the were really concerned in it, can it be thought that she would hesitate a moment in getting rid of a witness who would have exposed her to everlasting vexation? Soon after this shocking event, Catharine, whose throne was now established, returned to Petersburg from her journey through the conquered provinces; and, on her entry into the city, she was furrounded by an immense concourse of people, who endeavoured to find out by her countenance what was passing in her heart; but always mittress of herfelf, the face of that princess was ever covered with smiles. Her step was as firm, and her front as ferene as those of persons who feel no inward reproaches usually are. The beneficial effects of the empress's regulations and establishments, for the internal adminittration of government, were every day becoming more apparent in all parts of Russia: she exerted herself to the utmost in giving new spirit to the commerce of her coun-VOL. VII.

try, in augmenting her navy, and above all, in foftening the manners of the people, who were not yet far advanced in civilization; but the progress of her institutions was at first flow, and it was much retarded by want of zeal on the part of the great personages of the empire, and by the spirit of division that continued to reign in Petersburg. What most afflicted the empress was the misunderstanding that prevailed between her favourite Orlof, and her chief minister Panin. In order to filence murmurs of a political nature, and to divert the difaffected, the displayed her take for splendour and magnificence, by a species of entertainment called a "carouful," confilling of tilts and tournaments, fumptuous entertainments, repeated with confiderable variations for feveral days, and vying in pomp and pageantry with any of the feaths of ancient chivalry. But Catharine knew also to employ more worthy means for establishing her authority. She still bussed herself in making reforms, and in the establishment of useful institutions. She corrected the tribunals, founded schools, built hospitals, and planted colonies. She endeavoured to infuse into her people a love for the laws, and to soften their manners by instruction. Jealous of a power that knew no bounds, greedy of every species of glory, the was determined to be at once both conqueror and legiflatrix. Amidst conspiracies formed for overturning her throne, occupied with preparations for war, which feemed fufficient to arrest her whole attention, and yet finding time for attachments of gallantry, the was unmindful of nothing that could attract the reverence of mankind, and captivate their admiration. The perplexed and uncertain jurifprudence of Russia engaged her particular attention; and she refolved to apply a remedy to the various diforders that occurred in this department of the state. Although the success of her patriotic attempt has not yet been complete, yet, in consequence of it, the laws of the Russian empire have been much simplified, and the administration of justice is become much milder and more impartial. Having formed the fenate and the colleges into separate departments, and having augmented the emoluments of the judges, in order to deprive them of all pretext or excuse for either negligence or prevarication; the fet herfelf to work on a new code of laws. With this view she summoned deputies to Moscow from all parts of her vast empire, that she might obtain their ideas on the laws that were fittelt for their peculiar exigencies; and the herfelf repaired to that ancient capital. When they were affembled, she wished to leave them in possession of uncontrouled liberty, and therefore, though flie attended in the hall where they met, and could fee and hear all that paffed, the herfelf was not perceived. The instructions, which she had previously composed, with the assistance of Mathonius and Rozetsky, and which had been chiefly taken from the writings of Montesquieu and some others of the French philosophers, were translated into the Russian language from the original French, and the bufiness of the assembly was begun by the perusal of them. The original copy, almost entirely in the hand-writing of Catharine, has fince been deposited, enclosed in a magnificent case of filver gilt, in an apartment of the Imperial Academy of Sciences at St. Peterfburg. Copies of these inflructions were afterwards dispatched to the fovereigns, whose approbation Catharine most coveted. They complimented her on her laborious enterprife, and made no helitation in pronouncing that it would be an eternal monument to her glory. It unquestionably redounds much to the praise of the empress, that these instructions are founded on the principles of an enlightened humanity; and that, though autocratrix, and possessing unlimited power, the recognizes no legitimate authority but that which is founded on justice; and that every particular in her laws has a tendency to enervate despetism, and to render a just authority respectable. Her purpose was to form a folid, and not an arbitrary legislation. Her whole plan was directed to prevent all those who governed under her from exerciling a capricious and cruel authority, by subjecting them to invariable laws, which no authority should be able to infringe. The empress, proceeding in other respects on the same encourage the arts and fciences; to make her empire an afylum to the learned and ingenious; and to reform the manners well the munificence of Catharine as the attention she paid to astronomy. It may feem surprising, however, that while Catharine was striving to build her fame upon a folid basis, fhe made it a matter of much importance to obtain from all the powers of Europe the title of imperial majesty, which some of them had refused her. About the middle of the year 1767, the empress conceived the useful project of fending feveral learned men to travel into the interior of her immenfe territories, for the purpose of determining the geographical polition of the principal places, of marking their temperature, and of examining into the nature of their foil, their productions, their wealth, as well as the manners and characters of the feveral people by whom they are inhabited. The felection of the learned travellers destined for this expedition, the helps that were granted them, and the excellent inffructions that were given them, will be a lafting honour to the Academy of Sciences, by which they were appointed. About this time, viz. in 1768, the court of Catharine became the afylum of the fciences, to which she invited learned men from every part of Europe. She encouraged artifts and fcholars of all denominations; the granted new privileges to the Academy of Sciences, and exhorted the members to add the names of feveral celebrated foreigners to those which already conferred a luftre on their fociety. Nor was she less attentive to the Academy of Arts, by increasing the number of its pupils, and adding fuch regulations as tended more than ever to the attainment of the end for which it was endowed. See ACADEMY. For the further encouragement of the fine arts in her dominions, the empress affigned an annual fum of 5000 rubles for the translation of foreign works into the Russian language. The improvement of the state of physic was another important object of her concern; and in order to give the highest possible sanction to the falutary practice of inoculating for the fmall pox, the herfelf fubmitted to the operation under the care of an English practitioner, and the perfuaded the grand duke to follow her example. In 1768, Dr. T. Dimídale, of Hertford, was invited to Russia for the purpose of introducing inoculation: upon the recovery of the grand duke, Catharine rewarded his fervices by creating him a baron of the Ruffian empire, and appointing him counfellor of state and physician to her imperial majesty, with a pension of 500l. a year, to be paid him in England; besides 10,000l. sterling, which he immediately received; and she also presented him with a miniature picture of herfelf, and another of the grand dake as a memorial of his fervices. Her majefty likewife expressed her approbation of the conduct of his fon, by conferring on him the same title, and ordering him to be presented with a superb gold fnuff-box, richly fet with diamonds. On December the 3d, 1768, a thankfgiving service was performed in the chapel of the palace on account of her majesty's recovery and that of the grand duke from the small-pox: and the senate decreed, that this event should be solemnised by an anniverfary festival, which has been regularly observed ever fince.

With regard to her foreign relations, whilft file was giving law to Poland, amuling Authra, conciliating the friendship of Profila, and treating with England, she was also tampering with the other courts of Europe, and labouring efficaciously towards very foon making herfelf dreaded by them.

great a part of her hiftory, commenced with her violent and arbitrary interference in the alfairs of Poland, which in 1768 caused the Ottoman Porte to declare war against her; but he was very unequal to the contest, which in its progress brought on a feries of difasters to the Turks. They loft feveral battles on the Pruth, Dniester, and Danube, with the towns of Bender and Ackerman, the capital of Bessarabia. The news of these fignal successes augmented the pride and ftrengthened the fecurity of Catharine. The difaffected, who furrounded her throne, dared no longer to confpire against a princess, who was triumphing at such a diftance over her most formidable enemies. The provinces of Walachia, Moldavia, and Beffarabia, fubmitting to the Ruffian arms, fent deputies to Petersburg to do homage to the empress; who received them with magnificence, and loaded them with benefits. Whilft the Turks were thus haraffed by land, and the fleets of the empress were triumphing on the Euxine, the resolved to attack them even in the isles of Greece. With this view, in September 1769, two fquadrons of Ruffian men of war failed from Archangel and Revel, which were foon followed by others from the Baltic, and steered their hitherto unattempted course for the Mediterranean. The fleet now confifting of 20 fail of the line, 6 frigates, feveral transports, a number of bomb-ketches, gallies, and vessels with troops for land-service, left the Baltic, croffed the North sea, passed the straits of Gibraltar; and after having been dispersed by a tempest, collected again, and displayed in the Archipelago its victorious slag. This fleet was commanded by admiral Spiridof, but that admiral himfelf was under the orders of Alexey Orlof, whose share in the Ruffian revolution had advanced him all at once from the low condition of a simple foldier to the rank of general, and whose audacity served him instead of experience and talents. This naval expedition of Russia forms a remarkable æra in the history of marine tactics. Before the arrival of this fleet, some secret agents had been disposing the Greeks to rise up in arms. They were led to expect the Russians as their deliverers; and at the instant when their squadron had gained the height of Cape Matapan (formerly the promontory of Tenaros), the whole Archipelago thought itself free. The Mainots, descendants of the ancient Lacedæmonians, were the first that took up arms; their example was foon followed by their neighbours; and the Turks were massacred in several of the islands. But the latter cruelly revenged themselves for the infurrection of the Greeks. Some thousands of these miserable people were exterminated by the sabre of the Jani-

The squadron of Spiridos was soon joined by that of Elphinston, a native of England, vice-admiral in the Russian structure, and far more capable of commanding than the officer under whose orders he served. To this double squadron was opposed that of the capitain pacha Hassan, surnamed Gazi, or the victorious, by the sultan on account of the courage he displayed in the engagement with Spiridos. This Turkish admiral first forced the Russians to retire from Lemnos; but the two sleets afterwards met in the channel that separates the sile of Scio from Natolia; and a very furious engagement ensued. The Turks, though possessing a superior navy, were compelled to shelter themselves in the narrow bay of Tschessine, car Lemnos, where some of them ran aground, and the others were so pressed for room, that it

was impossible for them to act. The Russians, perceiving their a civil war, distracted the Russian empire. This calamity difadvantageous fituation, fent among them fome fire-ships, under the conduct of the admirals Elphinston and Greig, and commanded by lieutenant Dugdale, all British officers, and destroyed their whole fleet. After the total destruction of the Turkish squadron, the Russians anchored at Paros; whence they might eafily command all the Grecian feas, and where not a fingle veffel was fuffered to appear without lowering its top-fails. This great fuccels, however, was not improved as might have been expected by Alexius Orlof, the empress's hero and supreme commander in the Mediterranean; for though a new fquadron was fitted out to reinforce that which was already in the Archipelago, the Dardanelles, which were the keys of Constantinople, remained secure; for, as the winter feafon came on, the Ruffians were obliged to quit their station in these seas, and the trade through the fraits was of course again opened. Crim Tartary, however, was entirely conquered by the Russians, whose fleets rode triumphant on the Black Sea; and the grand vizir was attacked in his camp, and routed with great flaughter. A terrible plague at Moscow, and other domestic difasters, counterbalanced in the estimate of true policy these foreign advantages. In 1772, the most iniquitous measure, the division of a large part of Poland between the three bordering powers, Rusha, Prusha, and Austria, which had been long projected, and for which preparations were made by the advances of their feveral armies into the country, avowedly took place in the face of Europe, which was shamefully passive to fo great a violation of all public faith and equity. While Catharine was acquiring by negociations a part of the provinces of Poland, her armies continued to ravage the frontiers of Turkey; and the war was not terminated till the year 1774, when the grand vizir, being invested on all fides by the Russian armies, was reduced to the necessity of figning a peace; of which the principal conditions were, the independence of the Crimea, the free navigation of the Ruffians on the Euxine and through the Dardanelles, with the flipulation that they should never have more than one armed vessel in the seas of Constantinople, and a cession to them of that tract of land that lies on the Euxine between the Bog and the Danube. Russia, retaining Azof, Toganrok, Kertich, and Kinburn, restored the rest of her conquests. Russia also obtained a large sum of money to defray the expences of the war, and the title of "pedifhah," or empress, was no longer refused to the Russian monarch. Nothing could exceed the joy and festivity which prevailed at Petersburg upon the confirmation of this happy peace. The empress ordered eight days to be devoted to public fealts and rejoicing; liberal rewards to be distributed as ufual; the prison doors to be opened for the release of all, who were not charged with high treason; and the return of all exiles from Siberia, who had been banished fince the year 1746. But, notwithstanding the external prosperity of the Ruffian empire, many circumstances combined to produce internal distress. The finances of the country were in a disordered state; succours from England were procured by granting immense advantages to its commerce; the pestilence had made dreadful ravages at Moscow and in the adjacent countries, and had extended its fatal influence to the army and havy; the provinces of Kazan, Aftrachan, and Orenburg, were a prey to revolt, which menaced even Mofcow; and a remarkable emigration was changing countries that were flourishing with commerce into waste and deserted tracts. All these circumstances rendered an accommodation with the Torks peculiarly acceptable. But besides these grievances which must induce the empress to rejoice in the establishment of peace, an open rebellion, and its attendant,

originated in Afia, and extended to Moscow; the author of it was Pugatshef, a Cossack, born at Simoveisk, a village on the borders of the Don. He had ferved as a common foldier in the army in 1756; he made the campaign of 1769 against the Turks, and fought under general Panin at the fiege of Bender; and on the furrender of that town he applied for his difmission, which was refused; upon which he fled to Poland and obtained concealment and an afylum among some hermits of the Greek confession. These hermits, perceiving or feigning fome resemblance to Peter III., encouraged him to assume his name and character. The imposture was carried on for some time in Little Russia, and a number of followers attached themselves to this deceiver, who had combined professions of fanctity and felf-denial with his delution. Among the inhabitants of the banks of the Yaik, fince called Ural, he formed a strong party of Cosfacks, whom he engaged to accompany him into the mountains of Caucasus, with the assurance that they would there find powerful fuccours. Being arrested for inciting the people to fedition and committed to prison, he was frequently visited by the popes, who furnished him with money, and thus enabled him to corrupt his guards, and to make his escape. Having by various arts of imposture collected a formidable party, he publicly declared that he was the emperor Peter III., delivered by a miracle from the hands of his affaffins. This revolt was a favourable diversion to the Turks, and in 1773 wrought powerfully in their behalf. Pugatshef, besides assuming the name and character of Peter III., had fufficient discernment to perceive, that it would much favour his defign to blend religious pretences or prejudices with the political motives that might operate towards bringing on a revolution. Other circumstances concurred to countenance his imposture, and to increase the number of his adherents. The rebellion infligated by this impostor obtained a general spread; and at length Catharine was much alarmed, and feriously fet about checking its progress. She published manifestos and ukases, and Pugatshef did the same, affixing to those he issued the name of Peter III. By one of these he affranchised all the boors; and he caused rubles to be struck with his effigy, and this inscription: " Peter III. emperor, and autocrator of all the Ruffias;" and on the reverle, "Redivivus et ultor." This revolt, the particulars of which we cannot detail at length, after caufing great devastations, and the loss of many lives, was finally terminated by the capture of Pugatshef at the close of the year 1774, and his subsequent decapitation. It has been justly alleged, as a proof of the mildness of Catharine's adminiftration, that this atrocious rebel was executed without torture. Five of his principal accomplices were likewife beheaded; three others were hanged; and 18 more underwent the knout, and were banished to Siberia. Catharine, during the tumultuous state of the empire, employed herfelf in promoting its internal welfare, by encouraging the feiences and the arts of peace; and foon after the punishment of Pugathef, the had a fresh opportunity of displaying her clemency, by granting a pardon to men, who were juttly deferving of capital punishment: they were the treasurers of the empire, who had embezzled the public money. She had overcome what was naturally irafcible and violent in her temper, and had learnt patience and lenity from the leffons of philosophy. Notwithstanding the heavy burdens incurred by her foreign and domestic wars, she took off most of the taxes that were laid for their support; and, as if the strength and tiches of government in her country increased with its expence, the also abolished a number of the accient taxes, which were confidered either as dilcouraging to agri-M 2

culture, or oppreffive to particular provinces or orders of the a magnificence not paralleled in any other part of Europe. people. She also lent large sums of money, free of interest, and for a specified term of years, to those provinces which were ruined by the late rebellion. She likewise established a number of other regulations, that tended to the fecurity, advantage, and happiness of her subjects; abolishing pernicious distinctions, destroying numerous monopolies, restraining the cruelty of punishment, removing oppressive or impolitic restrictions or prohibitions, and restoring mankind to a more equitable degree of equality, in the different ranks which they occupy in fociety. Imprisoned debtors were, under certain circumstances, released from confinement; and all the heirs of the debtors to the crown were discharged from their bonds and obligations. The infurgents every where returned to their duty; nor were the victims to juftice numerous. As a general famine prevailed in the defolated countries, government was at great expence and trouble in fupplying them with corn and meal from the magazines at Moscow and other places; and various methods were devised for preventing the progress of famine. The comprehensive mind of the empress, which had been occupied in the extension and establishment of its external force, in laying the foundations of a philosophical system of legiflation, in the improvement of education, in the diffusion of illumination and talle, and in the reformation of numberlefs abuses, directed its views to the important object of forming a constitution for Russia. See Petersburg and Russia.

In the year 1775, when peace was established abroad, and every thing was quiet at home, Catharine employed herfelf in cultivating the arts of peace, in the improvement of the country, and in opening the minds of her subjects; and in the profecution of these objects she found Potemkin so ufeful, that he foon acquired an afcendant that was almost absolute. To him all persons looked as the dispenser of all bounty, and the fource of all honours. Every day he acquired fome new dignity or fome accession of revenue; he attained the most important post in the Russian empire; and he possessed an authority scarcely compatible with that of a superior. Catharine was not unapprifed of his ambition and love of power; and, therefore, the wished to retain Gregory Orlof, her former favourite, though he requested permission to retire from the court, as a check on the petulance and audacity of his rival. After having long opposed Panin to Orlof, the now thought of opposing Orlof to Po-

The independence of Crim Tartary foon produced an open supture between the Turkish and Russian parties; and in 1778 it produced a declaration of war. From the measures that were purfued it sufficiently appeared, that the ambition of the empress would not be fatisfied till she had gained entire possession of that peninsula. Her intrigues in the neighbouring courts of Denmark and Sweden tended to render these powers little more than dependencies on her crown; however in 1780 her influence over them was employed in establishing the famous " armed NEUTRALITY," the purpose of which was to protect the commercial rights of neutral flates, then continually violated by the belligerent powers, and particularly by England, which availed itself of its Superiority at sea, in preventing France and Spain from receiving naval stores from the Baltic. In this year Catharine had an interview at Mohilow with the emperor of Germany, Joseph II., and they travelled together in familiar intercourfe into Russia; the prince of Prussia (afterwards Frederic William II..) also vifited her court; and it was customary for the neighbouring princes to make vifits of policy or curiofity to Petersburg, where they were always treated with

In 1782, Catharine, with a view of affording an afylum to the prescribed order of Jesuits, and probably imagining that all the Jesuits of Europe and America would bring into White Russia their treasures and their industry, erected a Roman-catholic archbishopric at Mohilow, for the spiritual government of her subjects of that persuasion, and also gave him a Jesuit coadjutor. But whatever might be her expectations, the spoils of Paraguay never found their way to Mohilow. This establishment, however, evinced a mind, like that of the king of Prussia, superior to religious prejudices; and, confidered merely with a view to the exercise of religion, it was laudable. This year was marked by an event which indicated Catharine's respect for the memory of Peter the Great, whom the affected to imitate: it was the erection at Petersburg of his famous equethrian statue, which was executed by Stephen Falconet of Paris. This artist conceived the defign of having for the pedefial of his flatue a huge and rugged rock, in order to indicate to posterity, whence the heroic legislator had fet out and what obstacles he furmounted. This rock, the beight of which from the horizontal line was 21 feet by 42 in length, and 34 in breadth, was conveyed, with great labour, from a bay on the gulf of Finland to Petersburg, through the distance of 11 versts, or about 41,250 English feet. On the side next the senate it has this Latin infeription, which is in a flyle of fublime and proud fimplicity; "Petro primo, Catharina fecunda;" "Catharine the fecond to Peter the first."

In the following year, 1783, Catharine augmented the splendour of her court, by intlituting the new order of St. Wolodimir, or Vladimir. This year gratified the ambition of Catharine with regard to the Crimea. Having acquired, without a war, the fovereignty of the Crimea, of the ifle of Taman, and a great part of the Kuban, she called the former of these countries Taurida, and the other Caucasus. Thus Catharine gained a point of much importance towards the main object of her own ambition, as well as that of her prime minister Potemkin, i. e. the destruction of the Turkish empire in Europe; in the view of which she had named the the hands of Greek nurses, that he might be thoroughly acquainted with the language of his future subjects. Inftigated by Potemkin, the empress formed a design, in 1787, of being splendidly crowned in her new dominions " queen of 'Taurida;'' but the expence being objected to by fome of her courtiers, the contented herfelf with making a grand progress through them. At her new city of Cherson, she had a fecond interview with the emperor Joseph. She then traverfed the Crimea, and returned to Moscow, having left traces in her progress of her munificence and condescension. This oftentations tour was probably one cause of the new rupture with the Turkish court, which imprisoned the Rusfian minister in the Seven Towers, and commenced the war. In this bloody contest the emperor of Germany engaged as ally to Russia, and the king of Sweden as ally to the Porte. The latter prevented the empress from sending a fleet into by a fudden incursion into Finland. The danger, however, was averted by the empress's own vigorous exertions, by the defertion of some of Gustavus's troops, who would not fight against the Russians, and by an attack of Sweden, on the Gottenburgh. The Turkish army, though superior to that of the emperor, could not refit the efforts of the Ruffian generals. Potemkin at the head of a numerous army, and a large train of artillery, laid fiege to Otchakof, and it was at length taken by form, with the lofs of 25,000 Turks

and 12,000 Ruffians. Catharine regarded the capture of this strong town an event of such importance, that she liberally rewarded Potemkin, and conferred honorary diffinctions on prince Repnin and general Suvarof, and the other commanders concerned in reducing it. During the progress of this war, the Turks lost many important places, and their naval force on the Euxine was almost annihilated. In the conflicts between the Russian and Swedish sleets in the Baltic, the former were generally victorious; but they terminated in 1790 in a separate peace. The war with the Turks was prolonged; the strong fortress of Ismail was flormed by Suvarof and taken with the loss of 15,000 Ruffians; and the armies of Catharine obtained, though with the expence of many lives, feveral very decifive victories. The empress, however, perceived that even her conquests were ruinous, and that peace was defirable; but she had too much pride to fue for it, and therefore the chofe to continue fighting. At length fhe determined to close the war, and engaged count Bernstorf, the Danish minister, to negociate the preliminaries of peace with the cabinets of Berlin, of London, and of the Hague. By his mediation, an accommodation was fettled between these three powers and Rusfia; and they agreed to propose to the Ottoman Porte the terms offered by the empress, declaring, that if the Turks would not accept of these conditions, they would abandon their cause, and leave them to prosecute the war alone against Russia. A congress was affembled at Shistova; and the negociators having removed to Galatch, the preliminaries of peace were figned, on the 9th of January 1792, by prince Repnin and the grand vizir. The definitive treaty, concluded at Yassy, foon after followed. In the war, thus happily terminated, it has been calculated, that Austria lost 130,000 foldiers, and expended 300 millions of florins. Russia lost 200,000 men, 5 ships of the line, 7 frigates, and So smaller vessels, and expended 200 millions of rubles. The Turks loft 330,000 men, 6 ships of the line, 4 frigates, with feveral other veffels, and expended 250 millions of piastres. Sweden had expended 70 millions of rix-dollars, and loft 12 thips of the line, 3 frigates, and 40 fmaller veffels of war. After figning the treaty, Bezborodko declared, that the empress gave up her claim to the 12 millions of piastres which the Porte had stipulated to pay her as an indemnity for the expences of the war; and the Ottoman plenipotentiaries jultly testified their admiration of an act of generofity fo truly imperial. By this treaty of peace, the Dniester was declared to be for the future the limit of the two empires. The English prime-minister manifested a strong desire to compel Russia to restore Otchakof to the Turks, but not being supported by the nation, this point was conceded, and Russia retained that important place and its territory. Before the conclusion of this treaty, Catharine lott her prime-minister, prince Potemkin, who died the 15th of October 1791, at the age of 52, in the vicinity of Vaffy, and was buried at Cherson. In consequence of this lofs, the empress employed herfelf with fingular affiduity in the administration of the empire; devoting to public business 15 hours together, and dividing among her ministers the direction of the affairs which had belonged to Potemkin. When the revolution in France began to agitate the crowned heads of Europe, the empress, and the king of Sweden, scem to have been the first who formed a resolution of oppoling it by force of arms. But when Catharine perceived that the hazard and difficulty of this enterprise were encountered by the nearer powers of Prussia and Austria, she directed her attention to Poland, and exerted herfelf in checking and fubduing the new spirit of liberty which was rifing in that country. For this purpose she marched an

army thither, overcame all refiftance, annulled the new conflictation, and finally broke the fpirit of the Poles by the dreadful maffacre made on the inhabitants of the fuburbs of Warfaw under the obdurate Suvarof. A new divifion of the country between the three former pillagers enfued, which at length totally blotted out Poland from the map of Europe. See Poland.

Catharine, having conquered, either by her arms or by her intrigues, almost one half of Poland, the Crimea, the Kuban, and a part of the frontiers of Turkey, had no occafion for recurring to armaments and battles in order to usurp another rich and well-peopled country. Her intrigues were fufficient to gain possession of Courland and Semigallia. Whilft she was thus extending her territories, she was not remifs in manifesting her abhorrence of the new principles propagated in France, by oftentations attention to the forms of religion, and by a cordial reception of noble emigrants from that country, and by fending a squadron of men of war to co-operate with the British fleet. Inured to conquests, she turned her arms against Persia; and under pretence of defending Lolf-Ali-khan, an offspring of the race of the Sophis, she wanted to be revenged on Aga-Mahmed, and to gain possession of the provinces which border on the Caspian. With this view, her general Zubof, at the head of a numerous army, penetrated into the province of Daghestan, and, after a short siege, made himself master of Derbent. Her success in this quarter inspired her with the hopes of obtaining a greater triumph. Having concluded a treaty with Great Britain and Austria, called the triple alliance, and figned in February 1795, she thus secured the assistance of these two powers against Turkey, and slattered herself with the full accomplishment of her darling project, which was that of driving the Ottomans out of Europe, and of reigning in Constantinople. In this case the immense empire of Catharine would have had for its frontiers the Thracian Bosphorus to the fouth, the gulf of Bothnia to the north, the Viltula to the west, and the sea of Japan to the east. But death disappointed her hopes, and put a stop to that career of her ambition which nothing elfe could reftrain. In the course of her life, she had feldom experienced any illnefs, which was probably owing to her even and cheerful temper. On the morning of the 6th of November 1706, the was in good spirits, and having taken her coffee as usual, fhe retired to her closet; but not returning fo foon as her attendants expected, they began to be alarmed; and on entering the outer room where he was, they found her ftretched on the parquet, with her feet against the door, and speechless. Her majesty's chief physician, Dr. Rogerfon, being fent for, he pronounced her attack to be a fit of apoplexy; and having ordered her to be twice bled, fice obtained temporary relief; but she was unable to utter a fingle word, and at 100'clock in the evening of the following day she expired. She was succeeded by the grand duke, her fon, who was immediately proclaimed emperor, by the name of Paul I. Her remains were deposited in the tomb of the unfortunate Peter III. in the church of the monastery of St. Alexander Nefsky. On the cossin of that prince the emperor caused to be placed the imperial crown, which was fetched from Moscow for this purpose; the coffin was then laid in state by the fide of that of the empress, with a truelove knot reaching from one to the other, on which was inscribed in Russ characters: " Divided in life-United in death." Alexius Orlof and prince Baratinsky, the two affassins of Peter III. were ordered to stand, one on each side of his costin, as chief mourners. The former betrayed no figns of emotion; but the latter feemed to be overwhelmed with grief, and could fearcely be preferred from falling into a fwoon,

a fwoon. When this act of punishment was concluded, them. Orlof received permission to travel, and Baratiusky was prince

ordered never more to appear at court.

age of 70 years the preferved fome remains of beauty, connected with a peculiar gracefulness and majetty. Her thature was of the middle fize, somewhat corpulent, but well proportioned; and as fhe carried her head very high and raifed her neck, she appeared very tail; she had an open front, an aquiline nose, an agreeable mouth, and her chin, though long, was not mishapen. Her hair was auburn, her eye-brows black (brown, fays Rulhiere), and rather thick; and her blue eyes (animated hazle eyes, fays Rulhiere, discovering shades of blue), indicated a gentlenels which was often affected, but more frequently a mixture of pride. Haughtiness, says Rulhiere, was the true character of her physiognomy. The grace and kindness, which were likewise visible in it, seemed, to the penetrating observer, only the effect of an extreme define of pleafing; and these seducing expressions manifested too perceptibly even the defign of feducing. A painter, defirous of expressing this character by an allegory, proposed to reprefent her under the figure of a charming nymph, who, with one hand extended, prefents wreaths of flowers, and in the other, which she holds behind her, conceals a lighted torch. The empress was usually dressed in the Russian manner. She wore a green gown (green being the favourite colour with the Ruffians), fomewhat fhort, forming in front a kind of yest, and with close sleeves reaching to the writt. Her hair, flightly powdered, flowed upon her fhoulders, topped with a small cap covered with diamonds. In the latter years of her life the ufed much rouge; for the was still defirous of preventing the impressions of time from being visible in her countenance; and she always practifed the firictest temperance, making a light breakfalt and a moderate dinner, and never eating any supper. In her private life, the good humour and confidence with which she inspired all about her, feemed to keep her in perpetual youth, playfulnels, and gaiety. Her engaging convertation and familiar manners placed all those who had constant access to her, or affilted at her toilette, perfectly at their case; but the moment when she had put on her gloves to make her appearance in the neighbouring apartments, she assumed a sedate demeanour, and a very different countenance. From being an agreeable and facetious woman, she appeared all at once the referved and majellic empress. A person, who then saw her, would fpontaneously pronounce, "This is indeed the Semiramis of the north." Her mode of faluting was dignified and graceful; by a flight inclination of the body, not without grace, but with a fmile at command, that came and vanished with the bow.

As to the character of Catharine, it may be sufficiently estimated by the history of her actions. Her reign, for herfelf and her court, had been brilliant and happy; but the laft years of it were particularly difastrous for the people and the empire. She governed too much by her favourites; and thefe, with their dependents and subordinate officers, became petty despots. The two most celebrated of these favourites were count Gregory Orlof and prince Potemkin; the former was a coarfe vulgar man, of furprifing mufcular strength and brutal manners; the other shone with some splendour, and his memory still enjoys in Russia that fort of fame which is attached to conquelts and military exploits. Let the reader judge from the following statements, what honours and emoluments thefe favourites and others of a fimilar description possessed, and how they must have abused the considence of the empress, and pillaged the country in order to acquire

them. The dignities and titles conferred by Catharine on prince Potentkin may be feen in the annexed furmary; "Knight of the principal orders of Prufila, of Sweden, of Poland, and of all the orders of Ruffla; field-marthal, commander in chief of all the Rufflan armies; chief general of the cavalry; high admiral of the fleets of the Black Sea, of the fea of Azof, and of the Cafpian; fenator, and prefident of the college of war; governor-general of Ekatarino-flaf and of Taurida; adjutant-general, and actual chamberalin of the emprefs; inspector general of the armies; colonel of the Preobagenskoy guards; chef-du-corps of the horseguards; colonel of the regiment of cuirasfiers of that name, of the dragoons of Petersburg, and the grenadiers of Ekatarinoshi; chief of all the workshops of arms and founderies of cannon; grand hetman of the Cossaks," &c. &c.

The subjoined statement exhibits the sums of money which the favourites of Catharine received from her during her reign, or rather which they wrested in various ways from

the poor pealantry, her subjects

			Rubles.		
The five brothers Orlof rece	ived in	lands, pa-			
laces, jewels, plate, and me		-	17,000,000		
Villenfky, two months in favo	our	-	300,000		
Vallifchikoff, 22 months in fa	ivour		1,110,000		
Prince Potemkin, a fortune el	timated	at	50,000,000		
Zavodofiky, 18 months a favo	ourite	-	1,380,000		
Zoritch, one year -		-	1,420,000		
Korzakof, 16 months	40	-	920,000		
Lanskoi, about four years	-		3,260,000		
Yermolof, 16 months	-	-	550,000		
Momonof, 26 months	-	-	880,000		
Plato Zoubof, in place at the death of the empress 2,700,000					
Valerian Zoubof, his brother		-	800,000		
Farther, an annual fum of 250,000 rubles for the					
expenses of the favourite, which for a term of					

expences of the favourite, which for a term of 34 years makes - \$,500,000

Sum total 88,820,000 To each effate were attached thousands of boors and their families. It is generally computed that of these were given:

To the family of Orlof - - 45,000

Eliteria .				
To the family of (Orlof		-	45,000
To Vaffilchikof		-	-	7,000
To Zavodoffky	-	-	-	9,800
To Korzakof	-		-	4,000
To Termolof	~	**	-	3,000

Total of boors 68,800

This flatement does not include those given to *Potenkin*, to *Lanfkoi*, nor to *Zoubof*, three favourites best beloved by Catharine, and to whom, of course, she gave the most.

During this reign, almost all the people in office and authority were fortunate adventurers. If we except the Soltikoss, we shall find at this period no family of distinction

in favoui

With respect to the government of Catharine, it was as mild and moderate, within the immediate circle of her influence, as it was arbitrary and terrible at a distance. Whoever, directly or indirectly, enjoyed the protection of the savourite, exercised, wherever he was situated, the most undisguised tyranny. He insolved his superiors, trampled on his inferiors, and violated justice, order, and the "ukases," with impunity. The empress having usurped a throne, which she was desirous of retaining, was under the necessity of treating her accomplices with kindness. Being a foreigner in the empire over which she reigned, she endeavoured

to identify herfelf with the natives by adopting and even cious valour of Suvarof, the ductile capacity of a Repnin, folely by fuffering her power to be abused, that she succeed-

ed in preferving it.

The spirit of toleration that animated the whole of Catharine's administration exhibits a very remarkable and almost singular phenomenon in a despotic government. Notwithstanding all opposition, the empress adhered to the refolution the had formed at the commencement of her reign; and, from that moment to the day of her death, not one inflance occurred, of a human being fuffering, in any respect whatever, on account of his religious opinions. Towards heretics she always evinced great lenity of disposition. "Poor wretches," fhe once faid, fmiling, "fince we know that they are to fuffer fo much and fo long in the world to come, it is but reasonable that we should endeavour, by all means, to make their fituation here as comfortable to them as we can." Not only the conquered provinces were protected in the free exercife of their religion, but Lutherans, Calvinifts, Moravian brethren, Papilts, Mahometans, Heathens, and people of all countries and perfualions, might aspire to any post under government, and hold any civil or military employment or dignity, if they were but worthy, or deemed worthy of it. The intolerant of more polifhed nations might go to the provinces of Eithonia, Livonia, Finland, and Ruffia, to take lessons of moderation and Christian forbearance. But at Petersburg the general and peculiar feature in the public character is toleration; and this virtue has there acquired fo general and extensive a sway that it is not easy to find a spot of earth upon the globe, where, in this respect, a man may more quietly pass his days than at St. Petersburg.

The empress, not fatisfied (as we have already observed) with having appointed a catholic archbishop, and established a feminary of Jesuits at Mohilow, and with having supported toleration in the Crimea, gave to her people almost every year some solemn instance of the protection she granted to the liberty of worship. On the day of the benediction of the waters, her confessor, by her orders, invited to his house the ecclefialties of all communions, and gave them a grand entertainment, which Catharine called "the dinner of toleration." It has been calculated, that the offices of religion are performed in Petersburg in 14 different languages.

Catharine had two passions which never left her but with her last breath; the love of the other fex, which degenerated into licentiousness; and the love of glory, which funk into vanity. By the former of these passions she was never so far governed as to become a Messalina; but she often disgraced both her rank and fex, and continued to be by habit what fhe had been from conflitution. By the fecond, she was led to undertake many laudable projects, which were feldom completed: and to engage in unjust wars, from which she derived that kind of fame which is the usual result of success.

The generofity of Catharine, the fplendour of her reign, the magnificence of her court, her inflitutions, her monuments, and her wars, were precifely to Russia what the age of Louis XIV. was to Europe; but confidered individually, Catharine was greater than that prince. The French formed the glory of Louis; Catharine formed that of the Ruffians. She had not, like him, the advantage of reigning over a polished people; nor was she surrounded from infancy by great and accomplished characters. She had some subtle ambasfadors, not unskilled in the diplomatic art, and some fortunate generals; but Romanzof, Panin, and Potemkin excepted, the could not boalt a fingle man of genius; for the wit, cunning, and dexterity of some of her ministers, the sero-

flattering its taftes and its prejudices. She often knew how the favour of a Zabof, the readiness of a Besborodko, and the to reward, but never could refolve to punish, and it was affiduity of a Nicholas Soltikof, scarcely deserve to be admitted as excellencies. It was not that Ruffia did not produce men of merit; but Catharine feared fuch men, and they kept at a distance from her. We may conclude, therefore, that all her measures were her own, and particularly all the good she did. It should be recollected that in her private character, notwithstanding all the misfortunes and abuses that cast a shade over her brilliant reign, she appeared to be thoroughly humane and generous, as all who approached her experienced: all who were admitted to her intimacy were delighted with the good humoured fallies of her wit: all who lived with her were happy. Her manners were gay and licentious, but she still preserved an exterior decorum, and even her favourites always treated her with respect. Her love never excited disgust, nor her familiarity contempt. She might be deceived, won, feduced; but she would never fuffer herfelf to be governed. Her active and regular life, her moderation, firmness, fortitude, and even her temperance, are moral qualities which it would be highly unjust to ascribe to hypocrify. How great might she not have been, if her heart had been as well governed as her mind! She reigned over the Russians less despotic than over herself; she was never hurried away by anger; never a prey to dejection, and never indulged int ransports of immoderate joy. Caprice, ill-humour, and petulance, as they formed no part of her character, were never perceived in her conduct. "I will not decide," fays the writer who has thus sketched the outlines of her character, "whether the was truly great, but the was certainly beloved." Her crimes, it is faid, were the crimes of her station, not of her heart: the terrible butcheries of Ifmail and of Praga appeared, to her court, to be humanity itself. If the had known misfortune the might probably have poffesfed the purest virtues; but she was spoiled by the unvaried prosperity of her arms. Vanity, that fatal rock to women, was fo to Catharine; and her reign will ever bear the diftinguishing characteristic of her fex. But, in whatever light she is considered, she will ever be placed in the first rank among those who by their genius, their talents, and especially, by their success, have attracted the admiration of mankind. Her fex, giving a bolder relief to the great qualities displayed by her on the throne, will place her above all comparison in history; and we must recur to the fabulous ages of an Ifis and a Semiramis, to find a woman who has executed, or rather undertaken fuch daring projects. Whilst none surpassed her in noble and useful institutions, in the patronage of science and of the arts, and in the promotion of the arts by which a nation is civilized and exalted; and whilit by the travels of Palas, Gmelin, and other philosophers and naturalists, she obtained an extensive acquaintance with the various parts and productions of her valt empire; the feems to have been too much feduced by fplendid novelties, and by her affiduity and zeal in the purchase of expensive rarities throughout Europe, she merely facrificed to her vanity, and funk the wife and beneficent fovereign into the collector of toys and trinkets, Mifled by an extravagant confidence in her own abilities, and jealous of every kind of fame, the was defirous of acquiring the reputation of an anthor, and of thus sharing in the honour which Frederic of Prussia had obtained by his writings. She acordingly wrote her celebrated "Infiructions for a Code of Laws;" feveral moral tales and allegories, for the education of her grand-children; and a number of dramatic pieces and proverbs, which were acted and admired at the Hermitage. Her grand and futile undertaking of collectforming them into a dictionary, was never executed. Of all her writings, her letters to Voltaire are certainly the best. They are more interesting than those of the old philosophical courtier himfelf, who repeats in his letters the fame ideas and compliments in a hundred different forms, and excites her wifing her to render her own subjects free and happy. Catharine was neither fond of poetry nor of music; and she often confessed it. She could not even endure the noise of the orchestra between the acts of a play, and therefore commonly filenced it. At her Tauridan palace the conflantly dined with the two pictures of the facking of Otchakof and Ismail before her eyes, in which Cazanova has represented, with hideous accuracy, the blood flowing in ftreams, the limbs torn from the bodies, and fill palpitating, the demoniae fury of the flaughterers, and the convultive agonies of the flaughtered. It was upon these scenes of horror that her attention and imagination were fixed, while Gasparini and Mandini were displaying their vocal powers, or Sarti was

Previous to the death of Catharine the monuments of her reign refembled already fo many wrecks and dilapidations: colleges, colonies, education, establishments, manufactories, hospitals, canals, towns, fortresses, every thing had been begun, and every thing given up before it was finished. As foon as a project entered her head, all preceding ones gave place, and her thoughts were fixed on that alone, till some new idea was flarted and drew off her attention. She abandoned her code, to drive the Turks out of Europe. After the glorious peace of Kainardgi, she seemed for a time to attend to the interior administration of her affairs; but the whole was prefently forgotten, that the might be queen of Tauris. Her next project was the re-establishment of the throne of Constantine; to which succeeded that of hambling and punishing the king of Sweden. Afterwards the invafion of Poland became her ruling passion; and then a second Pugatshef might have arrived at the gates of Petersburg without forcing her to relinquish her hold. She died, again meditating the destruction of Sweden, the ruin of Pruffia, and mortified at the successes of France and republicanism. Thus was she incessantly led away by some new passion still ftronger in its influence than the preceding, fo as to neglect her government, both in its whole and in its parts. mania of Catharine, of planning everything and completing nothing, drew from Joseph II. a very shrewd and satirical remark. During his travels in Taurida, he was invited by the empress to place the second stone of the town of Ekatarinoflaf, of which she had herself, with great parade, laid the first. On his return, he said, " I nave finished in a single day a very important business with the empress of Russia; she has laid the first stone of a city, and I have laid the last."

We shall close this sketch of the character of Catharine with observing, that with all her various and contradictory qualities, she seems to have obtained the love as well as the reverence of her subjects in general; who forgot her private crimes and the evils of her bloody wars, in her greatness and apparent regard to the public good. Coxe's Travels, vol. i. and iii. Tooke's Life of Catharine II. in 3 vols. Rulliere, Hist. on Anecdotes sur la Revolution de Russie, &c. Paris, 1797. Segur, Vie de Catharine II. Imperatrice de Russie, &c. 2 vols. 8vo. Paris, of which an enlarged translation in English was printed in three vols. 8vo. 1798. Secret Memoirs of the Court of Petersburg, &c. translated from the

CATHARINE of Sienna, St. was born in the city, whence

ing a number of words from 300 different languages, and her name was derived, in 1347; and having vowed virginity at eight years of age, assumed the Dominican habit. Pretending to extraordinary revelations, and diffinguished by her piety and charity, she obtained considerable influence; fo that the succeeded in effecting a reconciliation between the Florentines and pope Gregory XI., by whom they had been excommunicated, and in perfuading this pontiff to restore the papal seat to Rome, after it had sublisted 70 place, Catharine adhered to Urban VI. She died in 1380, and in 1461, was canonized by pope Pius II. Of her works there are extant a volume of "Italian Letters," written to popes, princes, cardinals, &c. first printed at Venice in 1506, and translated into French in 1644; "Six Treatifes on the Providence of God;" " A Discourse on the Annunciation of the Bleffed Virgin," and a treatife entitled "The Divine Doctrine delivered by the Eternal Father speaking to the Spirit;" with some other devotional pieces. Du Pin. Eccl. Hill. vol. v. p. 73. See Fraternity of St. CATHARINE.

CATHARINE of Bologna, St. 2 nun of the order of St. Clare, was born at Bologna in 1413, and became, in consequence of her reputation for sanctity, superior of the monastery of the order to which she belonged, in her native city, and which was completed before her death, in 1463. Befides other writings in Latin and Italian, her own "Revelations" were left, scaled, to her confessor. She was canonized by Clement VII. Du Pin. Eccl. Hift. vol. v. p. 84.

CATHARINE, Fraternity of St., at Sienna, a fort of religious fociety instituted in that city, in honour of St. Catharine, a faint famous for her revelations, and for her marriage with Jefus Christ, whose wedding-ring is still preferved as a valuable relick. This fraternity yearly endows a certain number of deflitute virgins, and has the privilege of redeeming annually two criminals condemned for murder, and the same number of debtors, by paying their debts.

CATHARINE, Knights of St., of Mount Sinai, an ancient military order, erected for the affiltance and protection of pilgrims going to pay their devotions to the body of St. Catharine, a virgin of Alexandria, diftinguished for her learning, and faid to have fuffered martyrdom under Maximin.

The body of the martyr having been discovered on mount Sinai, caused a great concourse of pilgrims; and travelling being very dangerous, by reason of the Arabs, an order of knighthood was erected in 1063, on the model of that of the Holy Sepulchre, and under the patronage of St. Catharine: the knights of which obliged themselves by eath to guard the body of the faint, keep the roads fecure, observe the rule of St. Basil, and obey their grand master. Their habit was white, and on it were reprefented the inftruments of martyrdom whereby the faint had fuffered; viz. a half wheel armed with spikes, and traversed with a sword stained with blood.

CATHARINE, order of St., in Modern Hiflory, belongs to ladies of the first quality in the Russian court. It was inthituted in 1714, by Catharine wife of Peter the Great, in memory of his fignal escape from the Turks in 1711, or as others fay, by Peter, in honour of his wife Catharine, on account of the affiftance which the gave him in the camp on

The enfign of this order is a medal of gold, enriched with diamonds, having on one fide the image of St. Catharine, and on the other a cross pattee, enamelled. This is worn pendant to a broad white ribband refling on the right shoulder, and brought under the left arm. On the left

erofs in the centre, and this motto round it; Pour l'amours et la fidelité envers la Patrie; which was intended to commemorate the display of those virtues in the behaviour of Catharine on the banks of the Pruth. This order is beflowed only on ladies; it is extremely honourable; and worn only by a few of the first distinction, among whom are feveral of eminent rank in Germany. In 1790 their num-

, ber was 25. CATHARINE, ST. Island of, in Geography, an island in the captainship or province of St. Vincent, on the coalt of Brazil, extending from 27° 19' 10", to 27° 49' S. latitude, and in W. longitude 47° 37'. Its breadth from E. to W. is not more than two leagues in the narrowest part. It is feparated from the continent only by a channel of 200 toiles in width. On the point at the mouth of this strait is built the city of "Nossa Senhora del Desterro," the capital of this commandery, where the governor refides. It contains, at most, 3000 inhabitants, and about 400 houses; and its appearance is very pleafing. According to Frezier's account, this island served, in 1712, as an asylum for a number of vagabonds, who escaped thither from different parts of Brazil, and who were but nominally subject to Portugal, as they acknowledged no lawful authority. The country is fo fertile that they were able to fublist without any supplies from the neighbouring colonies; and as they were destitute of money, they could neither offer a temptation to the avarice of the governor-general of Brazil, nor infpire him with the hope of fubduing them. The veffels which touched there gave them nothing in exchange for provisions but clothes and shirts, of which they were almost destitute. It was not till about the year 1740, that the court of Lisbon established a regular government in this island, and the adjacent parts on the continent. The government extends from north to fouth 60 leagues, from the river St. Francisco to Rio-grande. Its population amounts to 20,000, and is visibly increasing. Its present state is very different from that in which Frezier and lord Anfon found it; as it has been confiderably increased by the introduction of a great number of families, at the expence of the Portuguefe government, during the years 1752, 1753, and 1754. This increase of population gave a new face to the establishment; and as these new colonists were diligent, laborious, and skilled in agriculture, the progress of the population must have been augmented, in proportion to these qualities of the inhabitants, and the great fertility of the foil, which produces, almost spontaneously, all forts of fruits, vegetables, and grain. Its air is wholesome, and the inhabitants are healthy. Saffafras, guaiacum, oranges, lemons, citrons, cotton, and other trees, grow here in great perfection; and the potatoes of St. Catharine's are esteemed the best in the world. The island is covered with trees, that are always green; but so intermixed with briars and thorns, that the forests are impassable, without cutting away with the hatchet; and these are faid to be infested with serpents whose bite is mortal. The houses, both on the island and continent, are all on the edge of the fea; and the woods which furround them yield a most delightful fragrance, from the number of orange-trees, and other aromatic plants and shrubs, with which they abound. Notwithstanding these advantages, the country is very poor, and wholly destitute of manufactures; infomuch that the peafants are almost naked, or covered with rags. Their foil would be very fuitable for the cultivation of fugar; but not being rich enough to purchase slaves, it is said that they cannot employ it for that purpose. The whale-fishery is very productive; but the crown has conferred an exclusive right to it on Vol. VII.

breaft of the upper vestment is an imbroidered star with a a company at Lisbon. This company has, upon the coast, three confiderable establishments, where they take about 400 whales every year, the produce of which, both in oil and spermaccti, is sent to Lisbon by way of Rio-Janeiro. The approach of ships to this island is very easy; as at 18 leagues in the offing there are 66 fathoms of water, over a bottom of foft mud, gradually shoaling till within four cables' length of the shore, where there are still four fathoms of water. The ordinary channel is between the island of Alvaredo and the north point of St. Catharine; but there is another between the islands of Gal and Alvaredo, which, however, has not yet been fufficiently explored. The best anchorage is half a league from Fortrefs ifland, in fix fathoms, and oozy bottom; the citadel bearing S. 5° W., the fort on the larger point S. 6° E. There are feveral watering places both on the island and the continent; and that creek may be chosen where the wind renders the landing moth eafy. The navigation of boats is very difficult in this harbour, which is two leagues wide as far as the bight where the town stands; and there is a violent furf always breaking on the lee-shore. The tides are very irregular; and the flood comes in between the two channels lying north and fouth. Up to this bight it rifes but three feet. In this harbour provisions of every kind may be easily and cheaply procured, as they are very plentiful. A large ox colls eight pialtres, a hog of 150lb, weight colls four, and turkies are fold for a piastre the pair. Fish may be obtained in abundance by merely throwing the net. Oranges are fold at the rate of 500 for less than half a piastre, and vegetables of every kind are reasonable. The inhabitants are very hospitable, and their manners are gentle and obliging: but they are very fuperflitious, and jealous of their wives, who never appear in public. The government is in this island, as it is in all the Portuguese colonies, purely military. It has three forts, which form nearly an equilateral triangle, the bale of which is to the northward, and the vertex towards the That to the east stands on the N.E. point of St. Catharine, about \(\frac{1}{2} \) of a league from the Perroquet island: that to the west, which is the most considerable, is on an islet near the continent of America, and the third is upon the largest of the two islands called "Les Ratones." The road, which is open only to the N.E. winds, is sheltered to the east by the island of St. Catharine, and on the west by the continent; on the fouth by the land both of the island and the continent, which approach fo near, that they leave between them only a strait of less than 300 toiles wide. entrance cannot by any means be thut against thips of war of any rate or construction. It is so extensive that although the forts are mounted with guns of a great calibre, thips may anchor there very commodiously and securely, out of the reach of these guns. The principal fort, which is in fact only a large enclosed battery, is fituated on a little island, of moderate elevation above the level of the sea, at ahout 300 toiles from the terra firma, and oppolite a rideau much higher than itself, is incapable of making a regular defence; yet this fort is the polt of honour, where the general officer, who commands the whole fettlement, would fix his quarters in case of an attack; but in time of peace he refides at " Nossa Senhora del Dellerro," a town that is absolutely open, and only defended by a small battery, à barbette, on the island of St. Catharine, and on the callernmost point of the little strait above-mentioned, behind which the town is built. The garrifon of the principal fort was, in 1785, composed of 50 men, badly clothed and ill paid, under the command of a captain. Peroufe's Voyage, vol. i.

CATHARINENBURGH, or ECHATERINENBURG,

a province of Afiatic Russia, formerly included in the government of Tobolik, and fince constituting one of the two provinces of the government of Perm. This is also the name of one of the feven districts of the province, feated on the river Islet, not far from its origin. Near Catharinenburgh are gold mines; the ore is very martial, commonly of a cubic form in a quartz matrix; and the gold is extracted by wathing. The annual produce of pure gold never exceeded 200 pounds, and was commonly much less; in 1772 it was only 100 pounds. The gold is obtained at the rate of 40 guineas per pound; when coined, it produces 681. 5s. fo that the profit is not very confiderable. At Catharinenburgh the crown has established a mint for coining the copper, produced from the imperial and private founderies, into that species of money which is current throughout Russia, and is transported by water to Moscow, Petersburg, and other parts. The value of copper money, annually coined, is 400,000l. The crown receives a pood of this metal upon an average at 11. 2s. 6d. and iffues it, when ftruck, at 31. 4s.; fo that government gains upon the copper coinage 257,6251. The town is feated upon the river Islet, which runs through it, and is regularly built in the German manner. It was begun by Peter I. in 1723, and finished in 1726 by his confort the czarina Catharine, from whom it derived its name. This town may be reckoned the centre of all the Siberian mineworks belonging to the crown; and on this account it is the refidence of the director of the Siberian mines, who issues out his instructions to the sub-directors, and passes their accounts.

CATHARINENSLAF, CATHARINOSLAV, or Eca-TERRINENSLAF, a government of Ruffia, which contains the greatest part of that territory which was wrested by the late empress Catharine II. from the Turks, and comprises New Ruffia, the former government of Azof, and Crim Tartary. It is divided into two provinces, viz. Catharinenflaf, including New Ruffia and Azof, and comprehending 14 diffricts, and Taurida or Crim Tartary. It is also the name of one of the districts of the province, seated on the Dnieper.

CATHARINENSLAF, CATHARINOSLAV, or the "glory of Catharine," the capital of the province built by the late empress, and feated near the spot where the small river Kiltzin falls into the Samara. It is colonized by many Greeks and Armenians from Crim Tartary, and by others who ferved in the preceding war against the Turks; 78 miles N.E. of

CATHARMA, from xabas; 2, I expiate, in Antiquity, some miserable or flagitious wretch, facrificed to the gods, as an expiation for the plague, or other calamity. Such was the prophet Jonas, cast into the sea; and such, as some have supposed, does St. Paul wish himself to be. See Ac-

CATHARMA, Καθαρμα, from καθαιεω, to purge, in Medicine, imports the excrements purged from any part of the body; as the stomach, intestines, or bladder.

CATHARMOS, in Medicine, of the same derivation, implies purgation by medicines, or the cure of a disorder by Superstitious ceremonies or sacrifices. The cure of the king's evil, by the royal touch, if such a thing had been effected, might be faid to be performed by a catharmos.

CATHARPINS, in the Rigging of a Ship. See CAT-

CATHARTIC EXTRACT. See EXTRACTUM cathar-

CATHARTIC falt, fal catharticum amarum, a denomination given to what we improperly call Epfom falt.

CATHARTIC medicines, are those substances which quicken and increase the evacuation from the intellines by stool.

Medicines of this class have been employed by phylicians

fince the first dawn of physic; and have been administered with various views and intentions, according to the prevalent theories of the time, or the favourite doctrines of individuals. Those who were tinctured with the tenets of judicial aftrology, prescribed purgatives at certain times and seasons; conceiving that they would prove more beneficial or hurtful, according to the junction or opposition of the planets, or the age of the moon. Those again, who were partial to the doctrines of the humoral pathology, employed cathartics with the intention of expelling peccant matter which had been separated from the mass of fluids by an appropriate fermentation. The same pathologists taught that different catharties possessed distinct powers, and moved different fluids by a specific action. Hence they have denominated fome of these substances cholagogues, others phlegmagogues, hydragogues, and melanagogues, as they were supposed to expel more particularly bile, phlegm, water, &c.; and they have displayed much apparent fagacity, in selecting the cathartic adapted to the expulsion of the fluid prevalent at the But these doctrines are now exploded, and the specific operation is not confirmed by subsequent expe-

Modern physicians have two objects in view in the administration of cathartic medicines; the one is to empty the bowels fimply, or to bring off their contents, which are out of the course of the circulation, and therefore, already, in a manner, extraneous to the body; the other is to excite an increased secretion of sluids into the cavity of the intestines, or, in other words, to induce purging. The medicines thus employed have generally been afforted into two classes; those which produce the former effect, being denominated laxative, and those conducing to the latter, purgative.

The operation of a purgative medicine on the intestinal canal may be confidered as three-fold. In the first place, it stimulates the muscular fibres of the intestines, quickens their action, and therefore augments the natural peristaltic motion of the bowels, by which means their prefent contents are more quickly propelled and discharged. Secondly, it stimulates the exhalent veffels, which terminate in the inner coat of the intestines, and excites them to pour out a more copious discharge of fluids; and also the mouths of the excretory ducts of the mucous glands, by which the natural mucus of the intestines is much increased; and hence the evacuations by stool are not only quicker, but the fæcal matter is thinner and more abundant. And, thirdly, the stools are rendered still more copious, by an additional portion of the fluids furnished by the neighbouring vifcera, the liver, pancreas, &c. to which the stimulus of a purgative, especially of the more active ones, extends. These effects are probably communicated to the whole range of the intestinal canal, from the upper orifice of the flomach to the lower extremity of the rectum, or anus.

From this view of the immediate effects of cathartic medicines upon the intellines, their utility in fome difeafes, and their injurious tendency in others, as well as the necessity of varying their degree of activity under different circumstances, will be readily understood.

If we consider the great length of the alimentary canal, and the number of vessels and mucous follicles, as well as the larger ducts from the liver and pancreas, which open upon its inner furface, it will be obvious that purgatives, even of a moderate stimulating power, by opening at once all these outlets, may occasion a great general evacuation and diminution of the fluids of the body. Hence, in acute inflammatory diseases, where over-distension of the vessels is to be avoided, and the preternatural increase of the active powers of the fystem is to be restrained, the evacuation of the intestines by purging is (next to blood-letting) the most powerful expedient, and generally makes an important part of what is which they occasion, in that tender state of the intestines, called the cooling or antiphlogistic plan of treatment. When purgatives are given with this intention, however, the principle must be pursued with some limitation, and those of the most acrid and drastic nature must be avoided; because the diminution of general ftimulus produced by the depletion of the veffels, and the expulsion of the fæces, would be counterbalanced by the extraordinary irritation of an acrid

Another circumstance apparently refults from the evacuation by purging, which renders it of confiderable importance in particular difeases; namely, a change in the distribution of the blood to the different parts of the fyftem. It feems to follow, of necessity, that if an evacuation be made from one fet of vessels, the afflux of fluids to these will be increased in order to fupply it, and, consequently, the afflux to other parts of the system will be diminished. Upon this principle, Dr. Cullen explains the utility of purgatives in diforders of the head, which arise from over-fulness or over-activity of the veffels of the brain; fuch as apoplexy, and other comatofe affections, mania, phrenfy, head-ach, &c. 'The afflux of fluids in the veffels of the abdomen, which supply the inteftines, being increased by purging, the afflux will be proportionally diminished in the vessels which carry blood to the head, and both the quantity and impetus of the blood in the head will thus be lessened. (Cullen, Mater. Med. vol. ii.)

In the same way he partly explains the good effects of cathartics in the small pox, and other cutaneous diseases, from the balance of the distribution of the fluids between the internal parts and the external furface. But it is probable that they are more useful by removing the local irritation of the faces, and occasioning a considerable depletion, and a confequent diminution of fever in the system at large. For in diseases of the skin, unconnected with fever, their good

effects are very inconsiderable.

Whenever the contents of the intestines are morbidly retained, whether in confequence of a flowness of the peristaltic motion, from a torpor of the moving fibres; or from a laxity of the intellines, which permits the fæces to accumulate; or from a deficiency of bile; or from habitual neglect of regular evacuation; (see Constipation,) the use of cathartics of one kind or the other is indicated, in order to prevent the accession of more serious complaints, which will ultimately result from the costiveness. The nature of the cause, or the concomitant circumstances will point out the particular fort of medicine, which may be most appropriately employed. If the coffiveness, for instance, be accompanied with a flaccid habit, or with fymptoms of nervous mobility, or much flatulence, and irregular diffention of the bowels, fome of the warmer aromatic laxatives should be admistered. If the fecretion of bile appear to be deficient, mercurial and aloetic medicines, the latter of which tend to fupply the deficiency, and the former to restore the bilious secretion, should be preferred.

In those cases, however, in which the morbid retention of faces is not habitual, but accidental, and accompanied with fome more acute symptom; -as with violent pain, constituting the colic :- with pain, tenefmus, and flimy or bloody stools, as in dyfentery ;--- or with pain and acute fever, as in inflammation of the bowels ;-cathartics, though abfolutely necesfary, must be varied in their nature and mode of administration, after a cautious view of the circumstances. In colic, for example, they will be of little advantage in many cases, and more especially in the colic produced by lead, until the painful spasmodic constriction of the bowels has been relaxed by the previous use of opiates. In dysentery, they must be combined or alternated with opiates, otherwise the irritation will counterbalance the effects of the evacuation, and keep up the fymptoms of the difeafe. And in enteritis, or inflammation of the coats of the alimentary canal, the same irritation will tend to increase the inflammatory condition, and the confequent constriction, and therefore impede, rather than expedite, the evacuation of the fæcal matter, if they be employed before blood-letting and other remedies have reduced the inflammatory state. See Colic, Dysentery, &c.

In a work lately published by an excellent practical physician, Dr. James Hamilton of Edinburgh, a degree of importance is affigned to cathartic medicines, in the treatment of feveral diseases, which they have not hitherto been confidered as entitled to. Independently of the generally admitted opinion, that a loaded and constipated state of the intestinal canal is a common cause of general bad health, he maintains that this state usually accompanies and aggravates the other symptoms of fever; and that it is also the immediate cause, or a leading and permanent symptom, of certain diforders peculiar to children and young people; these are chorea, or St. Vitus's dance; marasmus; chlorosis, or green fickness; Hamatemesis, or vomiting of blood; and even in Hysteria, and some chronic nervous diseases. these diseases he never uses medicines in a purging dose; his intention being simply to expel the present contents of the intestines, and not to increase the secretion of the fluids into them. He considers glysters as inefficient expedients for moving and conveying off, through the whole extent of the intestines, the feculent matter, rendered offensive and irritating, especially in fevers, by constipation, and by the changed nature of the secreted fluids, which seems to take place in the febrile state. In Typhus fever, he says, "it is now some years fince I have left off almost entirely the practice of ordering emetics and glysters. I trust to a purgative, to enfure a regular alvine evacuation: for this purpole, however, a daily purgative is not always required. Thus I think I conduct the treatment of typhus fever to a favourable iffue, with more certainty, and with the greater ease and comfort of the patient." We have had an opportunity, in a few instances, of verifying in a very satisfactory manner this important practice.

Chorea, or St. Vitus's dance, has been almost invariably treated with tonic medicines, especially with bark and metallic preparations, and with various stimulants and antispasmodics. It is unnecessary to say with how little effect in general. In every inflance Dr. Hamilton has found that a large quantity of black and offensive feculent matter was collected in the bowels, and his plan of cure has confifted in a regular exhibition of laxatives, until the stools (which in all the diseases before mentioned should be regularly examined by the practitioner) assumed their natural appearance. With this intention the practitioner must persevere firmly in his measures, especially in the confirmed state of chorea; for if he relaxes he will be unfuccefsful. By this treatment, which confifted in giving three grains of calomel, with fix, eight, or ten, of jalap, daily, "Chorea is speedily cured, generally in

ten days or a fortnight."

By means of the same, or similar medicines, exhibited in the fame way, he has speedily succeeded in removing the fymptoms of chlorofis, and hæmatemelis, and of some other hypochondriacal and nervous complaints; and he attributes the relief, which patients under these disorders derive from drinking mineral waters, to their purgative qualities, rather than to any other property which they may in a flight degree possess. (See Observations on the Utility and Administration of Purgative Medicines.)

When morbid or extraneous bodies are introduced into or

generated

generated in the intestines, as in the case of worms, &c. catharties are obvioufly indicated. But it should be observed, that the indifcriminate use of active purgatives in these cases, especially in young and delicate children, is often productive of more harm to the constitution, than the worms which they are intended to expel. They should be administered sparingly, and at some intervals; sufficient time being interpoled for the operation of medicines, which may be deleterious to the animals, and of those, which, by invigorating the intestines, may prevent that morbid production of mucus, which is probably a nidus favourable to

Cathartics, either in a laxative or purgative degree, are ufeful in feveral other complaints, partly by exciting the intellines to evacuation, and partly in confequence of the extension of their stimulus to the neighbouring viscera of the abdomen: as in jaundice, indigestion, suppression of the

menles, &c.

Another important operation of cathartic medicines remains to be noticed; namely, the stimulus they exert on the abforbent veffels, by which these veffels are excited to an unufual action, and thus to take up fluids which are morbidly effused. The fact is undoubted, whatever may be the principles on which it is explained. Dr. Cullen obferves, on this fubject, that, "as in every cavity of the body there is an exhalation and inhalation, or abforption, constantly going on, it is presumed that there is some balance conflantly preserved between the secretory and abforbent powers; fo that if the former are increased, the latter will be also; and, therefore, that when the fecretions are, upon occasion, much increased, the action of the ab-forbents may be particularly excited. This explains why purging often excites the action of the absorbents, to take up more copiously the sluids that were otherwise stagnant in the adipose membrane, or other cavities of the body, and thereby often proves a cure of dropfy." (Mater. Med. vol. ii. p. 502). This explanation is perhaps, little more than an explicit statement of the fact. It is certain, however, that afcites, or dropfy of the abdomen, has been often affected by means of acrid, drastic purgatives, such as gamboge, scammony, &c. when diuretic remedies have failed. But it is obvious that these remedies can only be administered to those, who retain considerable strength of constitution, debilitated neither by inveterate intemperance, old age, nor a long difeafe.

Cathartic medicines may be introduced into the alimentary canal either by the mouth, or by the inferior aperture in the form of clyster. The preceding observations apply to the former mode of administering them. The latter must be adopted in those cases, in which the stomach is unable to retain, or would be injured by irritating medicines; as in callritis, or inflammation of the flomach, and in febrile complaints attended with extreme debility, especially in the latter stages: since by this mode the contents of the lower parts of the intestines are simply evacuated, without any stimulus to the fecreting vessels, and with little or no irritation

of the fyllem at large. See CLYSTER.

In delicate and irritable constitutions the ill effects of an active purgative may be confiderably diminished, without impairing its evacuating power, by combining a portion of opium with it. The naufea and griping, which are excited by some species of cathartics, may be alleviated by the addition of fome aromatic medicine; or by the minute divifion of the fubiliance by means of trituration with fome other; as of jalap with crystals of tartar, &c.; or by giving it in divided doses at short intervals. This last mode is

generally to be preferred with regard to very draftic cathartics; by which means the full effect is enfured, and any fevere or dangerous degree of irritation is avoided.

CATHAY, in Geography, an ancient name of China;

which fee

CATHEDRA, in a general fense, a chair.

The word is more particularly used for a professor's chair, and a preacher's pulpit.

CATHEDRA is also used for the bishop's see, or throne, in a church.

CATHEDRA, ex, a phrase used in speaking of the solemn dictates or decisions of prelates, chiefly the popes, delivered in their pontifical capacity.

The advocates for the papacy maintain, that the pope is infallible, ex cathedra, a term of modern theology entirely unknown to the ancients. Even those who used it do not agree in the explication of it.

CATHEDRAL, a church wherein is a bishop', se , or

feet one Carry and British

The word comes from the Greek xx5:0ex, chair, of xx-

Gizouzi, fedeo, I fit.

The denomination cathedral feems to have taken its rife from the manner of fitting in the ancient churches, or affemblies of primitive Christians; in these the council, i. e. the elders and priests, was called prefbyterium; at their head was the bishop, who held the place of chairman, cathedralis, or cathedraticus; and the presbyters, who sat on either fide, were also called by the ancient fathers affeffores episcoporum. The episcopal authority did not reside in the bishop alone, but in all the presbyters, of whom the bishop was presi-

A cathedral, therefore, originally, was different from what it is now; the Christians, till the time of Constantine, having no liberty to build any temple; by their churches, thing more than confistories: - whence appears the vanity of fome authors, especially the Spaniards, who pretend their cathedrals to have been built in the times of the apostles.

CATHEDRAL Service. At the beginning of the reformation, the whole English choral service, including the preces, prayers, and responses, was set to musical notes, and first published in 1550, by John Marbeck, organist of Windfor. The premature reforming zeal of this mulician, nearly made a martyr of him, in the time of Henry VIII. He had, indeed, the honour of being condemned to the flake, with three other persons, who were burnt for herefy, but was pardoned by the intercession of fir Humphrey Foster.

His notation of the English cathedral service was pub-

The Booke of Common-Braier, noten. 1550.

Imprinted by Richard Grafton, Printer to the Kinges Majettie, cum privilegio ad imprimendum folum.

As this book is become very scarce, we shall present the reader with a confiderable extract from it.

" In this booke is conteyned fo muche of the order of common-prayer, as is to be fong in churches: wherein are used only these iiii fortes of notes.

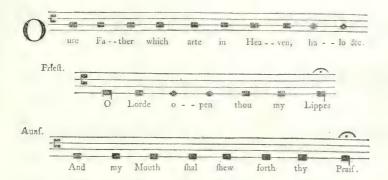


The first nate is a strenc * note, and is a breve. The second is a square note, and is a semy-breve. The iii, a prycke and is a mynymme, and where there is a prycke by the square verse."

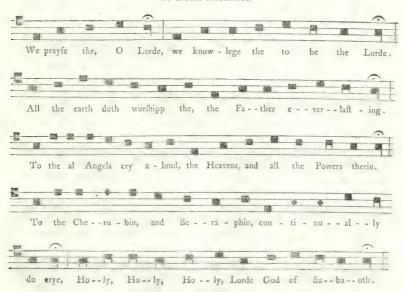
• Strained, or firetched out: perhaps from its being the longest note used in chanting. Junius makes strene and strain synonymous.

MATTINS.

The Quere with the Priest.



Te Deum Laudamus.

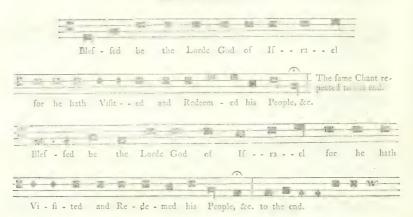






After the Second Leffon one of these that follow.

BENEDICTUS DOMINUS.



In this manner the whole Morning and Evening Service, as it is now Chanted, is fet; except the Litany. At the end is the name of JOHN MERBECKE.

At this time, the plain-fong of the Romish church in the chants of the principal hymns and responses, remained nearly the same, as may be seen in comparing the Te Deum laudamus, and other parts of the cathedral service, in this publicaion, with the missals, graduals, and antiphonaria of those times. The chant to the Te Deum, as published by Meibomius, (Antiquæ Mus. Auct. Sept. Amst. 1652. Vide præf. Lectori benevolo,) from a copy nearly as ancient as the hymn itself, and another example of the same Canto Fermo, given by Glareanus, (Dodecad. p. 110.) in 1547, correspond exactly with that which was retained by Marbeck, at the time of the reformation : as the mode, the dominant, and medius, are all the fame; nor is the least deviation discoverable, except where the different number of fyllables in the translation required it, and which affect the melody no more, than those flight changes which happen in the manner or use of any two choirs in finging the same chants, or even in adjusting different stanzas of any fong to the same tune.

Marbeck was admitted, in 1549, to the degree of bachelor in mufic, at Oxford, according to Anthony Wood, (Falti Oxon.) who erroneously calls him James Marbeck: he is honourably mentioned by Bale, because he had been perfecuted by the Catholies, and his name is omitted by Pitts, for the same reason.

It feems as if we may fafely conclude, that the chief part of fuch portions of Scripture, or hymns of the church, as have been fet by English musicians to Latin words, were produced before the reformation, or, at least, in queen Mary's time; that is, before the year 1558, when queen Elizabeth ascended the throne, by which time a school of counterpoint was formed in this country, that was equal, at least, to that of any other part of Europe. A reason, however, may be affigned for the choral music of every

Christian country approaching perfection by nearly equal strides.

Before the reformation, as there was but one religion, there was but one kind of music in Europe, which was plain chant, and the discant built upon that foundation; and as this music was likewise only applied to one language, the Latin, it accounts for the compositions of Italy, France, Spain, Germany, Flanders, and England, keeping pace with each other, in ftyle and excellence. All the arts feem to have been the companions, if not the produce, of fuccefsful commerce; and they will, in general, be found to have purfued the fame courfe, which an admirable modern historian has fo well delineated: (Hist. of Charles V. vol. i. fect. 1.) that is, like commerce, they will be found, upon inquiry, to have appeared first in Italy; then in the Hanseatic towns; next in the Netherlands; and by transplantation, during the 16th century, when commerce became general, to have grown, flourished, matured, and diffused their influence, in every part of Europe.

If this were a place to illustrate such an idea, it would be eafy to shew, that ecclessatical music, in the middle ages, was all derived from the papal chapel, and court of Rome; that counterpoint was first cultivated for their use; that it travelled thence to the Hanseatic towns, and the Netherlands, where the alluence, which slowed from successful commerce, associated encouragement and leifure for its cuitivation; till about the middle of the 16th century, when, by the general intercourse which traffic and the new art of printing introduced, all the improvements in harmony, which had been made in Italy and the Low Countries, were communicated to every other part of Europe; which not only dimulated the natives to adopt and imitate them, but to improve and render them more perfect, by their own inventions and refinements.

CATHE-

CATHEDRA'TIC doctor, doctor cathedraticus, denotes a doctor possessed of a chair or fellowship in some of the univerfities of Spain.

They say a cathedratic dollor of Salamanca, of Alcala,

CATHEDRATICUM, in Ecclefiaflical Writers, denotes a fum of money, amounting to two shillings, anciently paid annually by the inferior clergy to their bishop, or as often as he vilited his diocele, ob honorem cathedra, i. e. as an argument of their subjection, and for the honour of the bishop's fee or cathedra. This was otherwise denominated synodaticum, and by modern writers PROCURATION.

CATHEDRATICUM also denotes a sum which bishops newly ordained gave partly to bishops or patriarchs, by whom they were confecrated, and partly to the clerks and notaries

who officiated on the occasion.

This was also called everovirusor, as being given on account of the throne, or chair, they had now obtained, and fynodaticum,

or SYNODALS.

Bishops confecrated by patriarchs or metropolitans, provided their church was not worth less than thirty pounds of gold, were to pay a hundred folidi by way of cathedra-

CATHEM, in Geography, a town of Arabia, 80 miles S. of Baffora, and 170 N. of El Catif. N. lat. 29°. E. long.

47° 14'. CATHENON. See CATTENOM. CATHERETIC. See CATHÆRETIC.

CATHERINA, SANTA, in Geography, a fmall Grecian island, which seems to have been detached from the fouth point of the isle of Rhodes. It is a remnant of the land which joined it to another country, in like manner infulated,

and which bears the name of the island of Scarpanto. CATHERINE, in Biography. See CATHARINE. CATHERINE, ST. in Geography, a pleasant island in the

harbour of Sunbury, and state of Georgia, in North America .- Alfo, a fmall productive island on the fouth coath of St. Domingo, 20 leagues E. of the town of St. Domingo.

CATHERINE'S Town, a town of America, in the state of New York, and county of Ontario, fituate 3 miles S. of the

S. extremity of Seneca lake.

CATHERINE Bay lies at the E. end of the island of Jerfey, fouthward of the point fo called, and affords a good road in welterly winds.

CATHERINE, ST. Cape, lies on the W. coast of Africa, in

S. lat. 2° 9', and E. long. 10° 38'.

Catherine's Foreland lies in the straits of Maghellan,

near the east end. N. lat. 52° 48'. W. long. 67° 50'.

CATHERINE's Island, an island of N. America, on the coast of Florida. N. lat. 31° 36'. W. long. 81° 41'.— Alfo, an island off the coast of Honduras. See PROVIDENCE ifland.

CATHERINE Sound lies, with a small island of the same name, on the coalt of Georgia, in N. America, in 31° 10'

CATHERINE'S ST. Tower, a fea-mark on the fummit of St. Catherine's hill down, on the back of the Isle of Wight, about 750 feet higher than high-water mark. N. lat. 50° 34'. W. long. 1° 19'.

CATHERLOUGH. See CARLOW.

CATHETER, in Surgery, a curved tube employed for drawing off the urine, or injecting fluids into the bladder. The term xagerie is derived from xabinus, demitto, to thrust into; and although it fignifies a hollow instrument, or fyphon, for the above purpose, in the writings of Celfus, Galen, and Paulus Ægineta, this word has a very different meaning in

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the works of Hippocrates, who uses it to denote a piece of twifted cotton or lint introduced into ulcers. Vide Defin. Medic. Gorrhæi.

It appears from lib. vii. cap. 26. of Corn. Celfus's furgical work, that catheters were formed at first of polished copper or brass, though the Arabians made them of silver, lead, tin, or leather; and there can be no doubt that they were used by the ancients, not only for drawing off the urine, but for the purpose of removing obstructions in the urethra, as we now employ bougies: this is further evident from a paffage in Galen, De Locis Affectis, lib. i. where he treats of caruncles in the urinary passage. See likewise Galeni De

Meth. Med. lib. v. cap. v. It is also perfectly certain (notwithstanding the late claims of Mr. Jeffe Foot, in his tract upon the "Vefice Lotura.") that the older furgeons were accustomed, on various occafions, to inject the bladder through a catheter or cannula, precifely in the manner we administer an enemd. Vide Pauli Æginetæ, lib. vi. cap. 59. " De Catheterismo & Clystere Vesicæ;" likewise, Albucasis, lib. ii. sect. 59. " De Modo Vesicæ Liquorem Syringa infundendi, & de Forma Instrumentorum ad hoc idoneorum." Gorrhæus describes the operation of using the catheter as follows: " Kadernewould " est administrationis chirurgicæ ratio qua injicimus per Ca-" theterem in vesicam id quod ad ejus curationem convenit; vel " eximimus id quod impedit ne urina reddatur, five con-" cretus intus fanguis sit, sive aliud quippiam, recto siphone " immisso, quem Græci καθετέζα vocant." For a particular account of the ancient modes of injecting the urinary bladder, we refer the inquilitive reader more especially to the 59th fection of Albucasis, already quoted, and to Avicenna, lib. iii. Fen. 19. Tract. 2. cap. 9. This practice was continued by feveral furgeons of the middle age, but foon afterwards appears to have been generally neglected, until it was revived by Le Dran.

Although the original as well as the present use of the catheter mult necessarily have required it to be made of a tubular form, it is strange that this instrument has been described by many respectable French surgeons as a solid instrument! Thus, for example, M. Sue (in his Dict. de Chir.) expressly fays, "Mal-a-propos confond-on le ca-" théter avec la fonde : Le catheter n'a point de cavité intéri-" eure, mais feulement une cannelure qui regne tont le long " de sa partie convexe, au lieu que le sonde est creuse inté-" rieurment. Le premier instrument sert à connoître les " pierres qui font dans la vessie, & à faire l'opération de la " taille. Le second sert à évacuer l'urine contenue dans la " vessie. Il est vraie que, dans plusieurs cas, celui-ci peut " fupplier à l'autre, mais non pas le premier au fecond." Again he tells us, " Le cathétérisme n'est autre chose que " l'introduction du cathéter dans la vessie, pour s'assurer de " l'existence d'une pierre, our faire l'operation de la taille " & non pas pour évacuer Purine; ce qui peut se faire qu'avec la sonde."

In the old French Encyclopedie, M. Louis fays, that " fome authors are accustomed to give the name of catheter " more particularly to a grooved found which ferves to " conduct the lithotome in the operation of cutting for the " flone:" whereas, by all English surgeons, this instrument is called a flaff. (See Article LITHOTOMY.) The found is a folid steel instrument, without any groove: the staff is made of the same form and materials as the found, but is grooved on its convex tide; and the catheter is hollow throughout its whole extent, whatever materials it be made of. The found and the flaff are always curved to the shape of the urethra, and are inflexible; but the catheter may be made either of a rigid or a yielding fubstance; and in the

former cafe it must also be curved like the found. The slexible catheters are now generally made of wove filken cylinders, covered with a coat of elastic gum: the best have been prefent well manufactured by Mr. Walsh of London. fize and form vary, according to the fex or age of the patient. Bernstein, in his dictionary of furgery, gives the following account of this instrument, as it is fabricated in Germany.-" One of the most useful inventions which have been made with refpect to these instruments, is to construct them of elastic gum, and the merit of this invention is to be afcribed, without doubt, to Mr. Theden. (Neue Bemerkungen u. Erfahrungen, &c. Th. ii. Berlin, 1782. pag. 143.) of the name of Bernard, who directed not to apply the diffolved elaftic gum to a wire-cylinder, as Mr. Theden had done, but to one made of knitted filk; and thefe catheters certainly deferve to be recommended in preference to all others. But with respect to their price, the elastic catheters that are prepared by prof. Pickel, (Richter's Chirurg. Bibliothek, B. vi. p. 512.) of Wirzburg, deferve particular recommendation. These conflit of fils cylinders plaited or worked upon a probe, and afterwards covered with the following varnish. Three parts of white lead, minium, or fugar of lead with boiled linfeed oil, which is the common varnish used by cabinet makers, mixed with one part of melted amber, and the fame quantity of oil of turpentine. With this varnish he spreads the filk cylinders, and repeats this three times as foon as the former coating has dried in the open air; after which he puts the catheters into a baker's oven 24 hours, when bread has been baked in it the last time, and when it retains the temperature of 60°-70° Reaum. Here he lets them remain 10 or 12 hours. When he has taken the catheter out of the oven, he rubs the inequalities off a little with pumice stone, fews up the end, cuts into it the oblong lateral aperture, and then spreads it 12 or 15 times more with the varnish formerly mentioned. Every time, however, the catheter must be well dried in the open air before the varnish is spread upon it again, and after every third coating which it has received, it must be put again into the bake oven, fo that in all it must have received from 15 to 18 coatings with varnish, and have been laid five or fix times in the oven. The end is smoothed off with oil, Each of these catheters costs a dollar."

The flexible catheters possess great advantages over those made of metal. For, in the sirrl place, they can be introduced much more easily than the metal ones, even by an unpractifed hand. 2. They may be suffered to remain in the urethra and bladder as long as is necessary, without occasioning much inconvenience. 3. There is no danger of injuring the tender surface of the urethra with them, or of pieces breaking off and remaining behind. 4. They may be used equally conveniently both for children and adults.

Another very important use may be made of classic eatheters in all cases in which the introduction of nourishment by the mouth is impeded or obstructed, as in wounds of the pharynx, in tetanus, hydrophobia, &c. In such cases an elastic eatheter is introduced through the nose into the exsophagus, where it may be suffered to remain without occasioning any material inconvenience to the patient; and nourishment and drink may thus be introduced through it into the patient's stomach. In applying the instrument, it cases happens that the end of the tube gets into the larynx instead of the pharynx. This error is generally discovered merely by the circumstance that the shame of a candle, when held before the external aperture of the tube, is thrown into violent motion.—Dr. Hales describes a catheter of a new

ftructure, contrived for the more advantageous injection of lithoutripties into the bladder. Its earlity is divided lengthways by a thin partition into two feparate channels, which end in two divarienting branches. By one of these branches the mension or rather in the hydrostatical way, while it returns mixed with urine by the other. Hales, Hamastat, p. 212.

There is likewife a defeription in the Philosophical Transactions, vol. sliii, p. 400, of an ingenious catheter invented by M. Le Cat, at Rouen; and other furgeons have recommended an infirument made of filver-wire, flatted, and turned spirally, so as to be hollow and slexible. These contrivances are certainly very specious, but they are too complex to be useful in ordinary practice.

Concerning the introduction of the catheter into the

armary bladder, iee the following article.

CATHETERISM, is the act of passing a catheter into the urinary bladder, with a view to draw off the urine, or to facilitate the introduction of sluids into the bladder by means of a fyringe.

The introduction of a flexible catheter, of elastic gum, such as is in common use among surgeons, can scarcely give any trouble; unless there be a considerable obstruction in the urethra, which may prove the occasion of insuperable difficulties. The observations which follow are intended chiefly to apply to the filver male catheter, which is generally used in cases requiring an evacuation of urine, or the injection of some shud into the bladder. This little operation, simple as it may appear to an inexperienced by-stander, is, in fact, sometimes one of the most perplexing to men of real ability, and therefore deserves the young surgeon's particular attention.

"I do not know," fays Mr. John Bell, in his Principles, of Surgery, vol. ii. p. 2009, "that even the operation of lithotomy itself is more difficult than that of introducing the eatheter; more important it cannot be, than an operation which gives relief in accidents and difficulties so extremely common and so very afflicting." The first cause of embarrassment in performing this operation arises often from the incumbent position of the patient, which renders it necessary) to pass the eatheter with its concave part towards the abdomen. This position, however, except in male subjects requiring lithotomy, is feldom the most eligible; as we have found a standing positive by far the most convenient for the operator's accommodation, provided the patient is not exceedingly fat and compulent.

Suppote the furgeon fits on a low chair, or kneels on his right knee, while the patient stands before him, leaning against fomething immoveable. The operator then holds the penis with the middle finger of his left hand, and the glans with the fore finger and thumb of the fame hand; chiefly in order to expose the orifice of the urethra. The handle of the catheter, previously oiled, he holds with his fore finger, thumb, and middle finger of the other hand, and directs it in such a manner that its straight posterior part is placed near the belly of the patient, and parallel with the orifice of the urethra. The furgeon then draws the penis gently towards him and extends it, pushing the catheter forwards at the fame time with the utmost caution, till its point has arrived at the bend of the os pubis; and in order now to introduce the catheter completely into the curvature of the urethra, the operator must suddenly depress the hand, with which he holds the upper part of the catheter, towards the thighs, and thus raife up the point of the instrument; fo that it passes behind the pubis, into the bladder itself.

In the other method, the operator gives the catheter such a direction, with the hand next to the patient's thighs, as to turn the elevated convex part of the instrument upwards, and to place the straight part under the belly before the thighs; the point of the catheter is then cautiously introduced into the orifice of the urethra and the bladder, whilfe the penis is fomewhat extended with the other hand. When the point of the catheter has arrived at the place where the urethra paffes under the os pubis, the operator must turn both the catheter and the penis, fo as to make both describe a femicircle: this he does by turning them towards the groin at the opposite side; and from hence towards the belly; in which motion the point of the catheter must represent the centre, as it were, round which the other parts revolve. At last the hand with which the catheter is directed, must be lowered a little, and the rest of the operation completed in the fame manner as before. These two methods of introducing the catheter, differ only in this, that in the first the introduction is performed at once; but in the fecond (which is conceitedly termed "fonder par le tour du maitre") it is done by two different manœuvres, and confequently the operation is unnecessarily lengthened.

CATHETOLIPES, in Natural History, the name of a genus of fossils of the class of the felenita, but differing from the common kinds in the disposition of the constituent

plates.

The word is derived from xαθετ@, perpendicular, and λεπις, a feale or plate, and expresses a fet of these bodies whose plates are ranged perpendicularly. All the known felenita, except those of this genus, are composed of a number of parallel plates, or thin flakes, ranged evenly horizontally on one another.

CATHETO-PLATEUS, in Ichthyology, a term with its opposite, which is plagio-plateus, very much used by Artedi, in his description of fishes, but not adopted by Linnœus, or more recent ichthyologists; they may be explained in English by the two familiar words, compressed and depressed. The heads of fishes are the parts principally characterized by these terms.

CATHETUS, in Architecture, is a perpendicular line, fupposed to pass through the middle of a cylindrical body,

as a column.

Cathetus is fometimes applied to a line in the Ionic capital, passing perpendicularly through the eye or centre of the volute. This is otherwise called the axis of the volute, which fee.

CATHETUS, in Botany, Loureiro; Flor. Cochinch. Class

and order, diacia monandria.

Gen. Ch. Male. Cal. Leaves fix, almost round, concave; three outer ones fmaller. Cor. none. N.a. fix twolobed glands. Stam. Filament onc, fhort; anthers three, oval. Female. Calyx fix-cleft; fegments roundish, concave. Cor. none. Pifl. germ fuperior; thyle thick; fligma trifid. Peric. capfule compressed, roundish, fix-lobed, threecelled. Seeds angular, two in each cell.

A shrub. Leaves fascicled, small, oval, entire, slat, smooth. Flowers axillary, folitary, very small. A native

of Cochinchina.

CATHETUS, in Geometry, a perpendicular, or a line, or radius, falling perpendicularly on another line, or furface.

Thus, the catheti of a right-angled triangle, are the two fides that include the right angle

CATHETUS of incidence. in Catoptrics, is a right line drawn

from a radiant point, perpendicular to the reflecting line, or the plane of the speculum, or mirror.

CATHETUS of reflexion, or of the eye, a right line drawn

from the eye, or from any point of a reflected ray, perpen dicular to the plane of reflexion, or of the speculum. See REFLEXION.

CATHMANDU, or CATMANDU, in Geography, the capital of an independent kingdom in the kingdom of Nepal or Nepaul, in Hindooftan, fituate to the northward of the plain of Nepal, 105 geographical miles N. of Maissy, that is, in N. lat. 28° 6'. This city contains about 18,000 houses; and the kingdom extends, from fouth to north, to the distance of 12 or 13 days' journey, as far as the borders of Tibet, and it is almost as extensive from east to west. The king of Cathmandu has always about 50,000 foldiers in his fervice. To the eastward of Cathmandu, at the distance of two or three miles, is a place called "Tolu," by which flows a small river, the water of which is esteemed holy, according to the superstitious ideas of the inhabitants; and thither they carry persons of high rank, when they are thought to be at the point of death. At this place is a temple, which is not inferior to the best and richest in any of the capital cities. They have also a tradition, that at Tolu, as well as two or three other places in Nepal, valuable treafures are concealed under ground; but no one is permitted to make use of them, except the king, and that only in cases of necessity. These treasures, it is said, have been thus accumulated: when any temple had become very rich from the offerings of the people, it was destroyed, and deep vaults dug under ground, one above another, in which the gold, filver, gilt copper, jewels, and every thing of value were deposited. At Cathmandu, on one side of the royal garden, there is a large fountain, in which is one of their idols, called "Narayan." This idol is of blue stone, crowned, and fleeping on a mattress of the same kind of stone; and both the idol and the mattress appear, as if they floated upon the water. This stone machine is very large, about 18 or 20 feet long, and proportionably broad, but well wrought and in good repair.

In a wall of the royal palace, there is a stone of a single piece, about 15 feet long, and four or five feet thick, on the top of which are four square holes at equal distances from each other. On the inlide of the wall they pour water into the holes, and on the court-fide, each hole having a closed canal, every person may draw water to drink. At the foot of the stone is a large ladder, by which people afcend to drink; but the curiofity of the stone confists in its being quite covered with characters of different languages cut upon it. Some lines contain the characters of the language of the country; others, the characters of Tibet; others, Persian; others, Greek; besides several others of different nations: and in the middle there is a line of Roman characters; but none of the inhabitants know how they came there, nor do they know whether or not any European had ever been in Nepal before the missionaries, who arrived there in the beginning of the last century. are manifellly two French names of feafons, with an English word between them. To the northward of the city of Cathmandu is a hill called "Simbi," upon which are some tombs of the Lamas of Tibet, and other people of high rank of the fame nation. The monuments are constructed in various forms; two or three of them are pyramidal, very high and well ornamented. Round them are remarkable stones covered with characters, which probably are the infcriptions of some of the inhabitants of Tibet, whole bones were interred there. The natives of Nepal regard the hill as facred; and conceive that it is protected by their idols; and, therefore, they never station troops there for its defence, although it is a post of great importance, and only at a short mile's distance from the city. Adjoining to the tomb they

have found, in digging, confiderable pieces of gold, with a quantity of which metal the corpfes of the grandees of Tibet are always interred. Afiatic Refearches, vol. ii. p. 307,

&c. See NEPAL.

CATHOLIC, from xalz, and blos, whole, denotes a thing that is univerfal, or general. Some have faid, that Theodofius the Great first introduced the term catholic into the church; appointing by an edict, that the title should be applied, by way of pre-eminence, to those churches which adhered to the council of Nice, in exclusion of the Arians, &c.—Catholicism, however, soon changed hands; for under the emperor Coustantius, Arianism became so predominant, that the Arians were called the catholics. But the term was used much more anciently, as by Polycarp and Ignatius. "Ubi fuerit Jesus Christus, (says the latter) thi est eccless catholica." The Romish church now assume the diftinguishing appellation of the catholic church. See Church.

The term catholic, or Reman catholic, is now functioned by law (fee the title to the act of 31 Geo. III., c. 32.) as well as by common usage, to denote the religion formerly called Popery, and the professor of it usually denominated Papills.

See Papists and Popery.

CATHOLIC Epiflles, in Biblical History, a denomination given to feven epiftles of the New Teltament, fignifying universal or general, because they are not written to the believers of some one city, or country, or to particular perfons, as St. Paul's epittles are, but to Chrillians in general, or to Christians of several countries. This is the case of five, or the greater part of them, with which the two others are joined. When the first epistle of Peter, and the first of St. John, were called catholic by the most early Christian writers, the two smaller of St. John were unknown, or not generally received. The antiquity of this denomination is cafily afcertained. They were fo called in the time of Eusebius (H. E. l. ii. c. 23. l. vi. c. 14), and, probably, before. Of this fact we have good proof. For St. John's first epiftle is several times called a catholic epistle by Origen in his remaining Greek works, as well as in others. It is likewise fo called several times by Dionysius, bishop of Alexandria. Athanasius, Epiphanius, and later Greek writers received feven epittles, which they called catholic. They are fo called likewife by Jerom. The epittles bearing this appellation are, one of James, two of Peter, three of John, and one of Jude; but they are recited in a different order by ancient authors. Of these epifles two only, viz. the first of St. Peter, and the first of St. John, were universally received in the time of Eusebius; though the rest were then well known. All the feven were received by Athanasius, Epiphanius, Jerom, Augustine, and many other writers. However, the Syrian churches received only three of these epiltles; nor does it appear, that more were received by Chryfostom or Theodoret. These epistles were also called canonical by Caffiodorus, about the middle of the fixth century, and by the writers of the prologue to these epiftles, ascribed (erroneously) to Jerom. The propriety of this latter appellation is not fatisfactorily afcertained. Du Pin fays, that some Latins have called these epittles canonical, either confounding the name with catholic, or also to denote, that they also are a part of the canon of the books of the New Testament. See Epistle.

CATHOLIC furnace, is a little furnace, fo contrived, as to be fit for all kinds of operations, which do not require an

intense fire

CATHOLIC king, is a title which has long been hereditary to the king of Spain. Mariana pretends, that Recearede finft received this title after he had deftroyed Arianim in his kingdom, and that it is found in the council of Toledo for

the year 589. Vafeè aferibes the origin of it to Alphonfus in 7,38. Some allege that it has been ufed only fince the time of Ferdinand and Ifabella. Colombiere fays it was given them on occasion of the expulsion of the Moors. The Bollandists pretend, it had been borne by their predecesflers, the Vifigoth kings of Spain; and that Alexander VI. only renewed it to Ferdinand and Ifabella. Others fay, that Philip de Valois first bore the title; which was given him after his death, by the ecclesiatics, on account of his favouring their interests.

In fome epittles of the ancient popes, the title catholic is given to the kings of France, and of Jerufalem, as well as to

feveral patriarchs and primates.

CATHOLICA, in Geography, a town of Italy, in the province of Romagna. It derived its name from being the place whither the orthodox bishops retired in the year 359, after being outvoted by the Arian party, in the council of

Rimini; 9 miles S.S.E. of Rimini.

CATHOLICA, La, a town of Sicily, in the Val di Mazara, fituate in a spacious plain open to the sea, and shut up on the north side by a broken theatre of mountains. It is the chief town of the district. It was founded in 1612 out of several small hamlets by Francis Islar, lord of the foil, but is now possessed by Francis Islar, lord of the foil, but is now possessed by Francis Islar, lord of the foil, but is now possessed. The family of Bonauni, who take the title of princes of La Catholica. The number of its inhabitants exceeds 7000. The prince of La Catholica derives from Siculiana an annual income of 14,000 crowns.

CATHOLICIANI, in Middle Age Writers, the officials or ministers of the catholici, or receivers of the taxes of a diocefe, fometimes also denominated CESARIANS.

CATHOLICON, in *Pharmacy*, a kind of foft purgative electary; fo called, as being supposed univerfal; or a purger

of all humours.

Different authors give different recipes for it: that called Catholicon Nicolai was long in ufe; it confilts of fixteen ingredients, the chief whereof are tamarinds, cassia, sena, and rhubarb. It was called the double catholicon, when there was a double portion of sena and rhubarb.

The CATHOLICON for elyflers, only differs from this, in that it had no rhubarb, and that honey was used in it instead

of fugar.

CATHOLICUS, the title of a dignitary, or magistrate, under the Roman emperors, who had part of the administration, and particularly the care and receipt of the revenues and taxes in Roman dioceses.

The catholicus was the fame with what was denominated by the Latins procurator, and rationalis Cofaris. Such was the catholicus of the diocese of Africa, mentioned by Euse-

bius, and other ancient writers.

CATHOLICUS, among Ecclefiostical Writers, an appellation given to the primates or metropolitan prelates of feveral churches in Afia, subject to the see of Antioch; but whose jurisdiction and dioceses are of such extent that they have assumed the title of catholici, q. d. universal bishops. See Paimate.

CATHON, in Ancient Geography, an island of Greece, S. of the Peloponnelus, in the gulf of Lacedæmon.

CATICARDAMNA, a town of India, on this fide of

the Ganges, according to Ptolemy.

CATIEH, in Geography, a town of Egypt, near the coast of the Mediterranean, 70 miles N.N.E. of Suez, and 130 miles N.E. of Cairo. N. lat. 30° 54'. E. long. 33° 30'.

CATIF, or KATIF, EL, a town of Arabia, in the province of Lachfa, feated on the coal of the Perfan gulf, at the diffance of about 5 German miles from the ifle of Bahhrein. The inhabitants earn their fubfillence by the pearl-fiftery. When any are too poor to fish at their own

risk and expence, they hire their labour to stranger-adventurers, who refort hither in the hotter months of the year, which are the season for sishing. The air of this country, however, is believed to be very salutary in summer. The ruins of an old Portuguese fortress are still to be seen near this place. It is 142 miles S. of Busson, and 420 S. of Ifpahan. N. lat. 26° 20′. E. long. 48° 4′. Niebuhr's Travels, vol. ii.

CATI-FONS, in Ancient Geography, a fountain from which proceeded the stream called "Aqua Petronia," which was a river of Italy that discharged itself into the Tiber.

CATILINE, Lucius Sergius, in Biography, was defeended from the illustrious patrician family of Sergii at Rome, but rendered infamous by a feries of debaucheries, incests, murders, and the most atrocious crimes. He began his licentious career at an early age, by debauching a female of distinction, and afterwards marrying the daughter he had by her. He was also accused of holding a criminal intercourse with a veltal, the filter of Terentia, Cicero's wife, and of murdering his own brother, whose name he prevailed upon Sylla to infert in the lift of profcribed persons for the purpole of justifying his crime. During the fanguinary administration of Sylla, he was the chief instrument of his cruelties, and headed a band of affaffins, who dragged out of the houses and temples persons, whose names were included in the lift of profeription, and cruelly murdered them in the presence of his employer. He was also active in searching out and affiffinating many knights and fenators, before they knew they were proferibed. As a recompence of these favage fervices, and in confideration of his birth and brutal courage, he was advanced, by the favour of the dictator, to the principal dignities of the state. Accordingly, he had been quæltor, legate in Macedonia under C. Curio, and prætor in Africa; but in all these employments, he had difgraced himfelf by his debaucheries and enormous oppressions. As he had diffipated his patrimony, and was overloaded with debts notwithstanding his uncontrouled exactions, he had no prospect of retrieving his affairs but by the subversion of the thate; and he, therefore, feized all opportunities that occurred for exciting and promoting civil confusion. Upon his return from Africa, B.C. 65, he formed a conspiracy with other discontented and turbulent persons for murdering the confuls, Aurelius Cotta and Manlius Torquatus, together with the greatest part of the senators, and violently feizing the government. This plot, though the execution of it was twice repeated, proved unfuccefsful, in confequence of a miltake in the fignal on the part of Catiline; and he was therefore under a necessity of deferring the accomplishment of his purpole to a future period. Having strengthened his party by the accession of a great number of senators and knights, of debauched young persons in the city, and of old foldiers and officers of Sylla's army, who had reduced themselves to indigence by the profuse expenditure of all the gains of their oppressions, he concerted a more extensive plan for the total subversion of the commonwealth. With a view to the more easy and certain execution of it, he offered himfelf a candidate for the confulfhip, and had Cicero for his competitor. In the mean while, the conspiracy of Catiline had been discovered to Cicero by Fulvia, a woman of distinction, who had dishonoured her family by a criminal correspondence with Quintus Curtius, one of the party concerned; and this discovery, though not fully authenticated, had excited fuspicions against Catiline, which defeated his election, and favoured that of Cicero, his avowed adversary. A.U.C. 691, B.C. 63. Catiline, enraged by the fuccess of his rival, determined to offer himself a seco d time for the consulate. and prepared for an open rebellion, in case of his failure.

With this view he borrowed large fums of money, and engaged Manlius, one of Sylla's old officers, who then refided at Fæfalæ, to make levies of foldiers throughout Etruria. Lucullus, however, whom Pompey had fucceeded in the Eatt, being informed of these hostile preparations, made a report of them to the fenate, and affilted the conful with all his interest in the profecution of the traitor. Cicero alfo kept up a correspondence with Fulvia, and had even gained over some of the conspirators, who, pursuant to his directions, pretended to be the most ardent promoters of the plot. By means of this information, he discovered the deligns of Catiline, the various fentiments of his accomplices, their number and quality, and the general, as well as the private, views of each of the conspirators. By them he was informed, that on a day appointed the conspirators were to set fire to feveral parts of the city; and that, during the confusion and uproar, which fo general a conflagration would occasion, some were to murder the chief men of the fenate in their houses, others to affemble the mutinous populace, feize the Capitol, and fortify themselves there, till Manlins should arrive from Etruria with his veterans. Two Roman knights were appointed to murder Cicero in his own house; but the conful, previously informed of every thing that had passed in their fcript fathers, in Catiline's prefence, of the danger to which they were all exposed. The fenate, having been made acquainted with the whole plot, iffued a public decree, according to an ancient form, which had been observed in times of national danger, "that the confuls should take care that the republic fuffered no detriment." Cicero, thus invested with ample power, adopted every necessary measure for keeping in awe the principal cities in Italy, and for guarding Rome, the capital; and the fenate, by his advice, promifed not only a pardon, but ample rewards, to any of the conspirators, who should make farther discoveries of this detestable attempt. Although the conful might, on his own knowledge, have condemned Catiline and his accomplices to death without appeal, this would have been a perilous measure; and he thought it more advisable to induce Catiline to leave Rome, and take refuge in Maulius's camp near Fæfulæ. With this view he affembled the fenate, and pronounced, in the presence of Catiline, that most severe and spirited invective, still extant under the title of the first oration against Catiline, in which he lays open all his murderous defigns, affures him that they are fully known and guarded against, and exhorts him to leave that city which can no longer endure his prefence. Catiline, retaining full possession of himself, with an air of great plaufibility intreated the fenate not to credit the accufations of a declared enemy, who had not in Rome so much as a house of his own, and who was attempting to raife his own character by the defeat of a conspiracy forged by himfelf, and thus to acquire the title of defender of his country. When he proceeded to invectives against the conful, he was interrupted by the clamours of the whole affembly, and the fenate-house echoed with the names of incendiary, parricide, and enemy to his country. Stung with these reproaches, and foaming with rage, Catiline exclaimed, "Since you have provoked me to the utmost, I will not perish alone, but will enjoy the satisfaction of involving those who have fworn my ruin in the fame destruction with myselt." Having thus spoken, he left the fenate-house, and accompanied by about 300 friends, haltened to the camp of admilius in the vicinity of Fæfulæ. Here he affumed the command of the troops, together with all the entigns of a supreme magistrate, being preceded by lictors, carrying their axes a: d fasces. The fenate, as foon as information was received of this act of open rebellion, declared Catiline and Manlius enemies of their

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country; and gave orders, that Antonius, the affociate of confular army, and that Cicero should continue in Rome to watch the motions of the conspirators. Some of the party, who fill remained in the city, made an attempt to attach to Gaul; but these ambassadors, by the intervention of Sanga, the protector of their nation, communicated the whole affair tion, and to obtain the draft of a written treaty, subscribed with the names of the confpirators. Cicero, being informed by the ambaffadors when they were to leave Rome, fent privately two pretors, with a fufficient number of troops, to feize them, together with the confpirators, and bring them all to Rome. The prætors faithfully executed their commiffion; and the ambassadors, together with Vultureius, who had undertaken to conduct them to Catiline, in order to obtain his ratification of the treaty, were stopped in the way, and brought back to Rome, with all the papers which either the Allobroges or Vultureius had in their custody. Cicero, having thus got into his possession undeniable proofs of the conspiracy, dispatched proper officers to arrest Lentulus, Gabinius, Cethegus, and Statilius, and to commit them to fafe cultody. He then affembled the fenate, in the temp'e of Concord, laid before the affembly the proofs of the plot, and having obtained a decree for the execution of the criminals at a subsequent meeting, ordered them to be capitally punished.

During these transactions at Rome, Catiline resolved to lead his army into Transalpine Gaul, where he expected very general support; but he was prevented from accomplishing his purpose by Q. Metellus Cæsar, who, leaving Picenum, which he had guarded the last year, posted himfelf with three legions at the foot of the Alps, while Antonius followed Catilme in the rear, who, kemmed in by two bodies of troops, made a retrograde march, and falling in with the proconful near Piltoria, now Piltoia in Tufcany, offered him battle. Antonius, who had formerly been of Catiline's faction, appeared unwilling to engage; but his troops, infifting on being led to action, he pretended indifposition, and devolved the command on his lieutenant Petreius, a veteran of tried and diftinguished valour. The engagement was fevere and obstinate; but at length, when Manlius and another commanding officer were killed, it terminated, after a long and dubious contest, in favour of Petreius, who was left mafter of the field. Catiline, having lott Manlius and his affociates, during the engagement, found himself unable to rally the fugitives; and, therefore, determining not to furvive the ruin of his party, threw himfelf into the midth of the victorious enemy, where he was found among the dead bodies of those whom he had slain, still breathing, and retaining in his countenance the traces of that ferocious valour which dutinguished his character. Thus the Catiline confpiracy, which was detected by Cicero in October, was terminated in December, B. C. 63. The character of Catiline has been fufficiently delineated in the orations of Cicero; and his portrait is thus drawn by the strong pencil of Sallust: "His powers of mind and body were extraordinary, but his disposition bad and depraved. From his youth he took delight in civil contells, murders, rapines, and intelline wars, and inured himself to the practice of them. His constitution was, beyond credibility, patient of hunger, cold, and watchfulnels. In temper he was daring, deceitful, capable of every kind of timulation and diffimulation, greedy of the property

of others, lavish of his own, ardent in his desires, plausible,

rather than deep, in discourse. His boundless foul always aimed at things immoderate, excessive, and out of probability." In after times he appears to have served as an example of desperate and savage treason; and Virgil has irrevocably fixed his doom, in making him the figure by whose punishment the regions of Tartarus are discriminated on the shield of Albacas.

" ———— et te, Catilina, minaci Pendentem feopulo, Furiarumque ora trementem."

An. viii. 668.
"There Catiline, o'er-hung a mountain's brow,
And shudd'ring view'd the Furies glare below."

Sallust Bell. Catilin. Plutarchi Sylla, et Cicero. Ciceronis Orat. Anc. Un. Hist. vol. xi. Middleton's Life of Cicero.

CATILLUS, in Ancient Geography, a mountain of Italy near the Tiber.

CATIMARUS, in Botany, Rumph. Amb. See

CATIMBIUM, Juff. See GLOBBA.

CATINA, in Ancient Geography, a town of Pelopon-

nefus, in Arcadia. Pliny.

CATINGA, in Botany, Justieu, p. 321. Aublet Guian. tab. 203. fig. 1 and 2. Trees, the fructification of which is imperfectly known. Nat. Ord. Myrti. Calyx four-cleft. Cor. unknown. Stam. filaments numerous. Pist. unknown. Perie. drupe as large as an orange or citron, crowned with the very small calyx, sibrous within, rind thick, covered with vehicles, which contain an aromatic essential oil; nut brittle, kernel reddish, veined. Leaves most commonly opposite, oval, oblong, entire, besprinkled with transparent points. Fruit axillary. These trees grow on the banks of rivers in Guiana. There are two species; one of which bears a round, the other an elongated fruit.

CATKIN, the English name of a species of inflorescence, called by Linnæus amentum, and improperly confidered by him as a species of calyx. It consilts of numerous chaffy scales, containing either the stamens or pistils feparately, or very rarely both together, and ranged along a flender stalk, which is the common receptacle. By the older botanists it was styled julus, nucamentum, and catulus. The latter term, corresponding with the English catkin and the French chaton, is derived from its fancied resemblance to a cat's tail. The amentaceous plants constitute the fixteenth natural order of Linnxus in his Philofophia Botanica, and the fiftieth in his posthumous lectures published by Gifeke. In the latter work the order confilts of the following genera; falix, populus, platanus, floanea? fagus, juglans, quercus, corylus, carpinus, betula, myrica, pillachia, cynomorium. Jullieu and Ventenat have also a natural order of the fame name which is thus divided by mus, celtis. 2. With dioicous flowers; salix, populus, myrica. 3. With monoicous flowers; betula, carpinus, fagus, quercus, corylus, liquidambar, platanus. The three kins; and Ventenat observes that, although they have some affinity with the amentacea, they may more properly be placed in a diffinct order. Tournefort, Boerhaave, and Royen, have also a class or order dillinguished by its amentaceous flowers; a character which the former extends to the coniferæ of Juffieu; but thefe, according to Ventenat. them diffinct. Besides their difference in habit, the coniferæ have a cylindrical embryo, furrounded by a fleshy perifperm; whereas the true amentacem have a flat embryo without a perisperm.

CATLENBURG, in Geography, a town and bailiwick of Germany, in the circle of Lower Saxony, and principality of Grubenhagen; 16 miles S.S.E. of Einbeck.

CATLIN, among Surgeons, is a difmembring knife, for cutting off any corrupted part of a body. See Surgical Plates on Amputation.

CAT-MINT, in Botany. See NEPETA cataria.

CATO, MARCUS PORCIUS, diffinguished by the appellation of " the Cenfor," in Biography, was born at Tufculum in the year of Rome, 519, B. C. 235; and was brought up at a small farm near the country of the Sabines, possessed by his father, which he cultivated with his own hands. At the age of 17 years, he made his first campaign under Fabius Maximus, when Hannibal was ravaging Italy; and five years afterwards he accompanied the fame general in his expedition against Tarentum. At the commencement of his military career, he attracted notice by his fingular fobriety, valour, attention to discipline, and all the virtues of the ancient Roman foldiery. On his return from the army, he joined his domestics in the culture of his small estate, devoting himself at his leifure hours to the study of eloquence at home and to the practice of it in the adjacent cities, where he pleaded on behalf of those who applied to him. His talents and virtues engaged the notice of Valerius Flaccus, who had lands contiguous to the small farm of Cato; and who belonged to one of the most noble, affluent, and powerful families of Rome. With the advice and under the promifed patronage of this rich neighbour, he determined to try his fortune at Rome, where the fuccessful eloquence of his pleadings and the interest of his friend laid the foundation of his future preferment. In his 30th year he ferved as military tribune in Sicily; and he was afterwards quæftor under Scipio in the African war; but difgusted with the fplendid liberality and popular manners of this great man, he came to Rome and joined with Fabius in accusing Scipio before the fenate. But though Scipio was honourably acquitted and continued in his command, Cato gained estimation with the public for his rigid economy. Besides, his masculine strain of rhetoric, which occasioned his being denominated the Roman Demosthenes, gave him great influence in the affemblies of the people. Having passed through the office of edile, he was appointed prætor in the province of Sardinia; and in this station he displayed, in a very eminent degree, his temperance, integrity, and rigid justice. His predeceffors in this office had ruined the country, by extortions for supplying the means of profusion; whereas Cato diffinguished himself by the simplicity of his habit, table, and equipage, and never touched a fingle farthing of the public money. At this time Sardinia abounded with usurers, who, under a pretence of assisting private persons with the loan of fums of money for particular occasions, utterly ruined them; but Cato expelled from the island all persons of this description. In the year of Rome 558, B. C. 106, he was elected conful, in connection with his friend Valerius Flaccus, and the Hither Spain was affigned to him as his province. But before his departure he vigoroufly opposed the repeal of the Appian law, which reilrained the propenfity of the female fex to indulge in show and ornament; but Valerius the tribune, having carried this point against him, which he defended with his single voice, he proceeded to his province, where he undertook the difcipline of his troops confifting of new levies, and fet them an example of encountering every kind of hardship. His habit was always plain; his provisions were the same with those of the common foldiers; and he took part with them in the

labour of forming the entrenchments of his camp. Having thus prepared his troops for contending with the natives, who, in their previous wars with the Romans and Carthaginians, had learned the military art, and who were naturally brave and courageous, he difmiffed his fleet, that his foldiers might folely confide in their own valour. In this war he gained feveral victories, and by demolishing the fortifications of the towns which he captured, he completely fubjected the province to the Roman dominion. To each of the foldiers, belides the spoils, he gave a pound of filver out of the rich booty which he acquired; and when fome of the officers expressed their surprise at his liberality, he told them, "It is better that many of the Romans should return home with filver, than a few only with gold." However, he appropriated to his own use no part of the booty; but continued to live in as frugal a manner as the meanest soldier. At the close of the campaign, he failed back to Rome with his troops, and next year was honoured with a triumph. Notwithstanding this merited dignity, he still continued freely to ferve his country in the forum and the field; and when the public fervice did not call for his active concurrence, he enjoyed the pleafures of retirement, and devoted his hours of leifure to study. In the campaign of M. Acilius Glabrio against Antiochus the Great in Greece, Cato ferved as a military tribune; and by his advice and affiftance enabled the conful to force the Syrian's firong entrenchments in the pass of Thermopyla, as the Persians had formerly done, and to oblige him to abandon Greece, and retire to Ephesus. About ten years after his consulate, viz. in the year of Rome 569, B. C. 185, he offered himself as a candidate for the office of Cenfor; but the known feverity of his character alarmed the nobles, and they fet up feven competitors against him; however, the people pertisted in the choice of Cato, and they nominated as his affociate his confular colleague, Valerius Flaccus. Many of the fenators, who had been guilty of fcandalous enormities, were rejected; others were degraded on more frivolous grounds; and Cato feems to have indulged a personal pique against the Cornelian family, by taking from Scipio Afiaticus the horse which the public kept for him as a knight. The rigid cenfor executed his office with great severity; he laid a heavy tax on rich furniture, jewels, and all superfluities; and by such popular acts, he made himself so acceptable to the people, that they erected a statue to him in the Temple of Health. After the expiration of his cenforship, he merely attended his duty as a private fenator, and his advice was received with deference and respect. The necessity of destroying Carthage was a point which he always strenuously inculcated; and in his estimation this necessity seems to have been justified by the fingle circumstance, that Carthage was the inveterate foe and rival of Rome. Cato, confidering the original rude character of the Romans as the standard of perfection, strenuously opposed every kind of innovation, and for a long time refifted the introduction of Grecian letters and philosophy into Rome. To this purpose he exerted himself in haltening the dismission of Carneades the academic, and Diogenes the stoic, who had been fent on a public embassy from Athens. He seems, however, in his old age, to have changed his opinion; as he became a convert to the cause of learning, and affiduously studied the Greek language. He became a writer himself, and composed a variety of works, of which the principal was a History of the Roman affairs, and of the origin of all the cities of Italy, from that circumstance entitled "Origines." A few fragments of the seven books which he lived to finish, are still extant. He also published a large number of his orations, letters, a treatise on the military art, and another on rural

profuse in her expences and perverse in her temper, and who therefore afforded fufficient exercise to his philosophy. By her he had a fon, whose education he himself conducted, but he would not allow him to be taught the learning of the Greeks, alleging, that the only fludy of a Roman chooling to marry again, he took a young female flave to his bed, at which his fon being displeased, he married the daughter of Salonius, who had been his fecretary; and by her he had a fon named Salonius, who was the grandfather of Cato of Utica. The cenfor lived to an advanced age, and died in his 86th year, as some say, and according to others in his 91st, in the year of Rome 605, B. C. 149, at the commeacement of the third Punic war, which his advice

Cato was a great foldier, an eloquent orator, a learned historian, and well skilled in rural affairs; but these accomplishments were counterbalanced by great defects, and very unamiable qualities. As a master, he was stern and unfeeling; fo that he confidered his flaves as a fort of labouring animals, whom he wished to get rid of when exhautted by age and fervitude. His economy degenerated into avarice; and though he was uncorrupt in the management of public money, he descended to very mean and unwarrantable practices to amass a private fortune. For money lent he took exorbitant profits; and received even from his own male flaves a certain pecuniary confideration for the liberty of frequenting the females. He used to say to his son, that no man deserved any esteem till he had doubled his fortune. In public he was ever extolling continence; but he indulged his pastimes in private with a beautiful female slave; and it is also said that he was equally faulty in the excessive

use of wine.

" Narratur et prisci Catonis, Sæpe mero caluisse virtus." Hor.

His public censures of private men seem sometimes to have originated from envy and personal pique; and thus we may account for his having been 44 times impeached, which probably would not have been the cafe if he had not provoked private refentment by the unjultifiable feverity of his temper. However, on all these occasions he was acquitted by the people, in whose estimation his virtues preponderated his defects and vices; fo that whilft he lived he was held in extraordinary veneration, and his name has descended with honour to fucceeding generations. Cicero exhibits him in an amiable point of view, by making him the principal speaker in his beautiful dialogue on old age, which some have confidered as a kind of fancy-portrait, founded, however, on the real traits of the man, though foftened and embellished. Platarch has made him the subject of one of his lives, and Cornelius Nepos, at the request of Atticus, wrote a particular account of him, of which a brief sketch only is extant. Plutarch, t. ii. Cicero. Livy. Corn. Nep. Anc. Un. Hift. vol. xi. Rollin's Rom. Hitt. vol. iv. and v.

CATO, MARCUS PORCIUS, CATO Minor of Plutarch, furnamed of Utica, from the place of his death, was great grandion to Cato the Cenfor, the fubject of the preceding article, and born about 94 years B.C. As he loft his parents at a very early age, he was brought up in the house of Drufus, his maternal uncle, and a man of high rank and character. Whilft he was a child, he manifested that steadinels of temper and folidity of understanding, which were

affirs: the letter of which still remains, and is usually the distinguishing features of his character; and though his apprehension was slow, his memory was tenacious. His paffions, though feldom displayed by outward figns, were durable in their influence; and his inflexibility approached even to stubbornness. However, when his reason was conobedience. Of his firm and unyielding temper, when he was an infant, Plutarch mentions a fingular inflance. The Italian allies of Rome having demanded admission to the right of citizenship, Pompedius Silo, one of their deputies for urging this claim, was a guest at the house of Drusus, and in a jocole manner asked young Cato to recommend his fuit to his uncle. The child was filent; but expressed by his looks and an air of diflike in his countenance, that he would not comply with the withes of Pompedius. Pompedius renewed his folicitations, but was unable to prevail. At him to the window, threatened to let him fall out of it if he perfifted in his refufal. But fear was equally unavailing with intreaty. Pompedius, on letting him down in the room, exclaimed, "What an happiness it is for Italy, that thou art but a child! For if thou wert at age, we should not have a fingle vote." At the age of 14, Cato was introduced by his tutor, Sarpedon, to the house of Sylla, the dictator, which, on account of the profcriptions and cruelties of this tyrant, was a scene of torture and of blood. When the youth obferved the heads of feveral noble victims that had been murdered carried out, and the bye-flanders fecretly fighing on account of the horrid spectacle, he asked his tutor, why nobody killed fuch a tyrant. "It is," replied he, "because he is still more feared than hated." Cato exclaimed, "Give me a fword, that I may kill him, and deliver my country from flavery." He uttered these words with a tone of voice and an aspect that made his tutor tremble; and from this time he was very watchful of his pupil, left he should attempt some rash and daring action.

Notwithstanding the firmness and intrepidity of Cato's temper, he was not unsusceptible of tender emotions, nor destitute of kind affections. His love to his brother Capio was manifested on a variety of occasions, whilst he lived; and when he died, grief feemed to triumph over all his philosophy. He shed many tears whilst he embraced the dead body; for fome time he indulged dejection and melancholy, and expended great fums in his funeral, and in creeting a monument of costly marble in the forum of Enus, a town of Thrace, where he died, nor did he quit his athes till he brought them into Italy. But though he was led by fraternal affection to incur this expence, and though in his maturer years he received a confiderable fum of money from his share of the paternal estate, the habits of his life were simple and frugal, and he cultivated the manners of a philosopher rather than those of a young patrician. The course of his studies was adapted to his peculiar temper; and the principles of the Stoic philosophy, which he assiduously cultivated, under Antipater of Tyre, habitually influenced his judgment, difpolition, and conduct. With a view of being better qualified for defending the cause and claims of justice, and enforcing wife and falutary counfels, he thudied eloquence; but his eloquence was altogether destitute of artificial ornaments; it was fimple and grave, and occasionally intermixed with dry humour and farcasm. Cato not only cultivated his mind; but he inured himself to bodily exercise, and to every kind of fatigue and hardship, in order to acquire that corporeal itrength and that firm tone of nerves which were fuited to his mental disposition, and which would qualify him for the various active fervices to which he de-

voted his life. He was also diftinguished by his felf-denial and temperance; and he avoided every kind of luxury in drefs and in diet, which began very much to prevail among his countrymen. He has been charged, however, with occafional excess in the use of wine; and his advocates have found it difficult altogether to exonerate him from the charge of drunkenness. The charge was strongly urged by Cæfar, who may be confidered as an enemy; but as he was regarded by all Rome as a model of private as well as public virtue, and peculiarly diffinguished for his temperance, we may infer that his conduct in this respect must have been maliciously exaggerated. Cicero, in his defence of him against Memmius, who accused him of passing whole nights in drinking, could only allege, that he could not reproach him with paffing whole days at dice; and Seneca, his extravagant panegyrift, very abfurdly fays, "that it is more eafy to make drunkenness a virtue than Cato vicious." In his dress he also affected fingularity, and seemed to glory in counteracting the tafte and fashion of the age in which he lived. We may also add, that he blended with that greatnefs of foul and constancy, which have been justly admired, a degree of haughtiness and contempt for others, attributable perhaps to the principles of his philosophy, which in a degree degraded his general character and rendered it less amiable. After all the allowances which truth and candour are constrained to admit in forming a general estimate of his character, Cato has been justly considered as one of the most virtuous Pagans that ever lived. Cato acquired from inheritance an ample fortune; which he employed very differently from his ancestor, the Cenfor, in loans and gifts among his friends, without recurring to usury for its increase. Difappointed in his first views of a matrimonial nature, by the prior claims of Metellus Scipio, he formed a connection of this kind with Atilia, the daughter of Soranus, whom he repudiated for her infidelity, after having had two children by her. The first military service of Cato was in the "fervile war," under the conful Gellius, against Spartacus; on which occasion his conduct was fo much approved by his general, that he offered him fome military rewards, which he declined, alleging, that he had done nothing that deserved fuch honours. Soon after he obtained a tribune's commiffion, with which he was fent to the army in Macedonia under Rubrius. This general gave him the command of a legion, which became, in confequence of his fedulous attention to the morals as well as the discipline of his men, the most orderly as well as the most martial in the service. It was at this time that his brother Capio died. When the term of his tribunitian service expired, he made the tour of Asia, without burdening the allies of Rome, which was too frequently done by the journies of Romans of distinction. At Ephefus he was introduced to Pompey, who received him with very dillinguished tokens of respect; but though he paid him particular attention whilst he was present, he does not feem to have regretted his departure, as he did not wish to have his conduct inspected by so rigid an observer. After having vifited the whole of Afia and Syria, Cato returned to Rome, accompanied by the celebrated Stoic philofopher, Athenodorus, who refided in his house. Having acquired those maxims of wisdom and habits of virtue which qualified him for the service of his country, he now wished to employ them for the benefit of the public. His philosophy, so far from aiming at that imaginary perfection, which confilts in abstraction from all the common duties of life, was fuch as the poet Lucan represents ;-" _____ patriæque impendere vitam,

" _____ patriæque impendere vitam, Nee fibi, fed toti genitum se credere mundo." Pharf, ii. 382. To hold his being at his country's call,
And deem his life was lent a common good for all."

Accordingly he first aspired to the office of quastors having previously studied with diligence the rights and duties of this office. Having succeeded in obtaining it, he began with reforming a variety of abuses, which had been introduced by his predeceffors; and, heedlefe of private enmities, he brought all defaulters to account with the public, and established such checks and orders that might essectually ferve to prevent future fraud and peculation. One of the boldest and most popular acts which he performed was that of calling to first account the infamous affaffins employed by Sylla and extravagantly recompensed out of the funds of the treasury for the apprehention and murder of proferibed persons. These men he caused to refund their illacquired gains, reproaching them at the same time for their crimes, and indicting them for their atrocious murders before the criminal judges. Such were the integrity and affiduity, with which he discharged all the duties of his office, and fuch was the high estimation in which his conduct was held, that his name became in a manner proverbial for uprightnefs. To this purpose we may adduce the compliment paid to him by a popular crator, who, once objecting to the de-cision of a cause by the testimony of a single witness, said, "One man's evidence is infusficient, were it even Cato's." His fidelity in performing the duty of a fenator was no lef; exemplary than the discharge of his functions as quættor. He was the first in the fenate, and the last that left it; and as he frequently passed a considerable interval of time, before the house was assembled, he brought a book, and read till it began to deliberate: nor did he ever quit the city during the fession of the senate. Although he attached himself at this time to none of those who led the prevalent parties in the state, but rather opposed and suspected all, he inclined to that of the ariflocracy, from an opinion that the existence of the republic was chiefly endangered by men of great popular influence. No man was ever less governed by that ambition, which actuated the leaders of all parties, than Cato. Nevertheless, he thought it his duty to step forward, whenever he apprehended that his country needed his fervices. With these views he altered his purpose of retiring from the public scene, when Metellus Nepos, whom he knew to be a man of dangerous character, was offering himfelf for the office of tribune; and became a candidate, as his competitor. They were both chosen; and Cato, as tribune elect, ferved his country very essentially at the time of the conspiracy of Catiline. Concurring with Cicero in his measures for the safety of the state, he supported them by his influence, honoured him with the appellation of "Father of his country," and by his eloquence counteracted the speech of Cæfar, who wished to shew lenity to the conspirators, and procured their capital condemnation. He afterwards opposed a motion of Metellus for recalling Pompey from Alia, that he might have the command against Catiline; but his opposition was followed by a tumult, excited by Metellus and aided by Cafar, which very much endangered his life. After Pompey's return to Rome Cato exerted himself in descating his unconstitutional projects; and when the first triumvirate was formed, he alone perceived the danger that might refult from fuch an union of power. When Cafar proposed his agrarian law, Cato raised an outcry against it, alleging that it was not proper to disturb the public tranquillity, and that he did not fo much apprehend the divilion of the lands, as the wages that would be required of the people by those who sought to inveigle them by this present. Casar, who was then conful, was so much provokee

provoked by the invincible opposition of Cato that he committed him to prison; but he was soon after released. Cicero used many arguments to mollify the inflexibility of Cato's temper; and fearing that banishment might be the confequence of his continued opposition, addressed him with these words, "If Cato has no need of Rome, Rome has need of Cato." At length Cato yielded; the agrarian law was passed; and the triumvirs became irresistible. Their principal agent was Clodins; and as Cato refifted his meafures, he determined to remove him from Rome. With this view, he expressed confidence in his integrity, and having obtained a decree for depriving Ptolemy, the king of Cyprus, of his dominions, on the ground of perfonal animofity and revenge, he affigned to Cato this odious employment, and obtained a law, invelting him with the authority of prætor, for the execution of his iniquitous purpole. Whilst Capidius, a friend of Cato, was fent to acquaint to learn the refult of the negotiation. In the mean while Ptolemy, fully apprifed that refiftance would be vain, precree. As foon as Cato heard of the event, he fent Brutus, blished the exiles of Byzantium, which was another object of his commission, he repaired to Cyprus, where he disposed of all the treasures he found amounting to near 7000 talents or about 1,050,000 pounds sterling; referving to himfelf only a statue of Zeno, the founder of the Stoic feet. This wealth was fafely transported to Rome, and lodged in the treasury; and it seems to have been a just retaliation of the iniquity of the measure by which it was procured on the part of the Roman people, that it was foon after feized by Cæfar and employed in the destruction of their liberty. After Cato's return to Rome a contest took place between Cicero and Cato, respecting the legitimacy of the tribunethip of Clodius, and the confequent validity of every thing that had been done by Cato in the island of Cyprus; but the interruption of friendship and coolness that were thus occafioned between these two diffinguished persons soon termi-

We have already mentioned Cato's first marriage of Atilia and his subsequent divorce. When this event took place, he married Marcia, the daughter of his friend Philippus, with whom he feems to have lived in connubial harmony and by whom he had feveral children. However, at the time when fhe was actually pregnant, he refigned her to Hortenfius at his request, and having obtained her father's confent, gave her away in marriage to his friend. This transaction, though altogether inconfiftent with modern ideas and manners, was conducted with gravity and decorum, and feems to have occasioned no scandal. After the death of Hortenfius, who bequeathed his large fortune to his vidow, Cato took her again. In this case, as a new marriage ceremony was performed on both occasions, it cannot be justly faid that Cato lent his wife. Moreover, he only availed himfelf of the unlimited right of divorce allowed by the Roman law, her again as his widow. It has been faid, however, that, notwithstanding the established usage among the Romans, a perfon of Cato's dignity and character should not have fanc-

Cato, who still perfished in his opposition to the triumvirs, took an active part in the causas of Domitius, his fisher's husband, for the consulting against Pompey and Crassius; but whilst they were foliciting votes in the Campus Martius, they fell into an ambuscade prepared by the rivals of Domitius, and Cato was wounded by the affaffins, This intrepid Roman, who was not to be deterred by any violence from ferving what he apprehended to be the caufe of liberty, expofed himfelf to new danger by his firenuous oppolition to the Trebonian law, which proposed to affigin to the confuls the government of Syria and of Spain for five years, with as many troops as they should judge proper, and with the power of making war and peace according to their own pleafure. After all the efforts of a constancy equally obtlinate and fruitless, Cato was feized by the ferjeants of Trebonius and conveyed to prison; but the tribune fearing the consequence of this unpopular meature, caused him soon to be released. The next, and the highest civil dignity, to which he was advanced, was that of practor, and in the execution of this office he engaged the fenate to issue a decree against bribery; but Rome was reduced to such a state of corruption, that the decree offended both the candidates for offices who purchased votes, and the records who fold them.

After the death of Craffus, the agents of Cæfar were inlefs obnoxious measure of creating him fole cousul. Pompey was not infensible of his obligations; and Cato, who professed to have served him with a view to the interest of of checking him when he thought his conduct was improper. fulfhip, but not condescending to make a popular canvas, he this occasion he observed, that an honest man, and good citizen, should not decline the administration of public affairs, when he was thought fit to be employed; but that he ought not to be immoderately anxious and ardent in as proprætor to the government of Sicily, and in the difcharge of his office he acted with his ufual vigilance and doned the island and removed to Pompey's camp at Dyrra. chium, where he was left to guard the treafure and military thus he was preferved from being prefent at the battle of Pharfalia. During their previous intercourfe, it was his adnegotiation; for fo patriotic were his feelings, that he inclined; and after the victory at Dyrrachium he could not occasion. From the commencement of this contest, apprehending the loss of many brave citizens which it must unavoidably occasion, he neither shaved his beard, nor cut his hair, nor wore any other garb befides that which teftified the anguith of his mind. His humanity was very fignally war to pals an order, that no city subject to Rome should of battle. After the difathrous battle of Pharfalia, Cato command to Cicero, as superior officer; but Cicero, con-

feious of his unfitness for the arduous and important under- battle towards Utica, his hopes revived; but when he retaking, declined accepting it; upon which Chaius, the fon ceived from them a meffage, expressing their attachment to of Pompey, was fo provoked, that he drew his fword and would instantly have killed Cicero, if his hand had not been staid by Cato, who conveyed the orator from the camp privately by night. From Corcyra, Cato proceeded to Africa, in order to Join Pompey; but immediately on his arrival he received the news of his affaffination. Adhering full to the cause of liberty, whilst he conceived any hope remaining, he proceeded with his troops to Cyrene; whence he purfued his march acrofs the deferts, encountering many toils and dangers, with a view of joining Scipio, the father-in-law of Pompey, who had landed before him in Africa, and taken refuge with Juba, king of Mauritania. In this fatiguing and hazardous march, he exhibited every quality that was adapted to inspire his soldiers with elleem and attachment, leading them for feven days on foot, and subjecting himself to hardships equal to those to which the meanest of them were exposed. At length a junction of the whole force was effected at Utica; and when a contest arose concerning the supreme command, Cato, in opposition to the wishes of the whole army, vielded to the pro-confular dignity and auspicious name of Scipio, and perfuaded all to acquielce in his superiority. But he had afterwards reason to repent of his self-denial. As the inhabitants of Utica were justly suspected of entertaining a fecret inclination for Cafar's party, Juba, whole temper was violent and cruel, wished to destroy the city and exterminate its inhabitants, many of whom were Romans. Cato humanely interpoled, and, though Scipio concurred with Juba in opinion, he inveighed with fo much vehemence and indignation against so unparalleled an act of cruelty, that he put a flop to the execution of this barbarous project. At the defire of Scipio, and in compliance with the request of the inhabitants, Cato undertook to defend the city; and with this view he formed ample magazines of corn, repaired its walls, erected turrets, and prepared a fort of camp without, enclosed with a ditch and palifade, in which, after having taken away their arms, he lodged all the youth of Utica. As for the rest of the inhabitants, he kept them within the walls, frietly watching their motions, but at the fame time protecting them from the infults of his foldiers. From this place, thus stored and guarded, he furnished Scipio with arms, money, and provisions; and thus rendered it the grand magazine for the fupply of the army. Whilst Cato was thus employed, Scipio and Labienus were opposed to Cæsar in the field. It was the decided opinion of Cato, that the war should be protracted; and to this purpose he repeatedly counselled Scipio not to engage in a general action with a commander of Cæsar's abilities; but Scipio rejected his advice with disdain; and the consequence of difregarding it was that almost the whole republican army was destroyed at Thapfus. This fatal battle was fought at the distance of about three days' journey from Utica; and this garrifoned city was the only place in Africa that had not submitted to the conqueror. Cato, having quelled the tumult of its inhabitants, and difpelled their alarms, assembled the council of 300, which he had formed into a kind of fenate, and exhorted them to unite, with their persons, property, and counsel, against the common enemy. With a firmness and prudence for which he was eminently diffinguished in the moment of impending danger, he exerted his utmost efforts in calming their apprehensions, composing their differences, and animating their constancy. But his endeavours produced only a temporary effect, and ferved only to delay the threatened evil. Upon the arrival of Scipio's cavalry, which had retreated from the field of

him, and their distrust of the Uticans, he was again alarmed : more especially when they stipulated their assistance in the defence of the city, on the favage condition of previously killing or expelling the fuspected inhabitants. Cato thought this proposal no less unreasonable than cruel, and declined accepting it. Cafar was now approaching, and the fenators refolved to fend deputies to him for the purpose of imploring his clemency; avowing at the fame time that the first and principal object of their folicitations should be Cato, for whom if they failed in obtaining protection, they would not accept any pardon for themselves, but would fight in his defence to the last moment of their lives. Cato acknowledged himfelf obliged to them for their kind intentions, approved of their delign of fubmitting to Cæfar, and advised them to lose no time. But he forbade them to make any mention of him in their folicitations. "It is for the varquished," faid he, "to have recourse to supplications, and for those who have done injustice to sue for pardon. As for me, I have been invincible during the whole course of my life, and even now am as victorious as I wish to be, and triumph over Cæfar by the fuperiority of juffice and equity. It is he that is conquered; it is he that is overpowered; being this day attacked and convicted by undeniable evidence (notwithstanding he has always denied it), of plotting against his country." The cavalry, who had impatiently waited the result of Cato's deliberation, were now leaving the city, and before they departed enriching themselves with plunder, which Cato made every possible effort to restrain; and as most of the senators preferred escaping by fea to putting themselves under the protection of Juba, Cato, perceiving that their danger was increased by the departure of the cavalry and the approach of Cæsar, took the last measures for hastening and securing their retreat. His own refolution was fixed; and that was neither to ask his life of Casar, whom he regarded as an usurper, nor to dishonour himself by slight, and thus protract a fruitless contest. Having determined to put an end to his own existence, he prepared for the last scene by acts of kindness to his friends, and grave discourses with philosophers. In the last evening of his life, he first bathed and then supped in the midst of a large affembly of his friends, and the magistrates of the city, whom he had invited to this last interview. They fat late at table, and the conversation was lively, gay, and instructive, turning on certain points of moral philosophy. Supper being ended and the company dismissed, he walked for fome time, according to his usual practice, and then retired to his chamber, where he read Plato's dialogue, entitled " Phædo," on the immortality of the foul. Having made a confiderable progress in it, he looked for his fword, and found that it was withdrawn; his fon having taken it away, while they were at supper. Upon this he called his flave to question him concerning his fword; but receiving no answer he refumed his reading. He again asked for his fword; but perceiving, when he had done reading, that it was not brought, he called all his flaves one after another, and raifing his voice, infifted on their bringing it. "What," faid he, with a great degree of indignation, "do my for and family conspire to deliver me to my enemy, unarmed and defencelefs?" His fon then appeared, accompanied by other friends, who befought him with tears, and in the most fuppliant manner, to alter his purpofe. Cato's indignation was more rouzed, and he vehemently remonstrated against their conduct. " Brave and generous fon," faid he, " why do you not put your father in chains? why do you not tie my hands behind me, till Cæfar come, and find me incapable

of defence? Had I a mind to defiroy myfelf, I could equally effect it without a fword; fince by holding my breath for fome moments, or only once dashing my head against the wall, I could dispatch myfelf, were I so disposed." Afterwards recovering his calmnels, he vindicated to the two philosophers, Demetrius and Apollonides, who attended him, the reasonableness of his purpose, and the folly of attempting to deprive a man, already determined, of the means of death. A young flave at length brought him his fword, which he drew and examined with attention; and finding it sharp and fit for execution, he faid, " Now I am my own mafter." He then laid it down, took up his book, and read it from the beginning to the end. Plutarch affures us, that he afterwards flept, and fo foundly, that those who waited without, and liftened at the door, heard him fnore. Some, however, have questioned this fact, and ascribed to him an affectation of tranquillity, by which he hoped to augment the false glory which he expected to derive from a voluntary death. However this be, about midnight he difpatched one of his freedmen to the fea-fide, in order to bring him information whether or not his friends had fet fail; and being told that the wind was very high and the fea rough, he expressed great concern. He sent again to the port to know, if any remained, and if they wanted any affistance, and during the absence of the messenger, renewed his fleep. Being at length affured that all was quiet in the port, he defired to be left alone, and then stabbed himself with his fword. The noise occasioned by his fall summoned his fon and his friends into the chamber, where they found him still alive, but weltering in his blood, and part of his bowels hanging from the aperture in his body. Attempts were made, during a fainting fit, to preserve his life by replacing his bowels and fewing up his wound; but as foon as he came to himfelf, he violently tore it open again, and inftantly expired. This event happened in the year B. C. 46, when Cato had attained the age of 48 years. As foon as the news of his death was fpread through the city, the Uticans loudly lamented it, and caused the air to resound again with encomiums on his character, as their benefactor and their faviour. Notwithstanding Cæsar's approach, they folemnized his obsequies with great pomp, and erected a monument to him near the fea-shore, where, in Plutarch's days, was a statue of Cato, holding a sword in his hand. When Cafar received information of his death, he is faid to have exclaimed, "O Cato! I envy thee the glory of thy death; for thou hast envied me that of saving thy life."

It would lead us into a wide field of discussion to thate the arguments that have been used by some to extenuate and even to justify, and by others to criminate and condemn this last act of Cato. In judging concerning his conduct, we should advert to the principles of his philosphy. Profeshing to believe with the fect whose tenets he embraced, that it might or might not, in particular circumstances, be expedient for a man to preserve or lay down his life, it remained with him to determine whether his own fituation was fuch as to warrant the voluntary termination of his existence. But it has been alleged, in reference to this latter view of his cafe, that he acted inconfishently with that virtue, on which he chiefly valued himself during the whole course of his life; and this was an invincible constancy, superior to all events. The fituation of his country, though discouraging, was not absolutely desperate. The remains of Pompey's party began to revive in Spain, and became afterwards very formidable. Cato, therefore, it is faid, in conformity to his character, ought yet to have tried that resource, or waited for fome unforescen and unexpected change favourable to his views; and consequently by the act of suicide, while any

hopes yet fubfifted, or whilft there remained a possibility of fome favourable revolution, he was deviating from his own principles, and abandoning too foon the cause of liberty. Some, indeed, have ascribed his death to that pride and inflexibility of temper, which the Stoical philosophy was adapted to produce and cherith. Accordingly it has been faid, that he distained such an hamiliation as that would have been of owing his life to Casar, and that he might not be obliged to his enemy for it, he preferred depriving himfelf of it by an act of despair. If we appreciate his conduct by the principles of an enlightened theirm, and more especially by those which we derive from our holy religion, we cannot hesitate in condemning it. See Suicide.

It was, however, for many ages, and has been by fome in modern times, extolled as an act of heroifm; and it gained among his countrymen general admiration. Horace, though writing under Augultus, places the "noble death" of Cato (Catonis nobile lethum, Carm. lib. 1. od. 12) among the greatest and most honourable events of the Roman hillory. Plutarch's Cato Minor apud oper. t. 1. p. 750, &c. Sallust, Rollin's Rom. Hist. vol. vii. viii. and

15.

CATO, VALERIUS, a Latin poet and grammarian, was a native of Gallia Narbonnenis, and driven by a civil war which occurred in his country in the time of Sylla to Rome, where he opened a felhool of grammar and polite literature, that was frequented by persons of the first rank. His friend, Marcus Furius Bibaculus, gives his culogium in these two lights:

" Cato grammaticus, Latina fyren, Qui folus legit, et facit poetas."

From the competence acquired by his professional labours, he fell into poverty, which he bore with great unanimity, and died at a very advanced age, B. C. 20. He was the author of several grammatical works, and some poems, one of which (if it be his) entitled "Dira," expressive of his forrow at quitting his native country and his Lydia, has reached our times. It was printed separately by Christopher Arnold at Leyden, in 1652, 12mo. and is contained in

Mattaire's Corpus Poetarum. Gen. Biog.

CATO's Diflicks, in Literary Hiflory, a well-known metrical fythem of ethics, which has been erroncoufly afcribed by some to Cato the censor, and by others to Cato of Utica; although it is perfectly in the character of the former, and Aulus Gellius (lib. xi. cap. 2) has cited with commenda-tion M. Cato's "Carmen de Moribus," which is altogether different from this. It is entitled " Difticha de Moribus ad Filium," which are distributed into four books, under the name of Dionysius Cato. This work has been absurdly attributed by some writers to Seneca, and by others to Ausonius. It is, however, more ancient than the time of the emperor Valentinian III., who died in 455. On the other hand, it was written after the appearance of Lucan's Pharfalia, as the author, at the beginning of the fecond book, commends Virgil, Macer, Ovid, and Lucan. The name of Cato probably became prefixed to these diffichs, in a lower age, by the officious ignorance of transcribers, and from the acquiescence of readers equally ignorant, as Marcus Cato had written a fet of moral diffichs. Whoever was the auther, this metrical fystem of ethics had attained the highest degree of estimation in the barbarous ages. John of Salifbury, in his "Polycraticon," mentions it as the favourite and established manual in the education of boys. It is also much applauded by Ifidore, the old etymologist, Alcuin and Abelard; and it must be owned, that the writer, exclufive of the utility of his precepts, possesses the merit of a nervous nervous and elegant brevity. It is perpetually quoted by Chaucer, who calls the writer Caton or Cathon; and Caxton observes, that it is " the beste boke for to be taught to youge children in fcole." But he supposes the author to be Marcus Cato, whom he duly celebrates with the two Sci-It was translated inpios, and other noble Romans. to Greek at Constantinople by Maximus Planudes; and at the reftoration of learning in Europe, illustrated with a commentary by Erasmus, which is much extolled by Luther. There are also two or three French translations. Fabr. Bib. Lat. t. ii. p. 213. Wharton's Hist. of English Poetry, vol. ii. p. 168.

CATO, in Geography, a military township of New-York state in America, 72 miles S.E. of lake Ontario, and about

20 S. of Ofwego fort

CATOCHE, or CATOCHUS, in Medicine, from xatexu, I occupy, or detain, are terms nearly fynonymous with CATApersis. Galen observes that the ancient physicians denominated the difeafe Catochus, which the later authors have named catoche and catalepsis. The latter term was first nsed by Asclepiades. The ancients, however, it is obvious, did not diffinguish the different forms of soporofe diseases, with that accuracy with which they are now difcriminated, and hence there is confiderable difficulty in afcertaining the precise meaning of their terms. It appears that the word catochus was applied by different writers, not only to catalepfy, but to Coma and to Tetanus, and perhaps to other difeafes, in which the voluntary power of muscular motion was diminished, or destroyed. Among modern nosologists, Dr. Cullen considers the catochus of Galen, as a variety of tetanus; and Sauvages refers it to the fame class; observing, however, that it differs from the tetanus; 1. in being a flow or chronic difease; and, 2. because it is not attended with vehement agitation of the breast and difficulty of breathing. It is equally difficult and unimportant now to affix a precife fignification to a word, which was never accurately appropriated by those who originally used it.

CATOCHITES, in Natural History, the name of a fosfil mentioned among the ancients, as having great virtues in medicine, and in the cure of wounds. It is faid to have been found in Corfica; and Pliny records this remarkable property of it, that if the hand were held upon it for some time it would flick to it in the manner of glue. Hence it appears

to have been a bitumen.

CATODON, in the Artedian fystem of Ichthyology, the name given to a genus of cetacrous animals, the characters of which are thefe: the teeth are placed only in the lower jaw; there is no fin upon the back, and the fiftulous aperture is placed either in the head or the fnout .- This genus is not admitted by Linnœus; his genus Physeter comprehends those cetaceous animals which have teeth in the lower by reslection. See Restaing Telescope. jaw, and none in the upper; and the species P. catodon is one of the two species of that genus, which has no dorfal fin. CATOLUCA, in Ancient Geography, fee CATUIACA.

CATOMUM, or CATOMUS, from xola and wass, Shoulder, in Middle Age Writers, denotes that part of the body

below the neck, and between the shoulders.

CATONBELLA, in Geography, a large river in Africa, in the kingdom of Benguela, which runs into the river, called by the Portuguefe Rio de las Vaccas, or Cow's river. It is composed of three large streams united, and be made. of a faltish nature : along the banks the natives dig large channels to receive its briny liquor, which is afterwards condenfed into a good falt.

CATONIA, in Betany, Just. p. 441. Brown Jam. Class and order, tetrandria monogynia, Nat. ord. undetermined. Gen. Ch. Cal. Superior four-cleft. Cor. none. Stam. four. Pift. Germ inferior, globular; ftyle one; ftigma one. Perix. Berry, fucculent, crowned, four-feeded; one or two of the feeds often abortive. A shrub. Leaves opposite. A native

CATOPSIS, in Surgery, a disorder of the fight; more

ufually called MYOPIA.

CATOPTRICS, derived from xatomteon, speculum; of ката, and отторан, video, I fee, the science of reflex vision; or that branch of ortics, which illustrates the laws and properties of light, reflected from mirrors or specula. The principles and laws of catoptrics, as a diffinct branch

of optics, will be found under the articles, Reflection

and Mirror. See also Light and Vision.

The principal authors who have treated of catoptries, among the ancients, are Euclid, Alhazen, and Vitellio. Euclid's treatife is the first that is extant on this subject; it was published in Latin in 1604, by John Pena, and is included in Herigon's course of mathematics, and in Gregory's edition of the works of Euclid. Some, however, have sufpected that this piece was not written by that great geometrician; though it is ascribed to him by Proclus (lib. ii.) and by Marinus in his preface to Euclid's Data. See Eu-CLID. Alhazen was an Arabian author, and composed a large volume of optics about the year 1100, in which he treats pretty fully of catoptrics. See ALHAZEN. Vitellio was a Polifi writer, and composed another treatise on this subject about the year 1270. Among the moderns, many authors have either directly or indirectly treated of this fubject. Tacquet has demonstrated very much at length the properties of plane mirrors in the first book of his Catoptrics, printed in the collection of his works in folio. Fabri has also written on this subject in his book, entitled " Synopsis Optica." James Gregory in his "Optica Promota," and particularly Dr. Isaac Barrow in his "Optical Lectures," have also directed their attention to the principles and laws of catoptrics. Dr. Barrow, in the last mentioned work. has laid down and demonstrated the principles of this branch of optical science with peculiar accuracy and clearness; and deduced from them the properties of fpherical mirrors, both concave and convex. We have also David Gregory's " Elements of Catoptries;" Wolfius's " Elements of Catoptries," Dr. Smith's elaborate work on optics, in which he has am ply discussed the laws of catoptrics; and many others of less note or of later date; either printed feparately or comprehended in those courses of mathematics and philosophy, both theoretical and experimental, to which we have occasion to refer in various parts of the dictionary.

CATOPTRIC Dial, a dial which exhibits objects by reflect-

ed rays. See DIAL.

CATOPTRIC Ciffula, a machine or apparatus, whereby little bodies are represented extremely large; and near ones extremely wide, and diffused through a vast space; with other agreeable phenomena: by means of mirrors, disposed by the laws of catoptrics, in the concavity of a kind of cheft.

Of these there are various kinds, accommodated to the various intentions of the artificer: fome multiply the objects; fome deform; fome magnify, &c .- The structure of one or two of them will fuffice to fhew how many more may

To make a catoptric ciflula to represent several different seenes. of objects, when viewed at different boles.

Provide a polygonous ciftula, cheft, or box, of the figure of the multilateral prism, ABCDEF (Plate IV. Optics, fig. 1.) and divide its cavity by diagonal planes EB, FC, DA, interfecting each other in the centre, into as many triangular locules, or cells, as the cheft has fides. Line planes make round holes, through which the eye may peep within the cells of the box. The holes are to be covered with plan glaffes, ground within-fide, but not polifhed, to prevent the object, in the cells, from appearing too diffinctly. In each cell are to be placed the different objects, whose images are to be exhibited; then covering up the top of the box with a thin transparent membrane, or parchment, to admit the light; the machine is complete.

For, from the laws of reflection, it follows, that the images of objects, placed within the angles of mirrors, are multiplied, and appear fome more remote than others: whence the objects in one cell will appear to take up more therefore, through one hole only, the objects in one cell will afford a new feene: according to the different angles the mirrors make with each other, the representations will be different : if they be at an angle greater than a right one, the images will be montrous, &c.

The pareliment that covers the machine, may be made pellucid, by washing it feveral times in a very clear ley, then to dry. If it be defired to throw any colour on the objects, it may be done by colouring the parchment. Zahnius recommends verdigrife ground in vinegar, for green; decoction of Brasil wood, for red, &c. He adds, that it ought to be varnished, to make it more pellucid.

To make a catoptric ciffula to represent the objects within it pro-

Make a polygonous ciftula, or cheft, as before, but without dividing the inner cavity into any apartments, or cells; (Plate IV. Optics, fig. 2.) line the lateral planes CBHI, BHLA, ALMF, &c. with plane mirrors, and at the foramina, or apertures, pare off the tin and quickfilver, that the eye may fee through: place any objects in the bottom MI, v. g. a bird in a cage, &c.

Here the eye looking through the aperture bi, will fee each object placed at bottom, vaftly multiplied, and the were a large multangular room, in a prince's palace, lined with large mirrors, over which were plain pellucid glaffes to admit the light; it is evident the effects would be very furprifing and magnificent. For other modes of applying and combining mirrors, fee MIRROR.

CATOPRITES, in Natural History, a name given by fome writers to a flone of the marble kind, which, when polished, was capable of ferving as a speculum, either flat, and only used to represent the images of things; or concave, and used as our reflecting burning-glasses. The hard black marbles were most frequently used for this purpole; but fometimes the reddish ones, and fometimes one or other of the jaspers. All these were indiscriminately called by the name catoptrites, when put to this use.

CATOPTROMANCY, formed from xxxxxxxxx, Speculum, and parter, divinatio, a kind of divination among the ancients: fo called, because it conlisted in the application of

a MIRROR.

Paulanias fays, it was in use among the Achaians; where those who were fick, and in danger of death, let down a mirror, or looking-glass, fastened by a thread, into a foun-

fign of death: on the contrary, if the face appeared fresh

CATO-SIMIUS, PETIV. in Zoology. See LEMUR

CATRA, or CATREA, in Ancient Geography, a town of CATRALEUCOS, a town of Spain, placed by Ptolemy

CATROU, FRANCIS, in Biography, a learned and ingenious writer, was born at Paris in 1659, entered among the in 1694. He officiated as a preacher for 7 years, and then abandoning that office, on account of the difficulty of comrature, and was employed from 1701 for 12 years in writing " A general History of the Mogul Empire," from the Portion of which, in 1715, is annexed the reign of Aurengzebe. His " History of the Fanaticism of the Protestant Reli-1706; and in 1733 he added, in two volumes, that of Davis im and of the Quakers. His "Translation of Virgil in Profe, with hiltorical and critical notes," began to be published in 170S, and was completed in 6 vols. 12mo. in 1716. With many defects and faults, this work displays both ingenuity and industry. The most elaborate performance of Catrou is his "Roman Hillory, from the foundarary life, and in which he was affilted by his brother Jefuit, Julian Rouillé. This appeared in 1737, with the notes, differtations, medals, &c. in 20 volumes 4to. and, without these appendages, in 20 volumes 12mo. The history was brought down by Rouillé, after the death of Catrou, in one volume 4to., to the end of Domitian's reign. The work difplays great labour and refearch, and contains an ample and well-connected collection of facts; though the flyle is affected, and not characteristic of a solid and dignissed historian. It has been translated into Italian and English. Catrou died in 1737, in the 78th year of his age, and retained to a very Nouv. Dict. Hift. Gen. Biog.

CATRY, in Geography, a particular feet of Hindoos, mentioned by Theyenot, who places them in the vicinity of the Indies. He explains this tribe to mean " Rajpoots," or warriors; that is, the Kuttry tribe, properly. These Catries, according to Rennell, were the Catheri of Diodorus Siculus, and the Cathei of Arrian; with whom Alexander

CATSAL, a town of Chinese Tartary; 28 miles W. of

CATTABANIA, in Ancient Geography, a country of

CATTACK, or CUTTACK, in Geography, a city of Hinprovince of Oriffa. It is feated on the river Mahanuddy, Bengal and the northern circars; and the possession of this if they faw a ghaftly disfigured face, they took it as a fure quence in the eyes of the Bengal government, than even his

extensive domain and centrical position in Hindoostan. It is distant 785 miles from Agra, 452 from Benares, 1034 from Bombay, 251 from Calcutta, 902 from Delhi, 651 from Hydrabad, 641 from Lucknow, 779 from Madras, 482 from Nagpour, 822 from Ougein, and 968 from Poonah. N. lat. 20° 32′. E. long. 86° 1′ 30″.

CATTAHUNK, one of the Elizabeth isles, in the state

of Massachusetts.

CATTAIO, a town of Italy, in the Paduan territory;

5 miles S. of Padua.

CATTARO, or CATARO, a town of Dalmatia, capital of the territory of the fame name, furrounded with thick walls, and defended by a castle; the see of a bishop, suffragan of Bari. It is subject to the state of Venice, and seated on a gulf of the same name. N. lat. 42° 25'. E. long.

CATTECORONDE, in the language of the Ceylonefe, prickly cinnamon. This is a bark very much refembling cinnamon, but produced by a tree which differs very much in the shape of the leaves, and is full of sharp thorns, which the true cinnamon tree is not. The bark has nothing either of the tafte or fmell of cinnamon, though fo like it externally. The natives the the root, leaves, and bark of this tree externally, to foften tumours. Phil. Trans. No 409. See Cas-SIA and CINNAMON.

CATTEGAT, or SCAGGERAC, in Geography, a large gulf of the North Sea, between North Jutland to the west, Norway to the east, and the islands of Zealand and Funen to the fouth; about 120 miles from north to fouth, and from 60 to 70 from east to west. This gulf is sprinkled with an aftonishing number of rocks and islands. See

CATTENOM, a town of France, in the department of the Moselle, and chief place of a canton in the district of Thionville. The place contains 1067, and the canton 14,876 inhabitants; the territory comprehends 2971 kilio-

metres and 47 communes.

CATTERTHUN, a remarkable Caledonian post, situate a few miles N. of the town of Brechin, in the county of Angus, in Scotland. Mr. Pennant represents it as a very throng post, and particularly describes its structure and di-mentions. Near it is another similar fortification of inferior ftrength, called " Brown Catterthun," from the colour of the ramparts, which are composed only of earth: the other confifting of stones. The former is of an oval form; but that of the latter is circular. Catterthun denotes " Camptown;" and Mr. Pennant is of opinion, that these might be polts occupied by the Caledonians before their engagement at the foot of the Grampian mountains with the Roman reneral Agricola.

CATTI, in Ancient Geography, a people of Germany, who lived in the vicinity of the Cherusci. They were a warlike people, and their infantry was reckoned the best in Germany. The most remarkable places of their country were Caltellum Cattorum and Munitium. Under the lower empire they were divided into two bands or classes; one of which joined the Cherufci, and the other established itself in

a diffrict of the country of the Batavi.

CATTIER, Isaac, in Biography, born at Pavis in the early part of the 17th century, received his education at Montpellier, where he took his degree of doctor of medicine, in 1037. Returning to Paris, he was made physician in ordinary to the king, and ranked among the most eminent phylicians of his time. He was author of feveral learned works. "On the Waters of Bourbon;" "On the Powder of Sympathy," which he did not admit to be possessed of the qualities attributed to it; " De Rheumatismo, ejus Natura, et Curatione," Paris, 1653, 12mo.; " Observationes Medicæ rariores," published the same year. They were afterwards joined with the observations of Peter Borelli. Among them is one of a malefactor who was executed at Paris, in whom the vifcera of the thorax and abdomen were found to be transposed; those belonging to the right fide being placed on the left, and vice verfa. He has also observations on varieties observed in the lacteals, and in the thoracic duct, and on fome monthrous births. Haller. Bib. Anat. et

CATTIGARA, in Ancient Geography, a confiderable port of India, the position of which corresponds, as M. d'Anville endeavours to prove, with that of Mergui, on the west

coalt of the kingdom of Siam.

CATTING the Anchor, is the operation of hauling the

flock of the anchor up to the cat-head.

CATTIVELLAUNI, in Ancient Geography, the inhabitants of that part of Britain which lay north of the territory of the Trinobantes, and east of that of the Dobuni, in the country which now comprehends Hertfordshire, Buckinghamshire, and Bedfordshire. These ancient British people are fometimes called by Greek and Roman authors Catti, Cassii, Cattieuchlani, Cattidudani, Catticludani, Catycuclani, &c. It cannot be doubted that they were of Belgic origin, and it is not improbable, that they derived their name of Catti from the Belgic word Katten, which fignifies illustrious or noble, and that the addition of Vellauni, which denotes on the banks of rivers, might be given them after their arrival in Britain, as descriptive of the fituation of their country. (Baxt. Gloff. Brit.) However this may be, the Cattivellauni formed one of the most brave and warlike of the ancient British nations, when Cæsar invaded Britain, and long after. Cassibelanus, their prince, was made commander in chief of the confederated Britons, not only on account of his own personal qualities, but also because he was at the head of one of their bravest and most powerful tribes. In the interval between the departure of Cæfar and the next invalion under Claudius, the Cattivellauni had reduced feveral of the neighbouring states under their obedience; and they again took the lead in the opposition to the Romans, at their second invasion, under their brave but unfortunate prince Caractacus. The country of these people was much frequented and improved by the Romans, after it came under subjection to them. It made a part of the Roman province called Britannia Prima. Its capital was Verulamium. Cæf. Bell. Gall. I. v. c. o. Dio. I. lx. Tacit. Annal. I.xii. c. 33. Henry's Hift. vol. i.

CATTIVO, Ital. bad: in Music, it is chiesty used in fpeaking of accentuation, as tempo buono, an accented part of a bar; tempo cattivo, an unaccented part. Of the former, in common time of 4 crotchets in a bar, the 1st and 3d are ac-

cented, and the 2d and 4th unaccented.

CATTLE, in Rural Economy, a name commonly applied to a certain kind of quadrupeds or beafts of patture, as those of the bos, or cow and ox tribe; which are animals

of vast importance in the practice of husbandry.

As marking the division of domestic animals, or what is usually termed live stock, they are often denominated neat, or the larger-horned cattle, and in some diffricts black cattle, though this last appellation is more frequently employed to fignify a particular breed or variety of this fort of animals. See BLACK Cattle. It feems not improbable but that all these forts of animals were originally in a wind or matamed state, and that in proportion as the art of cultivation increased, fuch as were the most proper and beit suited to this purpose and that of domestication, were gradually selected and made subservient to the power of man. This is more proLet'le from time being fill found in a flate-of nature in dif-

T catteristic distinctions of the genus or kind, according to the very intelligent naturalist, Mr. Pennant, are that they are "cloven footed, with or without horns, the horns bending out laterally; eight cutting teeth in the lower jaw, and none in the upper; the skin along the lower side of the neck pendulous; rounded horns with a large space

This species constitutes the principal particular forts, being formed from the original and most remarkable divisions or diffinctions; and the varieties are produced by the intercopulation of these, which, from their being accidental, as well as from the great divertity of foil, food, and climate, must obviously assume a valt diversity in respect to shape and form. Some of these varieties, whether original or acquired, have, however, been preserved in a permanent state by the efforts and attention of the careful breeder. But notwithflanding the variations produced in neat cattle by the influence of climate, or the agency of other causes, the principal specific diffinction which has been made in their kind by the naturalith is that of the urus, or common buil of temperate climates in its native wild thate, and the bifon or bull of the more hot regions, having a bunch between his shoulders, which in fome of the largest is faid to be of considerable weight and exquisite flavour, and to form the characteristic distinction of the animal: while the clevated crest, and in some cases the lion's mane, form nearly a characteristic mark of the common bull, the former of which being individually preferved to the ultimate stages of domestication, as is occasionally feen in the Devonshire, Alderney, and other kinds or

Before we come to confider the various breeds and varieties of domedicated cattle in our own country, it may be of advantage to take notice of fome particulars respecting those

in others, that are the most remarkable.

In regard to the urus, or native wild bull, it has in general a curled shaggy coat, especially on the forehead; the hair constantly long on the fore quarters, neck, and forehead, and depending from the chin; the neck elevated, thick and short, with the tail long, the eyes red and stery; the horns thick and short. It grows to a large size, the semale being larger than our largest bull, and is of a black colour.

The bifon has the fame hairy appearance in his fore part only; his long fhaggy mane forms a fort of beard under his chin, but he differs from the former in having a lump or bunch between his fhoulders, and the tail and legs are thort, the eyes fierce, the forehead large, and the horns extremely

wide.

The former of these forts of animals are dispersed over the more temperate and cold climates, and especially throughout America, probably imported from Europe; while the latter have spread over most of the more southern parts of the world, but with considerable diversity in respect to their size and form:—Those met with in the island of Madagascar, in Malabar, as well as other parts of India, in Persia, the Ukraine, Calmuck Tartary, the Upper Ethiopia, and in Abyssinia, being of the proper bisson or large kind; while those of Africa, the higher southern latitudes of India, and some parts of Arabia, are of the small dwarf or zebre kind; in which the hair is more sine, glossy, soft, and beautiful, than that of the common cow:—The largest animals of the different forts being constantly met with in those temperate situations or districts, where the supplies of water and herbage are the most regular and abundant.

In fome of the former of the above countries the animals rife to a very large fize, fometimes being wholly without kerns, but in other cases with extremely large branching or pendulous ones, having a very great fubflance or thicknefs at the-bafis. They are in much estimation, especially the oxen, when of a fine white colour, for the purpose of quick draught in carriages. And in some of the more barren and less fruitful parts of the latter countries the fort is found extremely useful in carrying loads, though often not more than three feet in height.

The Indian cattle have been occasionally brought from their native situations, and blended with the breeds of this

country.

The musk bull, which is found in the interior parts of North America, between Churchhill and Seal rivers, may perhaps be confidered as a variety of the above fort produced by intercopulation with the wild European kind, as the wild bull of this part of the globe emits a musky feent. It is deferibed as fomewhat lower, but more bulky than the deer; the legs short, a small hump or bunch on the shoulder; the hair of a dusky red colour, very fine, and so long as to reach the ground; beneath which the body is covered with an ash-coloured wool of exquisite sineness, capable of forming stockings siner than silk. The tail not more than three inches in length, being covered with long hairs, which the Esquimaux Indians convert into caps. The horns are close and large at the base, bending downwards, and turning out at the tips, being two sect in length or more.

The farbuc, or grunting ox of Tartary and Thibet, where it is brought into a domeflic flate, from having the hump between the floulders, and being capable of generating with the bifon, may obvioufly be concluded to belong to that kind. The chief circumflance in which it differs, is that, instead of lowing, as in the ox kind, it has the peculiarity of grunting like the hog, but it varies in other particulars. It has the whole body covered with a very long hair, which hangs down below the knees, mostly of a black colour, except on the ridge of the back and the mane, which is white. The horns are short, upright, sharp, and slender at the extremities. The tail in the form of that of the horse, but white and bushy. It buts or strikes with its head like the goat, and in its wild state is extremely unruly. The tail is held in high estimation for various purposes of ornament.

How far any of these foreign breeds or varieties of cattle are capable of being introduced with advantage into this country, remains to be further proved by the tett of actual experiment, in respect to the qualities or properties of hardinels, quickness of fattening, lineness of shavour in the meas, and many other points, as has been ingeniously suggested by

Dr. Anderson.

In regard to the cattle of our own country, as they are not lefs numerous in their varieties than those of the foreign kinds, and of much more importance to the farmer in a variety of different points of view, but particularly in that of profit; the greatest care and attention should obviously be bestowed on the breeding, rearing, and providing such forts as are the best suited to the particular nature of the farm, or land on which they are to be supported. And as no one particular breed is suitable for every situation or kind of farm, much circumspection should be employed in adapting them to the peculiar nature of the climate, situation, and foil.

The circumstances that are to be more particularly regarded, in respect to the breeds themselves, in so far as they interest the farmer, have been already explained, in confidering the methods of breeding this fort of live stock. See Breening.

It is not well ascertained what were the primitive or original forts of cattle in this island, but it seems probable from those breeds which have, from particular circumstances, re-

mained

mained without being much debased by the admixture of other forts, such as the Highland, the Welsh, and the North Devou, as well as perhaps the Lancashire long-horns, that, in the more hilly regions and the low vallies, they confilted of the long and middle-horned varieties, perhaps without any of the flort-horned fort, which have, probably, been since introduced from the opposite continent. Some, however, think, with much probability, that the long-houned fort was originally brought into this country from Ireland, from the native stock of that island confissing wholly of that breed, and from no other country possessing with the probability of form and fixe of horn.

Poland is likewife supposed to have supplied the breed, which, from their having no horns, is termed the polled, though it is probable from the want of horns being a part of the generic character, that a mixture of this fort of cattle may have originally exilted in the country, notwithstanding they are now so blanded and intermixed with others as not

to leave a possibility of discovering the original.

It is probable that the primitive or original forts of cattle have not deviated much from their flandard forms, except in what has proceeded from an increase of fixe, bulk, and subflance, in consequence of being better supported from the improved state of husbandry, and their being blended and moulded into different varieties by crossing, and other

means made use of by the breeder.

The numerous breeds and varieties of cattle which are to be found in different diltricks of this kingdom have been principally defignated either from the appearances which they immediately prefent to the farmer, or the places in which they are found to prevail in a flate of the greatelt perfection; though no very correct enumeration of them has hitherto been givea, only a few of the more valuable and ulcful forts having been fully described.

Thefe are the long-horned or Lancashire breed; the middle-horned breed; the fbort-horned breed; the Welfo breed, the polled or Galloway breed; the Scotch breed; the Alderney

or French breed; and the wild breed.

It has been observed by Mr. Culley, in his "Treatise on Live Stock," that the long-horned or Lancashire breed of cattle are distinguished from others by the length of their horns, the thickness and firm texture of their hides, the length and closeness of their hair, the large size of their hoofs, and coarse, leathery, thick necks; that they are likewise deeper made in their fore quarters, and lighter in their hind-quarters, than the other breeds in general. And Mr. Donaldson says that in size they are superior to the Sussoli, the sum of the sum

These cattle are more varied in colour than any of the other breeds; but whatever the colour be, they have generally a white streak along their back, which the breeders term linched, and mostly a white spot on the inside of the hough. And in the bending of the horns there is an equal

variety in this fort of cattle.

It is likewife remarked by the fame author, that many people contend that they are the native or original breed of this island. It is not eafy, he fays, to afcertain this matter; but if he may venture a conjecture, he thinks it is probable these have been the inhabitants of the open plain country; whilst the wild breed, or perhaps the Welfit at d. Scotch, possessible the woody, wild, and mountainous parts of the island.—"However," fays he, "Lancashire at prefent, and for a

country for long-horned cattle, as Lincolnshire has for the large long-woolled theep; for though all or most of the cheefe-dairies in Cheshire, Gloucestershire, &c. and indeed the greatest part of the midland counties employ a kind of long-horned cows, yet they are only a shabby mixed breed. much inferior in fize and figure to the Lancashire breed, from whence it is very probable they all originated." The author of "The present State of Husbandry in Great Britain," however, thinks it probable that the long-horned breed originated in importations of cattle from the neighbouring country of Ireland; and that bulls and cows brought from that island, having been coupled with the ancient breed of the diffrict, produced the fort of cattle known by the name of the Lancashire or long-horned, and which now occupy a large portion of the patture lands of this kingdom. It is added, that befides Lancashire, the long-horned cattle are also very general in the counties of Warwick, Leicester, Gloncester, Chester, and several others of the midland counties; and what is furprifing, and shows great attention in the one instance, and equal neglect in the other, this fort of cattle is faid to be found in greater perfection in the county of Leicester than in the district whence they take their name. This has arisen, according to the observations of the author of the Treatife on Live Stock, from the graziers of these counties buying their best bulls and heifers for many years palt, before the people of Lancashire were well aware of it. The former paid more attention to that kind which were of a true mould or form, and quicker feeders: while the latter contented themselves with the old-fashioned, large, big-boned kind, which are not only flower feeders, but when fed, are not fuch good beef. In fhort, the little farmers in Lancashire, tempted by the high prices given them for their best stock, had lost their valuable breed before they were fensible of it." It is evident that the original breed of this fort of cattle spread themselves from the great breeding diffricts of the northern parts of Lancashire, Westmoreland and Cumberland, into the extensive grazing and dairying districts of the midland counties, where they are at present met with in the most improved state.

It is afferted that this breed is understood by graziers to be in general rather flow feeders, except that particular kind felected and recommended by the late Mr. Bakewell, which are faid to eat less food than the others, to become remarkably fat in a short space of time, and to lay their fat upon the most valuable parts, but have little tallow in them when killed; and, when used in the dairy, give very little milk. This variety also differs from the rest of the long-horned cattle, in having very sine, clean, small bones in their leggs, and thin hides. They are stated to be "a middle-fized, clean, small-boned, round-carcased, kindly-looking eattle."

It is supposed by Mr. Culley that the Irish cattle are a mixed breed between the long horns and the Welsh or Scotch, but more inclined to the long horns, though of less

weight than those in this part of the kingdom.

It was from the midland long-horned breed of neat cattle that the late Mr. Bakewell felected the flock for his great improvements in these animals. Much attention had indeed been previously paid to the procuring and introducing of the bell cow flock of this fort into this diffrict by others, and it was by felecting from these that Mr. Webster constituted the noted Canley flock. And from cows of this celebrated fort with Westmoreland bulls the very intelligent breeding just mentioned commenced his plan, which, after breeding repeatedly from the best of the same kind, constantly choosing individuals with the roundest forms and smallest bones, he produced that variety, which has since acquired so high

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a character for their fattening property. It is, of course, obvious that this variety which has been denominated the Dibbley or new Leicesler, is principally calculated for the purposes of the grazier, while the original long-horns have preserved their superiority for the pail. The size of this improved fort is considerable, and its utility sufficiently shewn by the high prices that are frequently given for them.

There is a fort of mixed kind which are termed half long-horns, that are an useful fort of stock, and which will be

noticed below.

The middle-borned orce of cattle are, according to the author of the Treatife on Live Stock, most frequently met with in the fouth and fouth-well parts of the illand, as Suffex, Dorfetshire, Hampshire, Devonshire, &c. and inve also reached fo far north as Herefordshire, in which district ; "hape the largest breed of this fort of cattle are now to be found. The cattle of this breed that are met with in Devonshire are said by Mr. Culley to be found in the greatest purity, and of the best kind, in the vicinity of Barntlaple; these are of a high red colour ; if they have any white spots they reckon the breed impure, particularly if those i ots run into one another; with a light dun ring round the eye, and the muzzle of the fame colour; fine in the bone, clean in the neck, horns of a medium length bent upwards, thin-faced and fine in the chaps, wide in the hips, a tolerable barrel but rather flat on the fides, tail fmall and fet on very high: they are thin-skinned, and filky in handling, feed at an early age, or arrive at maturity fooner than most other breeds; they are well fitted for draught, both as to hardiness and quick movement, and their shoulder-points are beautifully fitted for the collar.

But according to Lord Somerville, who has given a full account of them in the "Annals of Agriculture," and who must be allowed to be no mean judge of this breed of cattle; they are, when described, "not as they might be in imaginary individuals, but as they really are found, in general, speaking of this as of all other breeds, that conclufions must not be drawn from the shape and fize of the bulls, but from the general quality of their stock. Certain it is (he fays) that individually handsomer bulls are often to be found in other breeds; and it is as certain, that this race, of which the whole produce is brought to view, flands the confessed favourite, or among the very first at Smithfield, where prejudice cannot find the way. And in forming an estimate of merit or demerit, the annual produce is to be the object attended to; this in oxen, which for superiority of grain, activity in labour beyond all competition, and what in horses is termed blood, will be found a right criterion to

judge of the bulls which got them."

And that "beginning with the shape of the bull, in any very handsome individual, the horn is (he says) found neither drooping too low, nor rifing too high, nor with points inverted, called here flag-headed; tapering at the points, and not too thick, or goury at the root; the colour yellow, or waxy. The eye clear, bright, and prominent; looking well behind and shewing much of the white; - a dead-eyed ox not often a good prover, or fine in fkin ;--- an occasional variation of colour round it. Forehead flat, indented, and fmall :- this found almost universally in this breed, and is a point that shews much blood. Cheek small and muzzle fine :- if the forehead is fine the muzzle is fo too. The note of a clear yellow, if possible like the horn, or mottled :- a black nose always to be avoided; for although occasionally a blacknoted ox may bear work, and die well, yet it is a point often demonstrative of a bad constitution, of fuch as tira feourers, or skinters provincially, and particularly when the cast of the coat is of too pale a colour. The nostril high

and open. In respect of throat, the bulls of this breed are fometimes reproached with being throaty, or with the skin too profuse and pendulous. The hair curled, giving an apparent coarseness to the head not to be found in the New Leicester buils, when carefully trimmed with scillars. The neck perhaps thick and goary in the ellimation of strangers, with which property the oxen of this breed are not to be reproached, or they would not labour as they do.

"Generally speaking (he thinks) the bulls are relatively to oxen not of a large fize; and it should be observed respecting fize in general, that nature operating in food and climatis is imperious, and will produce oxen proportioned to those two circumstances in due course of time, whatever may have

been originally the fize of the bulls and cows.

"Here end (he fays) the points wherein there is any effential difference between the bull and the ox; the variation in other is finall and uneffential; a remark which is, however, subject to limitation; for individual inflances will occur, which if too much attended to, would feem to establish a different rule.

"The neatness of form, and energy and vigour in labour, greatly, if not wholly, in this breed arose (he supposes) from breeding by heisers and year old and two years' old bulls. Although an old ewe may produce a finer lamb than a younger one, yet the quality of vigour is unnecessary and extraneous (he says) to the sheep. This, (continues he,) is a prejudice deeply rooted in the minds of all practical men, although much, in the estimation of some, may be given to climate.

"Compared with the horfe, the shoulder is (he conceives) low. It should correspond with the general thickness of low. It should correspond with the general thickness of ken animal; on no account projecting. If a bull-ck is inkneed, or bending towards each other, the point of the toe must be out; the point of his shoulder must be the same; and he must be hollow behind the withers, (an incorrigible point in an ox for feeding) and he must be, of necessity, a

flow worker.

"The bosom is not sharp with a loose, pendulous dewlap; but wide in form, and mellow in handling. In buying an ox great notice should be taken of the breadth of the bosom, and between the fore-legs, standing quite wide, the legs like straight pillars supporting a great burden. Much in buying is lost or gained by attention to this point: it is not for symmetry only, but implies strength and speed; a proportionate breadth of breast giving wind: and here we find (he says) the application to a working ox.

"The legs are straight; and the more blood an ox shews, the smaller will they be. The circumstance of this breed shewing more blood than any other in the kingdom, has she observes) been remarked by many persons ignorant of cattle, but deeply skilled in horses. The leg neither too long, nor

too fhort : an undue length is to be avoided.

"Very much of a bullock's proof is admitted, (he adds) on all hands to depend on the fize of the rib, rotundity of the barrel, and mellownefs of the fkin. Thefe are the first points to handle in a lean and in a fat ox. The two hind ribs should be bold, prominent, and widely independent of each other. The skin rising easily from the ribs, mellow, and elastic, affording room to lay fat on below it. A man buying a lean ox would do well to handle him on both sides: it often happens, that the frame or barrel is not equally round on both; one being evidently to the eye and hand flatter than the other.

"The hips, or pins, lie so high as to be on a level with the back, either in a fat or lean state; by no means dropping. The older the animal, the lower the upper sank drops, and consequently, the higher the hips appear. In this point of the upper flank, a skilful judge will (he thinks) discover much of the inward properties of a fat bullock. The hind quarters from the pin to the catch, or point of the rump, should be long and well filled up: handling the centre of this space is a leading seature, in the estimation of choice judges, and afcertains more of the substantial quality of the sight and fat of a beast than the prominence of fat so much admired by bad judges on the catch of the rump.

"The fetting on of the tail is on a level with the back, fomething clevated, nothing depressed: fize long, small, taper, and with a round bunch of hair at the bottom; the

tail, as in a horse, denoting much of high blood.

"The galkius are not too much cut away, nor, as in the Holderne's breed, heavy and loaded: bearing always in mind, that the'e oxen are not bred for inactivity, but for wind, vigour, and strength: for although a breadth in the bosom, inas much as it is effential to wind, in a working animal, is beneficial; yet a load of shesh on this hind part tends nothing to activity; and being of second-rate quality, is

not desirable for prosit.

"In point of ikm they are among the thinner classes, rather than the thicker. It is very rarely that an ox is found with a hard or wiry skin. Much depends on colour; the shades most admired are the mahogany; and the more glossy silkines, if smooth, the better. Those with curled hair are deemed excellent provers, and a very glossy mahogany skin, paler or lighter, with curls like ripples of wind on a smooth mill-pond, is also in the highest estimation. It is hard to say which of these is the best; all turning out such numbers of good fat oxen. The paler shades, if the eye is clear and good, will bear hard work, and prove as well as any. This rule only is ashfolute, that a pale skin, hard under hand, with a dark and dead eye, too often denote a skinter in hard work, and rarely under any indulgence, a good

"Refpecting the lower flank and the cod, they do not deferve that attention which many persons pay them, who

confider these points of prime importance.

"The graziers like this breed (he fays) best at five years old. The worked-out steers of the vale sell for more, at five years, than at fix: but six is the proper age. At eight, nine, and ten, they are going back in all their points; and in their value after seven. No ox should be kept after seven, or, at most, after eight.

"They (the red cattle) are (he fays) yoked at two or three years old, and lightly worked; labour increafed at foar; from that period till fix full worked. Worked oxen attain a larger fize than unworked; finish their growth generally at fix years

old; but the larger fize grow the longest."

From the actual experience of the noble writer, "the pole and yoke form the true lever of an ox, and he can draw a greater weight in yoke, than in collar and harnefs, particularly in a fleep country. The bullocks never come home in the middle of the day; a bundle of hay is carried into

the field; all the calves of this breed are reared."

Thefe oxen are "not (he fays) parted with by the tillage-farmers until the barley-fowing is over, and, in many cafes, the turnip-ground once flirred; yet they are grazed fat, in fix or eight months, to the average weight of forty-five fcore: thefe, kept on; after Christmas, fattened on-hay alone, which, in the grazing districts of the west, is held equally nutritious with any other fort of corn; oil-cake feeding not practifed: these hay-fed oxen stand the drift to London without walle. Instances of marsh-feeding heifers bought in April or May, quite poor, fit for the butcher by the middle of July; in August uncommonly sine beef."

"The flation of this breed begins (his lordship observes) at Barnstaple, and is traced, by pursuing the line of the river Taw, as high as Chumleigh, then to Tiverton on the Ex, Wellington, and nearly to Taunton. Then turning north fraight to the fea, over the eaftern boundary of the Quantoc hills, to Stoke Courcy; from which place, on the eaftern extremity, to the mouth of the Barnflaple river on the western, includes the whole, to the length of forty-sive miles, and to the breadth across, from Tiverton to Minchead, of twenty two. To the east of this range, the breed gets into a mixture of Gloucester, Welsh, Upper Somerset, &c. being a varied dairy fample: and more to the west, a Devon, verging on the principle of the Cornish stock. To the fouth, the variety of the fouth hams is found; coarle, with a good deal of white and brown, with black and white mixtures, of uncertain properties. Exmoor is the highest point of the diffrict thus defined, the country shelving from it in every direction, the fource of all the rivers, and the head-quarters of all the cattle. At Bampton and Wyvelifcomb, they are found in great perfection.

It is observed by Mr. Lawrence, in his "Treatise on Cattle," that "the red cattle of North Devon and Somerset are, without doubt, one of the original breeds, and one of those which has preserved most of its primitive form: the excellence of this for labour is best proved by the fact, that the sashionable substitution of horses has made no progress in the district of these cattle; by their high repute as seeders, and for the superior excellence of their beef, which

has been acknowledged for ages."

It was remarked by Mr. Bakewell, that the Devonshire could not be improved by any cross with other breeds.

This breed has been supposed by some to run to too great length of leg, crooked behind, or siekle-hammed, and to be of insufficient general substance, as well as to be more

apt to be in-kneed, that is, crooked in the fore legs.

It is suggested, by the writer just mentioned, that, "by a proper selection from their own stock, they might be bred somewhat more square and substantial, without at all detracting from their delicacy, shew of blood, or speed. Their labouring powers might be thus increased, and their quantity of beef, without either debasing its sine qualities, or rendering necessary a larger portion of keep. These cattle have generally, for a century past, it is added, commanded the best price at Smithsteld; but of late years she buyers there have shrewdly remarked, that although blood and sine form are very pleasing to the eye of the gentleman breeder, yet substance and weight are, and ever must be, the grand objects at market."

It is stated that "the Devonshire variety of this breed are the quickest working oxen in this country, and will trot well in harness; in point of strength, they stand in the fourth or fifth class. They have a greater resemblance to deer than any other breed of neat cattle. They are rather wide in the horns, in part inclining. Some, however, have regular middle horns, that is, neither short nor long, turned upwards and backwards at the points. As milkers, they are so far inferior to both the long and short-horns in quantity and quality of milk, that they are certainly no objects for the regular dairy. They have, however, been formerly used with success at Epping in Essex, in one or two instances; as a balance to which they are universally rejected by the dairies of their own and the neighbouring coun-

ties."

It has been stated by Mr. Young, "that the natt or polled Devonshire breed, in the neighbourhood of Barnstaple, is coloured, middle-fized, thick-fet, and apt to make fat, but

hill-cattle, are faid to be much more hardy, and better winterers, than might be supposed from their appearance."

The Suffex and Herefordshire cattle are varieties of the middle-horned, or Devonshire breed of a greater fize; the Herefordshire being the largest. Of these cattle Mr. Culley gives the following description. Colour red, fine hair, and very thin fkin, neck and head clean, horns neither long nor fhort, rather turning up at the points; in general, well made in the hind quarters, wide across the hips, rump, and furloin, but narrow on the chine; tolerably ftraight along the back; ribs or fides lying too flat, thin on the thigh, and bone not large. An ox, fix years old, when fat, will weigh from 60 to 100 flone, of 14lb. to the flone, the forequarters being generally the heaviest. The oxen are mostly worked from three to fix years old, fometimes feven, when they are turned off for feeding.

It is conceived by Mr. Lawrence, that the Herefordshire variety of cattle, which at prefent are a mixed breed, are, in general, to be confidered as having been originally of the Devonshire fort. And that "its great fize is probably derived from an intercopulation with the heaviest of the Welsh or

Shropshire breeds."

nance pleafant, cheerful, open; the forehead broad; eye full and lively; horns bright, taper, and fpreading; head fmall; chap lean; neck long and tapering; cheft deep; bofom broad, and projecting forward; shoulder-bone thin, flat, no way protuberant in bone, but full and mellow in flesh; chest full; loin broad; hips standing wide, and level with the spine; quarters long and wide at the neck; rump even with the general level of the back, not drooping, nor flanding high and flarp above the quarters; tail flender, throughout deep and well fpread; ribs broad, flanding close and flat on the outer furface, forming a smooth even barrel, the hindmost large and of full length; round bone fmall, fnug, not prominent; thigh clean, and regularly tapering; legs upright, and short; bone below the knee and hough fmall; feet of middle fize; cod and twilt round and full; flank large; flesh every where mellow, fost, yielding pleafantly to the touch, especially on the chine, the floulder, and the ribs; hide mellow, fupple, of a middle thickness, and loofe on the nache and huckle; coat neatly haired, bright and filky, colour a middle red, with a bald face, characteristic of the true Herefordshire breed." However, Mr. Lawrence fays, "of late years, confiderable coarieness of bone has been observed even in the best Hereford cattle; a circumstance which is of trifling importance, as they have proved themselves of such superior excellence that no possible cross could probably improve them." It is suggested "that the breeders should reslect on the importance of preferving the old blood in a state of as great purity as poffible, as they possess, for some purposes, the most valuable breed of cattle in the kingdom, and have been very judicious and fortunate, in nicely blending the elements of fuch a variety; but they ought not to forget, that, by further mingling and croffing with inferior flock, they may, by degrees, recede from the great eminence they have attained. Should, however, a cross become really necessary, from too much coarfeness or over-fize, the Devonshire or Norman bulls are supposed the proper ones."

It is added, that "the great diffinguishing properties of the oxen of this diffrict are, the great produce of beef, quick feeding in proportion to their growth and fize, and the union of fireigth and speed in labour. It is observed

coarfer than the true-bred. The Devonshire fort, being a that, with respect to the most profitable return in quantity of beef, it may be presumed no breed in England can stand in competition with this, and they have accordingly been most successful at the annual prize shews. They also are faid to command the first price alive or dead."

It has been flated that the weight of Mr Westcar's ox. which carried the prize at the Smithfield shew in December,

	31	DUCS OF 215"	ID.
Head, tongue, skirts, heart, and lights	-	13	2
Tripe, guts, feet, and liver -		19	I
Hide	-	16	.5
Blood	-	6	0
Fat	-	37	5
Offals -	-	92	.5
Fore quarter	-	72	I
Hind ditto	-	65	2
One fide -		137	3
Ditto -	-	137	3
Carcafs -	_	274	6
Offal3 ~	-	92	5
Grofs weight	-	367	3

Though the fhort-horns are of larger fize than thefe, they do not feed fo quickly, and require more keep than the Herefordshire fort, which vary very conveniently as to fize, but require to be well kept. They are the most powerful the plough or cart, and generally walk fufficiently quick. It is faid that they are docile and tractable, and, if trained with temper and kindness, will drive to an inch with reins.

But " as milkers they have nothing particular to boaft."

Mr. Lawrence thinks the old Glonessershire Reds and Browns were middle-horned, shewing blood, and refembling, in a confiderable degree, the South Devons, but of a more fquare and fubitantial form. They were, however, he supposes, a mixed breed, which shewed much Welsh blood, and were, it may be prefumed, more apt to fatten than milk, fince they have given way to the long-horned species in that dairy country. It would be difficult, he thinks, at this time, to find any genuine specimens of this old

The Suffex variety of cattle are, he fays, in high estimation ford forts, to which they are related. They are a mixed breed, in which much Welfh croffing is fufficiently obvious; but equal pains do not feem to have been taken in their improvement as with the Herefordshire kind. They may be eafily found in a flate of original purity as to form. This fort are very flat and deep, generally red or brown in colour, and show much blood; both wide and middle-horned, the the largest generally far too coarse in the bone, and of infusficient width or substance for their great depth of carcafs. They yet, he thinks, need no alien crofs, having all the to remedy the excessive fatness in some, a Hercford cross might be ufeful. Their speed appears to him remarkably respect, superior; they are, in the mean time, equal in over the deepest roads; in temper somewhat quick, like the Devons. These different varieties of the middle-horned breed of cattle are faid, for their particular excellencies, to deferve the utmost care from breeders, and to be one of the first objects of national interest, to spread them through the country as beafts of labour.

He supposes that the Kentish Homelreds, which are raifed from dairy heifers, are of a mixed breed, the Suffex generally forming the base, croffed with Welsh long-horns, Alderney, &c. A variety is, he fays, thus raifed of excellent butter-cows of a fmall fize; and he fuggets it to the breeders of that district whether it may not be worth while

to establish and render the breed permanent.

A good specimen of a bull of this fort raised from Sussex bulls, introduced into that county about forty years ago, was remarkable for shortness of the leg, length of carcass, and vaft fubitance; the bone fomewhat coarle, and crooked in the hams. It is observed by the same writer that, of the white cattle of Surrey, mentioned by old authors, he knows nothing, nor does he believe Surrey was ever a breeding county. The notion may have arifen, he thinks, from fome temporary introduction of Alderney, or other flock of light colour. " In fact, fays he, it is faid, that fome gentleman, about fifty years fince, brought up from Lincolnshire, into Surrey, a lot of white cows, very large milkers, and that the same kind were at that time kept in Suffolk; they were probably, he thinks, of Dutch extraction."

The author of the " Present State of Husbandry in Great Britain" remarks, that when all the properties which should attach to an useful breed of cattle are confidered, the middlehorned may be faid, as a general variety, to come nearer to perfection than any other in England. They are of a large fize, well formed, and in disposition to fatten, they are probably, he thinks, much on a par with the short-horned, and generally superior to the Suffolk. As dairy cattle, they are alfo as valuable as any that fall under the description of quick feeders; for although they give a less quantity of milk than the Suffolk or the long-horned, it is faid to be of

a richer quality.

The Short-borned breed of cattle, according to Mr. Culley, differs from the other breeds in the shortness of their horns, in being wider and thicker in their form or mould, confequently feeding to the most weight, in affording by much the greatest quantity of tallow when fattened, in having very thin hides, and much less hair upon them than any other breed, except the Alderney; but that the most effential difference, he thinks, confilts in the quantity of milk they give beyond any other breed; there being instances of cows of this breed giving 36 quarts of milk per day, and of 48 firkins of butter being made from a dairy of 12 cows; but the more general quantity is 3 firkins per cow in a feafon, and 24 quarts of milk per day. The great quantity of milk, thinnels of their hides, and little hair, are, he fays, probably the reasons why they are tenderer than all the other kinds, except the Alderney. It is faid of this kind, and he supposes very justly, that they eat more food than any of the other breeds; nor can we, fays he, wonder at this, when we confider that they excel in these three valuable particulars, viz. in affording the greatest quantity of beef, tallow, and milk. Their colours are much varied; but the generality of them are red and white mixed, or what the breeders call flecked, and, when properly mixed, a very pleafing and agreeable colour. They are chiefly to be found in Lincolnshire, and the eastern parts of the counties of York, Durham, Northumberland, and Berwick. And this breed, in consequence of its having been originally imported from Holland, is, he adds, frequently called the Dutch, and sometimes the Holderness breed, from a place of

power to the cultivation of the heaviest clays, and to draught that name in Yorkshire, where it would feem it was first established in this kingdom. Destitute of the exertion and agility of the middle-horned fort, fays Mr. Donaldson, they are not so well adapted for the cart or the plough. And confidering their fize, and the quantity of food they devour, it is probable, he thinks, that they are inferior to any of the above-mentioned; and, when compared with the Suffolk duns, greatly fo. Much attention, he observes, was formerly bestowed by the graziers in the midland districts on the improvement of the long-horned breed of eattle; and probably a greater number of eminent breeders have lately embarked in the laudable undertaking of improving the short-horned breed; and from their knowledge, assiduity, and exertions, much may be expected. Mr. Charles Collings at Kettnes, near Darlington, in Yorkshire, is supposed at prefent in possession of the best breed of short-horned cattle

There are many reasons, says the author of the "Treatise on Live Stock," for thinking this breed has been imported from the continent. First, because they are still in many places called the Dutch breed. Secondly, because we find very few of these cattle any where in this island, except along the eastern coall, facing those parts of the continent where the same kind of cattle is still bred, and reaching from the fouthern extremity of Lincolnshire to the borders of Scotland. The long horns and thefe have met upon the mountains which separate Yorkshire from Lancashire, &c. and by croffing have produced a mixed breed, called halflong-horns; a very heavy, ftrong, and not unufeful kind of cattle; but we do not find that the one kind has spread further west, nor the other further east. This breed, fays he, like most others, is better and worse in different districts; not fo much from the good or bad qualities of the land, as

from a want of attention in the breeder."

It has been observed, that the northern short-horned species is the largest breed in the island, the Herefords being the next. They are an original breed, but whether those of the northern counties are fo or not, cannot at prefent be ascertained; "that is to say, whether they are aboriginal, or were imported in very early times, as we know they have

continually been during feveral centuries."

Contrary to the long-horns, this fort has great depth of carcals; but with ample fubstance, large bone, thin hide, and gives much milk, which is not diftinguished for its richness. They are not of first-rate character as labouring cattle, as has been seen, which, nevertheless, the Holderness variety, Mr. Lawrence fays, feems to promife by their form. "We look, continues he, to the coarfe, fquare, Dutch beefy breed, as the basis of this species. In many parts of the north, they remain, he adds, ftill coarfe, and by no means equally difposed to large milking. The common Lincolnshire cattle are coarfe in head and horn, large boned, high upon the leg, and, to borrow a jockey phrase, ragged hipped. Equally coarse internally, but producing slesh in great quantity. The Lincoln neat cattle, in fact, plainly, he thinks, demand a Bakewellian improvement, fuch as their fleep have received. The most accurately marked and distinguishable permanent varieties of the northern fhort-horns appear to him to be the Holderness and Lincolnshire. Culley, says he, tells us, that amongit the old flock there were fome with black flesh, which would grow, but never fatten, provincially called lyery; these were to be known by the rotundity of their fhape, approaching, in many respects, that of an ill-formed cart-horfe. And the extreme coarseness and fize of the northern short-horns led, he thinks, to the introduction of Norman or Alderney bulls at some period of the 18th century, with the precise date of which we are unacquainted." And he supposes " there never was a more fortunate cross,

as in no other country exists so excellent a I reed of cattle, including all the useful properties. In one, perhaps the molt important, respect, great milking, they are (says he) superior, and even without rivals. Their beef is finer than that of the old fhort-horned breed, and they fatten much earlier and quicker, car ying fill a voft depth of natural flesh, and tallowing within in the first degree. They have both spied and fireigth enough (he supposes) for labour, and their shoulders are well formed and well polited for draught. Being beautifully variegated in colour, spotted, striped, sometimes sheeted red and white, or black, or brown and white, they make a fine park flock. From their fuperior quantity of milk, they rival, in his opinion, the best long-horns in the cheese and butter dairies, and for fuckling are unrivalled. It may be prefumed (he favs) they are at least equal to the Herefords in the stall, at all points: and there seems but one respect in which they are, in any confiderable degree, inferior to any breed which can be named, which is fineness of flesh; in that particular, it is obvious, they can never equal certain other breeds without the entire overthrow of their Dutch basis by a repetition of the Norman or some other cross, which would go to destroy the present superior breed. An occasional mixture, however, of Norman blood may, he fays, keep the on the other fide; or a felection might be made of very elegantly shaped and fine-boned Holderness cows, with the view of improvement. These are well known as the stock generally kept by the London cow-keepers. They have small fliort horns, in the shape of a half-ring, rather a long plain head, fine skin, the legs feldom too long, the carcals large but compact, good back and loin, the general figure square. They are not the species of stock for short keep, however fmall their fize; indeed they are faid to be great confumers." But "this high character of the Holderness cattle (he desires) should be received with considerable referve. It relates to the cows chiefly, and to a felection of the oxen; to what they ought, and might be, rather than what they generally are." They are too often, he thinks, " the worlt shaped cattle in the island, and perhaps the least profitable. Long, gaunt, deep carcasses, without adequate substance, placed upon high ftilts of the coarfest timber; flow feeders, never fat, and the flesh excessively coarse. The feeding such illshaped stock must (he farther observes) be immensely disadvantageous, and is particularly diffgraceful in diffricts which produce the best models." The first object, in respect to their improvement, is (he supposes) to shorten the legs; " which might be effected (he thinks) by a conjunction of the best Teeswater and Holderness bulls, with selected shortindicative of a rapidly increasing population, that, notwithstanding unprecedented prices, encouragement, and improvements, flore cattle are at this inflant fo fcarce, that many graziers must come short of their needful quantity."

The following statement has been given, by the author of the "Treatife on Live Stock," as the weight of a five years old beast of the Tecswater fort killed in 1789, allowing 14lb. to

Two fore-quarters		81	at 4s.	per flo	one	14	18 18	5
Weight of carcals tallow hide	16	0				33		0
Total	177	1 1/2		Value	£	- 39	+	0

It is added, by Mr. Lawrence, that the best and quickest

feeders of this breed are not remarkable for milking, and that the Tweed fiele flort-horns are a valuable variety of the Teefwater fort.

It is believed, by the fame writer, that the northern balf lang-barns are the immediate produce of a conjunction of the long and fhort-horns, which muft, of necessity, frequently lappen upon, and in the vicinity of those mountains which feparare the native districts of the two kinds. The horns of this variety, he think, generally run out pretty straight and even, unlike those which are called middle or wide-horns. They are a large and long breed of cattle, partaking equally, as may be supposed, of the qualities of each species, and thence ought to be good darry cattle, as uniting quality and quantity of milk, and fize; in fact, he has been affured, by an intelligent Effex dairy-man, that they have the belt title to such character, and many years since, when cow-stock was at a low rate, he preferred going to the price of 16 or 17 guineas a piece, for this description. They are not, he thinks, so permanently established and generally known as their originals.

And "the northern or Yorkfbire polled cattle have (according to him) the fame qualities as the fhort-horned, carrying valt fubitance, and fome he has feen lately are of great fize, although in that particular they are most conveniently various. In his opinion they are a most excellent breed, and well merit improvement, with the view of labour, by a felection of the finest breed and most active individuals. From the shape of these polled cattle, they hold a strict affinity in all respects with the short-horned, amongst which they are found; and it seems that various breeds of horned cattle are attended with hornless, but perfectly congenial varieties."

The Berwick/kire cattle have probably, he fays, a relation to this breed, having been improved by Teefwater bulls from Northumberland. They rife, at three years old, to fixty, or perhaps nearly eighty ftones, of fourteen pounds, and at five or fix from the laft to one hundred and twenty. The best cows affording fo high as fix gallons of milk in the day. The ox is described as having a "long face, open countenance, clean and small, turned up, curving, and spreading horns, straight shanks, straight and round along the back, full and deep in the ribs, short legs, thighs turned out, open boned." This breed in the improved fort is highly valuable.

The Welfb breed of cattle, especially such as are found in Cardiganthire, are, the author of modern agriculture fays, modly black, with thick horns turned upwards; of a fmall fize, clean boned, of a good shape, especially where the native breed has not been injured by injudicious croffing with others from England. They are hardy and active; and in great request in the fouthern counties of England, on account of their being quick feeders. The quantity of milk which the cows of this breed afford is trifling; but they are, upon the whole, a breed well adapted to that country, although till capable of very great improvement: which might be effected with more certainty, and to a greater extent, he thinks, by felecting the best individuals of ing but little milk; and the low land or fouthern fort, parts, as Glamorganshire, being in high estimation for the general, he thinks, the cattle of this diffrict are, however,

fubitance also."

Those of the above part, Pembroke and Montgomeryfhire, are confidered as the most valuable forts of the cattle

of this part of the kingdom.

It is supposed that the principal desects in these cattle are, at prefent, the want of fubiliance, and great length of leg; the remedy of which is supposed to be a Herefordshire cross in the view of beef or labour. Their appearances in the different countries of this breeding diffrict, are stated by a late writer fomewhat as below.

The original Carmarthenshire fort, Mr. Lawrence fays, is "black, coarfe, ill formed, short and thick, having wide horns of great substance at the base. The cuttle, in course, fmall in the mountain districts, and of large fize in the vales, in good keep." "Theimprovers there," he adds, "have tried various crosses. Hereford, Shropshire, Leicester, Pembroke, Glamorgan, but they fay without the defired fuccefs. The produce of a Pembroke heifer and Hereford bull, is, he fays, the favourite stock in this county, where, in truth, the prior object ought to be an improvement of keep."

The Glamor rangibire cattle are, according to the same writer, "in the cows rather small, of light bone, in colour black or brown, handsome, and shew much blood. They milk well, and feed quick, and are used as beasts of labour: they need no improvement from alien croffes (he thinks); but there are inferior varieties of them, from being mixed with the flock of the borders. This breed (he supposes) prevails in Monmonthshire, and is to be found at the fairs and

markets of Pontypool."

But the Pembrokeshire cattle are, he fays, " coal black, fometimes dark brown, finched, or white towards the tail; fome have white faces. They were originally finer than at present, probably the same race as the Glamorgans, which fome of the Pembroke cows refemble at this time: but the breed has been croffed with the old Leicelter, with the view of obtaining milk, in which the improvers did not fucceed fo well; as in rendering their flock coarfe, bony, and unfit for labour. If butter was the object, they had better, he thinks, probably, have retained the imported long horns unmixed. This crofs accounts (he supposes) for the Pembrokes being finched, and having long and round carcaffes. They generally labour on the roads, yoked with horses, and their journeys are performed with a speed unknown elsewhere. But the Pembroke ox is too leggy, but he becomes early ripe, and will make fat at four years old. He attains the weight of So to 130, or 140 stone London weight, and is said to itand his drift or journey better than any from Wales, whence he finds a preference particularly in the counties adjoining the metropolis. Two year old Pembroke bulls are bought up at the fairs, it confiderable prices, by the improvers of the neighbourin; counties."

The native Brecknocksbire fort are, he thinks, " much the fame as those of Carmarthan and Pembroke; but being croffed with Hereford, and some with Devonshire bulls, labour feems to be the object, and with fuch croffes and attention to good keep, a very excellent breed may (he believes)

be raifed."

And the Cardiganshire breed are : smaller variety of the Pembroke and Carmarthen forts; according to the same writer, being hardy, and less milky than most breeds.

The Radnorfoire forts are, Mr. Lawrence observes, "dark red, and brindled in confequence (he supposes) of the original black flock being croffed with the bulls of Hereford and Shropthire, which are adjoining counties. Although thefe croff s produced flock too large for the hills, they make excellent cattle, in good keep, and of confiderable fize, namely,

deep and flat in form, " fome of them cloddy and of great from 100 to 120 flone London weight. But it is faid that the produce of the Hereford crofs has not the characteristic bald face.'

> The, Montgomery shire fort are in the favourite colour blood red, with a imoky face. The oxen from this county pro-

duce good prices

The Merioneth shire fort are, according to Mr. Lawrence, a small and ill shaped breed, faid to be the worst in Wales; but in Mr. Corbet's improvements, in croffing with good Englift flock, much advantage has, he favs, been obtained.

The Carnarvonsbire is a hardy native fort, which has been formerly croffed and improved by English bulls and cows, fome of the New Leicester and Warwickshire kinds. The improvement fucceeded, and with a fmall additional expence in rearing, the stock has been found sufficiently hardy, whether on the mountains or plains; and the improved cattle at two or three years old, are, in the opinion of the above writer, worth more by two or three pounds than the original breeds.

The Denbigh shire and Flint shire forts have, he fays, been much croffed and mixed with those of England. There are fome good milch cows in these forts, which give fix or feven gallons per day, three or four months after calving.

The Anglesey fort is, he observes, "a small black breed, with wide and thick horns, being prevalent there, and in far greater purity than in most other parts of Wales. This hardy race is preferred on account of the constant winter exposure, and defect of winter provision, and also because they are approved by the purchasers. An English cross has been attempted without fuccefs, which was a necessary result, unless the keep were at the same time improved. The breeders decline keeping any cattle beyond the age of three years. not finding theinfelves reimburfed the charge of another year. The weight, when fat, at three or four years old, from 60 to 120 stone, the fore quarters being the heaviest. No cross could (Mr. Lawrence supposes) possibly improve these islanders, unless bulls could be found of superior form, and equally hardy; fuch are, perhaps (he fays) to be fought for in the Ifle of Sky."

The fame writer thinks, that, in the quality of the Welfh cattle, generally, there is no appearance of improvement of late years, notwithitanding the encouragement held out by prices, of which no former age can furnish a precedent. Indubitably the want of winter keep, and a good winter fyltem, is, he thinks, the chief cause of this detect.

According to the above writer, the Shropshire wide-horns, which are large, square, deep, and bony, with thick hides, in colour brindled red and brown, the horns branching, points turned upward and backward, are used for labour, and faid to be better milkers than their neighbours of Herefordshire, with which they are doubtless, he says, often blended. Of the origin of this variety no accounts, he observes, are extant, or how lon; they have been a permanent or established breed. It has, probably, he supposes, originated in a mixture of the old long horns, the Welsh, and the red breed of the western diffricts.

According to Mr. Culley, the polled or Galloway breed of cattle are a very valuable breed, and feem to be, in weight and fize, as much less than the long-horns, as these are than the fhort-hours; they generally weigh from 40 to 60 flone. Some particular ones reach 70 and upwards; but their molt effential difference from every other breed of cattle is, their having no horns at all: fome few indeed, in every other refpect polls, have two little knobs or unmeaning horns, from two to four inches long, hanging down loofe from the fune parts that other cattle's horns grow, and are joined to the head by a little loofe tkin and flesh. In most other respects,

except in that of wanting horns, these cattle resemble the long horns, both in colour and shape, only they are shorter in their form, which probably makes them weigh lefs. Their hides feem to be in a medium between the two last-mentioned breeds, not fo thick as the long horns, nor fo thin as the fhort horns; but like the belt feeding kind of long horns, they lay their fat upon the most valuable parts, and their

beef is well marbled, or mixed with fat.

We find, he fays, a few of this breed ftraggling through different parts of England; amongst the rest, he remembers the earl of Darlington having had a very handsome variety of them, finely globed with red and white. But we mult, he fays, look for the original of thefe in Galloway, a large diffrict in the fouth-west of Scotland, where they are mostly bred upon the moors or hilly country, and grazed upon the lands nearer the fea, until riling four or five years old, when the graziers and drovers take them up in great numbers to the fairs in Norfolk and Suffolk, previous to the turnip-feeding feafon, from whence the greatest part are again removed in the winter and fpring, when fat, to supply the amazing high prices; few or no cattle felling fo high in Smithfield market, from their being fuch nice cutters up, owing to their laying the fat upon the molt valuable parts; a great excellence in all feeding cattle. It is no uncommon thing, in this refined market, fays he, to fee one of thefe little bullocks outfell a coarfe Lincolnshire ox, though the latter be heavier by feveral stones. And he has been informed, from good authority, that the polled cows are very good milkers, in proportion to their fize, and the milk of a rich quality, vielding much more butter from a given quantity of milk than the fhort-horns; and also that the oxen and spayed heifers answer well for the draught; which certainly adds to the value of this excellent breed. But though the generality of the cattle of the above diffrict are polled, yet they have feveral with horns, which, they fay, are a ballard or mongrel breed, by croffing with long-horned bulls from Westmoreland and Cumberland. They prefer the polled ones, and of these the black or dark brindled ones, to any other; and all allow them to be the original breed of the country. The breeders in Galloway complain of their old breed being loft, or at least much worn out; probably by want of proper attention

Mr. Lawrence supposes that the moors of Monigaff and Glenlone are the only places where this fort of cattle at prefent exist in their original purity, and that they are generally thinner in the hind quarters than those which have been croiled with other breeds. They are likewise prevalent in

Dumfriesshire, especially on the Nithsdale fide

There are frequently among the common Galloway cattle fome that are white faced and pied, with small grizzly horns, which is supposed to be from a mixture of Dutch or English fhort-horned bulls, and to "detract 20 per cent. from the worth of the beaft."

In respect to form, according to the above writer, this fort of cattle are broad and iquare in the shoulders, long and round bodied, but deep, ftraight and broad on the back, with a thick shaggy coat, the legs of a middling length, with large feet. It is added, that the pelvis, or hinder part beneath the tail, and between the two bones, is frequently too narrow in the cows of this fort, from which they want affillance, and occasionally fail in bringing forth their

middle fized beef, which is of an excellent quality. It is native district, and more of the females spayed than of any

other breed, the operation being performed on the yearlings in the month of May. This fort of cattle are usually fold at about two years and a half old, the graziers in England

It is probable that this useful fort of neat cattle might be much improved in their native dittrict, by having better accommodation and protection during the feverity of the winter feafon, and a more abundant supply of different forts

prevailing kind of neat cattle in the county of Suffolk, the Scotch Galloway drovers of cattle and the Suffolk and whatever place or cause this variety took its rife, they are, larly for the dairy; and great numbers of them are employed in that line, in some parts of Suffolk, where, perhaps, the belt butter and the worll cheefe in the kingdom are made. The cows give great quantities of milk. Mr. Young afferts that they give in common 24 quarts a day, which is nearly equal to the best short-horned cows. We find the cows of this kind, like all other deep-milkers, very lean, very plain in their forms, and very big-bellied. The weight of this breed of cattle is about 50 flone on an average.

These are faid to have a lighter colour, and to be smaller and finer in the bone than the Galloway fort; and to be long, with a large carcafs, clean throat, the neck tapering to the head, the tail thin, and the legs rather short. They are excellent for the purposes of milking, whether for the dairy, or private use; though the milk is probably less rich than that of either the Alderney or long-horned forts. It has been fuggested that this breed is incapable of being rendered

The Scotch breed of cattle are, according to Mr. Culley, still less in proportion to the polled cattle than they are to coat of hair, like the polls and long-horns; and, like thefe, bled, but not fo handsome on the outfide of the beef when killed, being not of fo bright a colour, and often spotted with black, even upon the best parts, except when made very fat. When grazed, they feed very readily, their weight in general being from 20 to 35 flone. The most prevaluat here, like those in Galloway, prefer the black ones. These hardy animals are in pollellion of all that extensive and mounin Ayrshire, called Kyle, where they prevail much. But all the lowlands of Scotland, except Galloway, have a mixed breed of cattle; towards Cumberland they are half longare mixed with thort-horns until you reach Tiviotdale, where they become altogether a coarle kind of thort-horned, good short-horned cattle, bred in that pleasant and fine

equatry, the Tweed fide. This fame kind of runtish coarse than to any native Scotth breed. Their horns, he adds, "are breed continues all the way to the firth of Forth. Croffing this narrow fea into Fifeshire, you would at first imagine the Fife cattle a diffinct breed, from their upright white horns, being exceedingly light lyered, and thin thighed; but he is pretty clear it is only from their being more nearly allied to the Kyloe, or Scotch breed, and consequently having less of the coarse kind of short-horns in them. The cattle all along this coast continue to change more and more, growing tail lefs, until upon the edges of the mountains they become quite of the Kyloe kind; but still much inferior to that pure, unmixed, valuable breed of Kyloes which we meet with on the more northern and western Highlands, and all the isles; but particularly in the Isle of Skye, and that tract of country called Kintail. It is in thefe two districts that you meet with the native breed of Kyloes; a hardy, industrious, and excellent breed of cattle, calculated in every respect to thrive in a cold, exposed, mountainous country, and better adapted to the cold regions where they are bred than any other kind we are acquainted with. These cattle are driven to the fouthwards in great numbers every autumn; many into the western districts of Yorkshire; but the greatest part are feat into Norfolk, Suffolk, Effex, and other parts in the fouth of England, where they are fattened, and either flaughtered at their home-markets or fent to Smithfield.

The great demand for this breed in the fouthern parts of the island has rendered its improvement more attended to than formerly, and attempts have been made by different spirited breeders by crossing like of Skye cows with buils of

the long-horned kind.

Though it is allowed that the beef of the Kyloe fort is fuperior to that of others, it is believed by fome that there is a deficiency in respect to quantity on the acre, so that if it be the best it is not the least expensive.

The Highland cattle fometimes, however, life to a confiderable weight, especially when croffed with the larger breeds.

The bulls of the Isle of Skye fort are held in high estimation by the breeders and improvers of this kind of cattle, the principal diftinguishing marks of which are fine eyes and horns, with a thick pile, and not thick-hided. They excel in the quality of the milk, but with regard to the quantity, should be crossed with the Norman or some other breed that is known to afford a large quantity of milk. This property is likewife faid to be increased by croffing with the Fife fort. The Highland cattle are hardy, and very little subject to difcases of any fort.

The Orkney iflands are faid to contain a small breed that are good milkers, and which afford beef of a good quality;

but they are a badly formed fort.

The Fifeshire fort are of considerable fize, being of a black colour, lively and uphorned. They feed with expedition, and are fitted for labour, being held in high ellimation by the graziers in the fouthern parts of the kingdom. As milkers, they are valuable for the quality of milk and fleadiness of continuing it, rather than the quantity. It is probable that they might be improved in this last respect by crosling with those smaller breeds that produce it in larger quan-

The Renfrew, Ayrsbire, or what are termed the Dunlop fort, are confidered, in relation to their fize, the most valuable for the purpose of milking in the island, excelling equally in the quantity and quality. Mr. Lawrence fays they produce "from 3\frac{1}{2} to 7 gallons per day," and that they "have the character of being the best possible poor man's cows," from their ability to shift on very scanty keep. In appearance they are, he fays, fmall and ill-looking, with the shape and pile of Highlanders, yet bearing more refemblance to the Dutch VOL. VII.

thort and fmall, thanding remarkably irregular and awkward; the colour generally pied, or of a fandy red. They appear unthrifty and thin like the Alderney, even in the best pasture, and the few which are bred up to oxen make but a poor figure in grazing, fearcely reaching the common weight of Kyloes." He "apprehends this milky race to be the refult of croffing the cows of the country with Alderney bulls; the cows, perhaps, having previously a portion of Dutch blood."

The Alderney or French breed of cattle is mostly to be met with, according to the author of the " Treatife on Live Stock," about the feats of our nobility and gentry, upon account of their giving exceedingly rich milk. He imagines this breed to be too delicate and tender ever to be much attended to by British farmers, because they are not able to bear the cold of the itland, particularly the northernmost parts of it. They are very fine-boned in general, light red or vellow in colour, and their beef generally yellow or very voured. They make themselves very fat: and none of them are in the least fubject to lyer, or have black flesh. He has feen some very useful cattle bred from a cross between an Alderney cow and a thort-horned bull. See ALDERNEY CATTLE.

The Wild breed of cattle, from their being untameable, can, in the opinion of Mr. Cubey, only be kept within walls or good fences; confequently very few of them are at prefent to be met with, except in the parks of gentlemen, who keep them for ornament, and as a curiofity : those at Chillingham-Caltle in Northumberland, a feat belonging to the earl of Tankerville, are, he fays, invariably of a creamy white colour, with black muzzles; the whole of the infide of the ear, and about one third of the outfide from the tips downward, red; horns white, with black tips, very fine, and bent upwards: some of the bulls have a thin upright mane. about an inch and a half or two inches long. The weight of the oxen of this breed is from 35 to 45 stone, and the cows from 25 to 35 flone, the four quarters, 14lb. to the stone .- The beef is finely marbled, and of excellent flavour. From the nature of their pasture, and the frequent agitation they are put to by the curiofity of ftrangers, it is fearcely to be expected that they should get very fat: yet the fix-years old oxen yield generally very good beef, from whence it may be fairly supposed, he thinks, that in proper situations they would feed well. When the cows calve, they hide their calves for a week or ten days in some sequestered situation, and go and fuckle them two or three times a day. If any person come near the calves, they clap their heads close to the ground, and lie like a hare in form to hide themselves: this is a proof of their native wildness. The dams will not allow any person to touch their calves, without attacking

It would feem clear from the above general defcriptions of the different breeds of cattle, that all the forts taken notice of are not equally profitable to the breeder, the rearer, the dairyman, the grazier, the butcher, or the confumer. Some have greater disposition to fatten than others. Some, being cleaner boned and better formed, have less offal. Some give a greater quantity of milk than others. In a word, fome of the particular properties for which cattle are estimable are more discernible in one breed than in another. Whether, favs Mr. Doualdson, these can be all united in the fame animal, or whether a breed of cattle, possessing all the requifite qualifications, would be equally fuitable to all fituations, are quellions not cafy to be determined. In regard to the full, fave he, it feems univerfally agreed, that

them with an impetuous and favage ferocity.

of the animal most remarkable for the first is very different and big in the belly, as all great milkers are, it is highwhile that of the other is more fitted to embrace a horse colwith fuch plain ill-looking animals as have been defcribed of the same quality, it appears, he says, highly probable that this should prove to be the case, the superiority of the quick blished; as while cattle of this description are confessedly better for the purposes of the graziers, the butchers and the confumers, they would, if this point were determined in will think of afferting, that a gallon or two of whey or of who pretends to a knowledge of the different breeds of cattle, will think of supporting an opinion fo erroneous, as, that cattle which are disposed to fatten quickly, and at an early age, that, from the superior excellence of their form, non-effentials, and that although they yield not a large quantity of milk, yet make up that deficiency in the richness of its quality, are no more valuable than those which

It has been remarked by the author of the "Treatife on Live Stock," incomparing the breeds of long and fhort-horned cattle, that the long-horns excel in the thickness and firm in their beef being finer grained and more mixed and marbled tion to their fize, and in giving richer milk; but they are inferior to the flort-horns in giving a lefs quantity of milk, when killed, in being generally flower feeders, and in being coarfer made and more leathery or bullish in the under side of the neck. In few words, fays he, the long-horns excel in lar advantages in different fituations. Why not, the kind, he a protection and fecurity against those impeconstitutions of the short-horns?-When he fays the longhorns exceed the short-horns in the quality of the beef, he means that preference is only due to the particular variety of rentive breeder Mr. Bakewell: for, as to the long-horned breed, in common, he is inclined to think their beef rather in-

there are two properties for which cattle are efficanted value ferior, than function, to that of the generality of flort-horns; ones for the best, without confidering that those are the more enlarged, and their minds more open to conviction, we may hope in a few years to fee great improveprovement has indeed lately taken place in the breeding of fhort-horned cattle, that he has reason to think they must foon surpass their rivals the long-horns. But he adds that, notwithstanding these two breeds have hitherto been in possession of the best part of the island, he is inclined to think that the Galloway cattle, and even the Scotch or Kyloes, might be bred with advantage in many ly-fleshed, or excellent eating beef; which character they have established in the first market in the ssland.

He is likewife of opinion that the Scotch or Kyloes are breeds are probably best adapted to particular situations; tain the good properties which the pure diffined breeds indi-

It must be plain from what has been already advanced, that, in order to have good cattle of any breed, particular regard muit be paid in felecting those that are the most com-

The author of the Rural Economy of Yorkshire has well remarked, that the horn is a good criterion for dillinguilling not altogether accidental, is changeable; and neither the of the former. He is not, however, a bigot to horns of lock by the length of his horns. If his flesh be good, and if required; he would much rather have him entirely without the horn, as a permanent specific character of cattle, may, in varieties, have its use as a criterion. Thus, favs he, sup- have been described more fully under the head to which they poling a male and female of fuperior form and flesh, and with horns refembling each other as nearly as the horns of males and females of the same variety naturally do, no matter whether foort or long, fharp or clubbed, rifing or falling; and supposing a variety to be established from this parentage, it is highly probable that the horns of the parents would continue for a while to be characteristic of the true breed, and might by inferior judges be depended upon, in fome degree, as a criterion. But fill, fays he, it is indifputable that horns remain the fame while the flesh and fattening quality change; but every man of superior judgment will depend more upon the form and handle of the carcafs, than upon the length and turn of the horn. For it is a notorious fact, that the individuals of a given variety may have exactly the fame horns, without having exactly either the same fashion or the same sless. If, however, there be any criterion or point of a beast which may be universally depended upon as a guide to the grazier, it is, he thinks, the eye, not the horn. The eye is a mirror in which the health and habit of the animal, at least, may be feen with a dogree of certainty.

In respect to the rearing of cattle, different methods are purfued in different districts; but it is obvious that the better they are fed, at an early period, the better flock they will, in general, make. The rearing of cattle is become, in the opinion of Mr. Marshall, as stated in the Rural Economy of Norfolk, a subject of the first importance to this country; as an universal and growing scarcity of neat flock is experienced, more or less, throughout the kingdom He has, therefore, paid more than common attention to the rearing of calves, (the first and most difficult part of the butiness) in this diffrict; not only as being a primary object in the East-Norfolk fystem, but because the practice there is, in many respects, peculiar to the country. The number, he fays, varies with the quantity of meadow or other natural grafsland belonging to a given farm; and fometimes, but not always, with the time at which the cows happen to come in. Some farmers "bring up" all the year round; rearing every calf they have dropt. Others rear in winter, only fattening their fummer calves for the ped-markets; or, at a distance from them, for the butcher. Norfolk farmers, in general, begin early in winter to rear their calves: fome fo early as Michaelmas; in general, if their cows come in before Christmas: not only as being fully aware of the advantage of rearing early, but in order that they may rear as many of their own calves as possible; drove calves being always hazardous and fometimes scarce. No distinction is made as to fex : males and females are equally objects of rearing, and are both, occasionally, subjected to castration; it being a prevailing cuttom to fpay all heifers intended to be fattened at three years old; but fuch as are intended to be finished at two years old are, he believes, pretty generally left " open," as are, of course, such as are intended for the dairy. There are two reasons, he observes, for this practice: they are prevented from taking the bull too early, and thereby fruftrating the main intention; and by this precaution they lie more quietly; and are kept from roving at the time of fattening. This may be one reason why spayed heifers are thought to fat more kindly at three years old, and to be better fleshed than open heifers. The method of treatment depends, in some measure, on the time of rearing. The railing of the young animals in wister requires more milk than the

The particular practices that are followed in different places, in respect to the treatment of calves in rearing them, belong. See CALVES, Rearing of.

In the management of young cattle, it is remarked by Mr. Donaldson, that the method of managing them during the first winter is pretty generally the same in every part of the island. They are almost always housed: sometimes bound up to the fall; but more frequently allowed to remain at freedom. The way of feeding them in England is chiefly with hay, or hay and flraw mixed; and in Scotland, fometimes hay, but more frequently flraw and turnips. They are moltly turned out on fome of the inferior pastures on the farm the following fummer, and maintained the fecond winter on flraw in the ftraw-yard, or in houses or sheds crected for the purpole. Some farmers in the more northern parts of the kingdom, from being fituated at a distance from any market at which they can dispose of stall-fed beef, very frequently give a confiderable part of their turnipcrop to their young cattle. This is, he thinks, an excellent practice; and one that ought to be followed even by those who, from being better fituated in regard to markets, can adopt other methods of using turnips to advantage. The benefit of green winter food for live flock is fo great, that there is, probably, he fays, no way in which turnips can be used, by which the farm or the farmer would reap greater benefit, than by giving the young cattle a daily allowance during the first two or three winters. There is but very little variation in the management of young cattle from this during the time they remain in the breeder's possession, which must be longer or shorter, according to the peculiar circumstances of the case and the nature of the farm. In fome districts, he further observes, it is the usual practice to allow the young heifers to take the bull at two years old; in which case, those which are not necessary for keeping up the stock are disposed of the following spring, before they drop their calves. And where the practice of ploughing with oxen is continued, or has been a fecond time introduced, young oxen are broken into work in the course of the second summer; this, however, is by no means common, as, he fays, probably nine-tenths of the cattle reared in Great Britain remain in the breeder's possession till the fpring of the third year. The young cows are then difposed of to the dairy-farmers, who often do not breed a fufficient number to supply themselves; or to the cottagers, who have the means of keeping a cow in fummer, but not in winter. And the young oxen are fold, either for the purpofe of supplying the ox teams, where there are still kept; or to the graziers, who fometimes fatten them for the butcher in the course of the grass-season, but more frequently content themselves with only putting them in condition to be stall-fed during the following winter. The premature age at which such cattle as are not employed in the operations of hufbandry are now fattened, is, he thinks, a politive evidence of the fearcity of that species of live flock. Exclusive of the cattle used in the plough or the cart, which are permitted to live a year or two longer, the oxen in this country are, in general, killed before they are four years old; -an age at which, it is well known, an ox does not fatten to the greatest advantage. And Mr. Marshall fays, that in Norfolk, when the lattermath and slubbles are finished, the yearlings, provincially "buds;" are put to turnips; either as followers to the bullocks, or have fome fresh turnips thrown to them: in either case, they fleep in the par-yard, and generally have a feparate par allotted them; though fometimes they are parred with the two year-olds. In the yard, the best of the "slover" is allowed them, and, perhaps, a little ordinary hay; it being

to keep their young flock as well as they can the first winter. In fpring and fummer they follow the bullocks, and run in the meadows; or, if there be wanting, are fometimes fent out to fummer grafs in the marshes, or grazing-grounds. The two-year-olds run in the stubbles, and broken grass till Christmas, or until turnips can be spared them; when they generally follow the bullocks. In winter they are always "parred" at night; fometimes with the the cows; fometimes with the buds; fometimes alone. Good farmers generally keep them separate: if parred with the buds, they rob them; if with the cows, they are liable to be "horned," and are never at well; except while the cows are eating up the best of the fodder. Some farmers, when turnips run fhort, "put out" their two-year olds in winter; and others, when they are plentiful, "graze," that is, fat their two-yearsolds. In general, however, they are "kept over-years," on meadows or lays, or are fent to the marines or grazinggrounds, as fituations and circumftances point out; and, at Michaelmas, are put to tamips as fattening cattle. The agiftment price for two-year-olds, from May-day to Mi-

chaelmas, varies with the keep. On the management of young flock it is also observed, in the Rural Economy of Yorkshire, that they are invariably housed the first winter; generally loofe, and mostly indulged with the best hay the farm will afford. Their fummer palture is fuch as conveniency will allow them; frequently of a fecondary nature. In the open-field flate, the common was generally their fummer pallure. The fecond winter oat-fraw is the common fodder of young cattle; generally tied by the neck in hovels, or under flieds. Their fummer palture, commons, woody waltes, rough grounds, or whatever best suits their owner's conveniency. At two years old the fleers, provincially "flots," are generally broke-in to the yoke; but are not, by good hufbandmen, worked much at that age. At two years also the heifers, provincially "whies," are generally put to the bull. This, however, is not an invariable practice. In the flate of commonage they were frequently kept from the bull until they were three years old: now, in the state of inclosure and improvement, and at the present high rents, they are frequently suffered to take the bull when yearlings, bringing calves at two years old. This, fays he, is an interelling fubject in the management of cattle. Farmers in every diffrict differ in their opinions respecting are, that they come fooner to profit; and that farmers canprofitably, until they be three years old. On the other band, the argument in favour of bringing them in at three years old is, that, not being flinted in their growth, they bear calves at a more early age. But we have not yet met with any man who even attempts to prove which of the two tree to bear fruit too early, checks its growth: and there may be fome analogy, in this respect, between vegetables and animals. But even admitting this, if the cow receive no injury, as to thriving, ca'ving, milking, nor any other the cow but her progeny likewife, an objection, no doubt, will lie against it. He has long been of opinion that it is, in general, the farmer's interest to let his heifers take the bull whenever nature prompts them. There is, undoubtedly,

fome prefent profit ariting from their coming in at an early

a maxim, pretty generally adopted among good farmers, age; and whether a middle-fized cow may not afterwards afford as much neat profit as one of larger stature, is certainly an undetermined point: Much, however, depends upon keep. A starveling heifer will not take the bull at a year old. Nor ought any yearling heifer, which has taken the bull, ever afterwards to be flinted in keep. If she be ill kept, while with calf, there will be danger at, or after the time of her calving. If afterwards pinched, there will be danger of her not taking the bull next year. Hence, he thinks, we may infer, with a degree of fafety, that the propriety or impropriety of bringing heifers into milk at two years old depends principally upon foil and fituation. On a good foil, and in a genial climature, in which heifers do not experience a check from the time they are dropt, they ought. he is clearly of opinion, to be permitted to take the bull whenever nature prompts them. But in less genial fituations, where lean ill-herbaged lands are to be pattured with young cattle, it appears to him equally evident, that heifers ought not, in thrictness of management, to be suffered to

Neat cattle are capable of living a confiderable length of time, as fifteen or twenty years; but they are unfit for many purposes of the farmer after they become aged, and especially that of being employed as grazing stock; hence they are usually disposed of before they have attained their ninth year. For the purpole of breeding, they may, however, be kept much longer. With respect to the males, or bulls, where the chief object of the farmer is having good cattle flock, great attention should be paid to them, both in the rearing and their management afterwards, as well as to the form and kind. They should likewise be kept feparate in a paddock inclosed for the purpose, and be constantly fed in the best manner, and not be employed till they are three years old, when the cows should be separately admitted to them. Some farmers are, however, of opinion, that a little work does not in the least injure them, while it has the tendency of rendering them more tame and

But in other cases, as merely for the purpose of the dairy. where rearing the produce is not practifed, less attention is neceffary with regard to these animals, it being of little confequence to the farmer, provided the cows be duly ferved. In thefe cases the bulis are for the most part kept along with the cows, in fufficient proportion to the number of cows that may be kept. Under these circumstances they are seldom kept in any better manner than the cows; but it is probable that much lofs may often be experienced by the dairyfarmer on this account, as it would feem proper that they should constantly be much better fed. In these instances they are often employed while very young, being frequently castrated, or what is termed fegged, in the third year of their age. The use of such young bulls is not, however, in general to be recommended. See BULL.

In respect to the management of the cows, it must of courfe vary in some measure according to circumstances, and the particular objects of the farmer. Such as are in calf should constantly have a sufficient supply of good food both during the fummer and winter feafons, and in the latter should be well protected from the severity of the weather by proper houses, sheds, or fold-yards. With the straw fome other forts of food should be combined, such as have turnips, cabbages, &c. as the first is infusficient for keeping them in proper condition, and they will repay the increased expence of such keep, by their superior appearance, by the greater quantity and better quality of the milk, and by the better fize and form of the young flock. Under the contrary circumstances they readily dwindle, and become less valuable.

With regard to the feafon of putting cows to the bull, it is different, according to the views of the farmer; where his principal object is the milk, it is a matter of little confequence at what time they take the bull; but where the calves are to be reared, it is a point of material importance to have them dropped when the feafon begins to be warm, and there is a spring of young grass, as at that season they can be reared with the least trouble and expence, and in the most perfect manner. In the winter time this fort of businels is attended with great expence, and the animals are often injured by the feventy of the weather.

There is another point that ought likewife to be regarded in this fort of flock, which is, that the cows should not be too greatly exhaulted by milking them too long, or too near the period of their calving; but when they have good rich keep, they may be milked to a much later period without injury, than under the contrary circumstances. It is usual to let them become dry fix weeks or two months before the period of their calving; but, with good keep, a month may

It is a bad practice to have bullocks in the fame place with cows, as much injury may be done both to themselves and the cows, by their riding upon them. Some farmers think it a point of importance to prefent cows to the bull with full udders.

It is of great utility in the management of cow flock, that exact accounts be kept of the periods at which they receive the males, as well as of the times at which the voung are brought forth. In large concerns, a fort of flock book should be kept for the purpose of entering various memoranda of this nature, as by fuch means accidents and uncertainty may be in a great meafure prevented. As the time of calving approaches, more strict attention should be bellowed upon the cows, in order that, at the period of it, every necessary assistance may be afforded, and the welfare of the animals insured. It, however, rarely happens that any extraordinary aid is required where they are left wholly to themselves.

It is the practice of some farmers to lessen the quantity of food for a little time before the cows calve, from the idea that they do not succeed so well when they are in too high condition; but this is most probably a supposition which is not by any means well founded, as cows that are kept in good order are, in general, the least liable to accidents in these cases. It is of much confequence that, at these times, the cows be provided with due shelter, especially during the inclement parts of the year; as much injury is frequently done by letting them calve in expoled lituations without any protection from the inclemency of the weather. See Cow.

Such young cattle flock as is intended for labour, should be gradually accultomed to be handled from their infancy, and by that means be rendered perfectly tame and gentle, which will be of vait advantage afterwards when they are

brought into labour. See Oxen and TEAM.

With regard to the management of cattle, there cannot be any doubt but that a large stock in feeding demands confiderable and confiant attendance, and that of fleady and capable hinds: as, unless a proper regard be paid in thefe respects, much confusion must occur, especially when fed in the fold-yard. Next to proper food, fays the author of the "Farmer's Calendar," the two great points in feeding animals to proof are, regularity, and a particular care of the weaker individuals. On this last account there ought ever to be plenty of trough or rack-room, that too many may not feed together, in which very common case the weaker are not only trampled down by the stronger,

but they are worried, and become cowed and spiritless, than which there cannot be a more unfavourable state for thrift; befides, thefe are ever compelled to shift with the worst part of the meat. This domineering spirit is so remarkably prevalent amongst horned cattle, that he has a hundred times observed the master beasts running from crib to crib, and absolutely neglecting their own provender for the fake of driving the inferior ones from theirs. This is, much oftener than suspected, the chief reason of that difference so visible in a lot of beafts, after a winter's keep. It is likewife, he fays, a very common and very shameful fight in a dairy of cows, to see feveral of them gored and wounded in a dozen places, merely from the inattention of the owner, and the neglect of tipping the horns of those that butt. The weaker animals should be drawn and fed apart; and in crib-feeding in the yard it is a good method to tie up the master-beasts at their meals. Where a sufficient number of cattle are not bred upon the farm, they are generally bought in at the neighbouring fairs to fat at fpring, and about Michaelmas. Those bought in at spring will be fat in July, August, or September, according as they are forward, and there is keeping for them; and those which are bought in at August, September, or October, must be either for fale in winter or in fpring, and must be forward in flesh to be improved the beginning of winter, and kept up in fleth during the winter with burnet, hay, turnips, carrots, or other kinds of food, to be fit for a good market whenever it offers; or they must be young lean cattle, that may, by their growth, pay for their wintering, and be fit to fat the next fummer. Some, upon ordinary land, buy in young Welth heifers, which, if they prove with calf, they fell in fpring, with a calf by their fide for the dairy: and those that are not with calf they fatten; all which ways frequently turn to good account : but as most commonly all meat, either at Christmas, or in the fpring, is one third part dearer than in fummer: as all have not the conveniency either of hay, turnips, &c. to fatten cattle with in winter; it is best to have them ready for the markets about these times.

The farmer who intends to graze cattle to the most advantage, should be particularly attentive to these three things: first, to raise a good quantity of artificial grass for hay and aftermaths. Secondly, to turn a good quantity of ground into rich pasture, by feeding it, dunging it, and laying on it other manure, to make it fit for railing the bullock or heifer in the fpring, when they come first from hay to grafs, and to receive them with a vigorous aftermath, when other graffes, as clovers and other grafs aftermath, go off. Thirdly, to have hovels or other buildings inclosed with close walls, to shelter the cattle in the winter from winds and rain. By adopting these methods in fattening cattle, the grazier, from having plenty of hay, will be enabled to purchase barren beasts before the spring grass comes, when it is most likely they will be cheap, and may be bought to the best advantage, allowing for the value of the hay they may eat in confideration with the purchase: and if, by winter-having fome meadow-ground after it has been kept high in heart by feeding, &c. he can, early in the spring, by April, or fooner, have a bite to take off fuch grazingbeails from hay to grafs, it will be very advantageous before clovers can be ready, which, in many places, are feldom fo till a week or a fortnight in May; and, by keeping fach meadows for an aftermath, which, towards the end of fummer, are in very good heart, he may support his bullocks, and carry them on when the thrength of other grafs fails. All fattening cattle, whether barren cows or oxen, require a proportional progression from coarfer to better food, as they grow more and more into good flesh; otherwise, when

half fat, they will frequently go back, and the grazier will not, without great difficulty, be able to raife them again;

which must be a great lofs. See GRAZING.

In regard to the fyflem purfued with oxen, they are in most places, where they are worked, turned off to fattening at two feafons of the year, which, in feveral refpects, are very convenient. The first is about May-day, when the labour is pretty well over for the spring season; the spring corn being then generally all sown. The second is the beginning of winter, as, from the first of October to the middle of November, when the wheat and winter vetches are mostly put into the ground.

In regard to the various kinds of food with which cattle are generally fattened, it may be reduced under the following heads: grafts, turnion, grains, wash from the diffill ries oil-

cakes, corn, cut chaff, and a few other kinds.

The fattening cattle, according to Mr. Donaldson, are usually put to grass in May or June, according to the feafon and fituation in regard to climate. The period necessary flances; as the condition he was in when put to grafs, the nature of the pasture, and many others: but in ordinary cases, an ox will be completely fattened in three months. There is, he fays, one method of fattening, connected with the grazing fystem, that the farmers in England are enabled, from the fuperior excellence of the climate, to adopt with fuccefs, which can never, he thinks, be attempted with propriety in Scotland. It is very common, at the close of the grafs feafon, when the fattening flock happens not to be fully in condition for the butchers, to render them fo, by giving them hay two or three times a-day in the field, or in hovels creeted for the purpose, into which they have access at pleafure.

When turnips are employed for the purpose of fattening this fort of stock, especially if they are put up to the stalls in proper condition, which, considering the season of the year (November), must, with ordinary attention, always be the case, from 10 to 13 weeks is fully sufficient to render

them fit for market.

It is observed, that the fattening of eattle with grains may, in some respects, be coinsidered as a branch of the distillery business; but yet there are some inflances wherein those who cultivate farms practife it with a double view of obtaining a profit on the sale of the cattle, and the acquisition of a valuable treasure of useful manure. Mr. Adam, the renter of the farm of mount Nod, near Streatham, in the county of Surry, has erected a very complete building, for the purpose chiefly of fattening cattle on grains. In this building, says he, may sometimes be seen several hundred head of cattle.

And the method of fattening cattle with oil-cake, corn, cut chaff, &c. is practifed in many of the English counties, with a degree of fuccels sufficient to warrant farmers in other parts of the island to follow the same practice. The cattle are commonly put up to fatten at the end of the grafs feafon. The usual allowance of oil-cake, after it is broken in a large mortar, or, in the fruit dittricts, in a cyder-mill, is about half a peck per day, which is given, one half in the morning, and the other in the evening; to which is added hay, and in some cases ground corn, that is, oats and barley of inferior quality, and cut straw, provincially "chaff." As bullocks fattened in this manner, get regularly five, fometimes fix, meals a-day, it is fufficiently evident that, although it may be upon the whole an expensive mode of fattening, yet it must be both expeditious and effectual. But the subject of fattening cattle in the stall will be fully considered in another place. See STALL feeding.

Mr. Marshall, in speaking of a Cotswold grazier, observes, that his fattening cattle are all tied up, tome in fingle, fomc in double stalls. His reason for this practice is not altogether that of faving room; he is clearly of opinion that they do better, fat fatter, than bullocks which are kept in loofe stalls. His reasoning is, he thinks, fair. Besides the indifnot fo obvious, but may nevertheless, perhaps, be equally true: cattle, which are tied up, are more cadifh (tamer. lefs wild) than those which are kept in loose stalls. A loose bullock (force loofe builocks at leaft), when a ftranger enters the flied or any disturbance happens in it, will rise and fly into the yard for refuge; while a bullock which knows that he has not the power of flight will lie still and chaw his cud. In the yards, loofe bullocks are equally liable to difing. Each bullock has two troughs, a fmall one for corn, a large one for hay, with a water trough, which runs the whole length of the flied, and is covered by a board; each bullock having a hole (large enough to admit the nofe) to drink at. The water trough (a hollow tree) forms, as it were, a top rail to the partition wall of the gangway. The others are beneath it, nearly level with the bed of the stall. The corn is ground, and given to them, mixed among cut hay, two or three times a day, beginning with half a peck, and increasing to about a peck a-day. The method of feeding with hay, which, in this inflance, is practifed, does, he fays, as cart-horses are usually fed with corn; giving it to them by handfuls at once; never more at a time than the two hands can grasp; continuing to feed them in this manner until they lie down, or till they refuse to eat. Thus they never have any hay to blow upon (the great objection against tying up bullocks); even at night, they have not a mouthful left before them. The leading principle of this practice is, should always eat with an appetite. In the morning they are fed with the worlt of hay (if any difference); for, being then hungry, they cat it with an appetite. Thus the hay is eaten up clean, and the bullocks are preferved in a thriving habit; while the extraordinary expence, where a number of cattle are fatted at once, is inconfiderable. In this case it is proper to appropriate a man's time to their attendhandfuls, he thinks, until they lie down, as in cloying them with armfuls, and idling the relt of his time away. According to the author of the Agricultural Report of

According to the author of the Agricultural Report of Lincolnthire, about Hauckthorn the larger farmers buy in beaths in autumn, put them to eddifh, and then feed with cake; and fell from Christmas to May-day; this is done for the fake of the dung, and it is thought if that is cleared that it answers well. Mr. Thorpe at Kirton, he says, fattens many beafts every winter on cake; his landlord, Mr. Harrison, having built him for that purpose very convenient stalls, in a double range, with a gangway between their heads. They are in the Hercford style; the beaths may be loose or tied; a pump supplies water by troughs to cisterns; the whole well executed. He has fold heaths from these to 381, a head, and fats 40 in a season. The same farmer has, on his farm at Owersby, another bullock-house, in the same form nearly; here he lats also on oil-cake; but the dearners of it induced him to substitute lint-seed, boiled and mixed with barley meal; two quarters of barley, four bushels of lint-seed; and mixed, to give cold, in the form of a rich jelly; this quantity will go as far as half a ton of cakes, costing less, when barley is not extravagantly high, that is, 24s. a quarter:—

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half a peck of lint-feed is boiled in four gallons of water. He inquired of Mr. Thorpe particularly if he had reasons adequate to the expence for not tying beafts in their stalls, instead of giving them so much room separately; and he is clear they fatten much better: this necessity, however, he fays, is not afcertained; for the question can hardly be confidered as answered in any case where a farmer builds and a landlord pays. Mr. Thorpe buys his beafts at Lincoln: he thinks the Holderness too big for his purpose; but there is a very good crofs of long and short-horns about Spiliby, which fatten kindly, and which he likes to buy. He is of opinion, from very confiderable experience, and speaking of grazing in general, both fummer and winter, that middling fized beafts will pay better than large ones, for inflance two of 50 stone will answer better than one of 100; they do not take fo much food to bring them to their weight; and

will do on worse pasture.

It is added, that at Knaith, in the fame county, where the pallure is not of the first quality, Mr. Dalton has fattened Teefwater beafts to 130 ftone, at feven years old, and gave only half a ton of cake to each. He prefers this breed to any other he has tried. His beafts of 80 stone will be fat at five years from grafs, without any cake; and his regular return is feven a year, at four years old. The cows are good milkers in their own country, but here are not equal to Lincolns. He is of opinion, in relation to the fize of fattening animals, that an ox of 80 or 55 flone will not eat more than one of 50, and his bailiff thinks he will not cat fo much. At Bankfide, Mr. Webster feeds his cows, and his team horses, with steamed turnips and cut chast, with great fuccels. Mr. Ellison, at Sudbrook, buys in about 30 bullocks annually; from April to Midfummer; which are put to grass till a fortnight after old Michaelmas; then he places part in stalls, and part remains in grafs till near Christmas .-In the stalls, he feeds with cake and hay; they eat about 21 cakes a day, at 7lb. each, and about half a ton of hay each bealt; and are up about 10 weeks, fome 12. They were bought in at 15l. each (1788); and fold at about 26l. In general, he reckons them to pay 10l each, which answers well. He prefers the short-horned breed, and has tried long-horned Cravens, but they did not answer at all. His bailiff chooses the finest boned ones he can get, clean heads and muzzles, wide in the hips, out in the ribs, and deep in the fore quarter. The greatest fault in the Lincoln short-horns is, he thinks, being thin in the backs and chines; it is not univerfal, but very common; but upon the whole they fatten kindly. He observes, that the oil-cake dung is uncommonly rich, fo as by mixing to make the ftraw dung excellent. Mr. Moody, of Rischolm, fattens many beatls upon oil-cake, even as far as buying 100 tons of cake in a year. He keeps them loofe in a straw yard, and finds them do well without any hay, giving flraw only in addition; and has fold beafts thus fed at 40 guineas. The duke of Ancaster sattens many beafts; he boys in from Candlemas to Midfummer generally Scotch and Welfh bullocks of from 34 to 50 itone, He gives on an average, for the two last springs, Sl. Ss. or ol. each, and felis at 131, to 171. They are kept through the winter in the park, and go off at Midfummer, twelve months after. They have no fodder, except in a blaft. North Wales, in advantage; the Welfh grow rather more, and come to greater weight. The Fifes grow more than any, when they happen to be bought, but they require foodering.

It is observed by the author of the Rural Economy of Norfolk, that the practice of fattening bullocks on turnips is now beginning to obtain in every part of the kingdom; but it may be faid to be still in a state of infancy every where

except in Norfolk; therefore an accurate account of the practice of this parent country cannot fail of being ufeful to every other turnip-land diffrict. Impressed with this idea, he spared no pains, nor let slip any opportunity of making himself acquainted with the subject. The only species of cattle fatted in East Norfolk, he says, may be faid to be the home-breeds and Scots. Some Irish beasts have at different times, but not regularly, been brought into the country, and have generally done very well. In West Norfolk, great numbers of Lincolnshire and Yorkshire oxen were formerly, and fome few, he believes, are now fattened; but in this diffrict they have always been confidered as much inferior to the Scotch and home-bred flock. Home-breds confitt of theers, spayed heifers, open heifers, barren cows, and running calves. The last is a species of fattening cattle peculiar, perhaps, to this country. They are calves which are fuffered to run with their dams until they be a twelvemonth or more old; the cow being all the while at head-keep, of which the calf partakes, as well as of the milk of its dam: while herfelf, in the mean time, generally gets fat enough to be fent to Smithfield with her calf (perhaps as heavy as herfelf) by her fide. The Scotch cattle fatted in Norfolk confilt of Galloway Scots, other Lowland Scots, Highlanders, and those of the Isle of Skye. The Galloway Scotislarge, thick, fhort-legged, mostly hornless, and of a black or brindled colour; the flesh well grained, and the form altogether beautiful, chine full, back broad and level, quarter long and full at the nache, round barrel, deep girt, and the bone, head, and chap, in general, fine. This, he apprehends, is the genuine original Galloway Scot, and a principal part of the bullocks brought into Norfolk under that name is of this description; but the droves are generally adulterated with a mongrel fort, the produce of a crofs with the long-horned breed. This species of adultery, he remarks, is said to be committed and encouraged by the nobility and landed gentlemen of the counties they are bred in; but the fact appears to be, that they have already one of the finest breeds of cattle in the world upon their estates; and it behoves them to hand it down to posterity as pure at least as they received it. In this age of improvement it might be laudable, he fays, to endeavour to improve it to the utmost; not, however, by foreign admixtures, but by giving the most beautiful females to the most beautiful males of their own breed. They appear to him to have much to lofe, but nothing to gain, from croffing, not even with the prefent long-horned breed of the inland counties. This species of Scotch cattle appears, he fays, to be originally of the county of Galloway, which forms the fouthern extremity of Scotland; but they are now, it is faid, propagated in other parts of the Lowlands, bourhood of Edinburgh. He has known them fattened to 80 stone, and has been informed, from authority which he has no reason to doubt, that they have even reached near 100 flane, of 14 pounds each.

Lowland Scots are the ordinary breed of black cattle in the Lowland counties, fize below the Galloways, and appear Sixty flone is a good weight for a Lowland Scot. In form and inclination to fat they partake or the Galloway breed; the former, however, is feldom to near perfection as that of the true Galloway Scot. Lowland Scots are fome of them horned, some of them polled; their colour black, or brindled,

The Highland Scots feem to be a diffinst breed. The fize is beneath that of the Lowland Scots; 40 to 50 flore is the ordinary weight of a Highland Scot. In torin, flesh, and fattening quality the Highlanders refemble much the Galloway Scots, except that their backs in general are coarfer, their bone proportionably larger, and in that they have in general, but not always, horns of the middle fize, and modily bent upward, like those of the Welsh cattle, but siner. In general appearance there is a strong resemblance (their horns apart) between the Highland Scots and the black cattle of North Wales; but with respect to flesh and fattening quality, the main objects, the comparison is greatly in savour of the Scotch breed, which the gentlemen of North Wales are said to setch annually out of Scotland, or to buy them up at the English fairs to be fattened for their own tables.

Those of the Isle of Skye appear to be only a variety of the Highland breed, contracted by foil or climature, or both. They are, in point of fize, the lowelt in the gradation; but with regard to flesh and fattening, and growth while fattening, they may be faid to stand foremost. He has known an Isle of Skye Scot bought at 21 years old, for less than 40s., reach, in about 20 months, to 45 flone. At that age, fays he, their growth in England is altonishing; owing, perhaps, not more to their nature than to a change of climature and a change of feod. Much, however, depends upon their age. If they be intended for immediate fattening, the age of four years is the most proper. An Isle of Skye or a Highland Scot at two or three years will grow, but he will not fatten; at five or fix he will fatten, but he will not grow, while fattening, equal to a four-year-old bullock. At this age the weight of Ifle of Skye Scots, when fat, varies from 20 to 40 ftone.

brought by the Scotch dievers to the Norfolk fairs, and which are bought up and fattened by the Norfolk farmers under the foregoing names. A comparative flatement of the process, expence, and profit attending the fattening of given by Mr. Burton in the Appendix to the Agricultural Report of that county. The first is a bullock bought at St. Faith's for about oil turned of four years old, in fuch condition as is fit to be put immediately to turmps. This bullock is supposed to be brought to from 50 to 52 itone. He is put to turnips for about 24 weeks, the average expence of which, including turnips, carriage, and attendance, and in fides the ilraw, cannot be reckoned lefs than 45. per week; fetch about 5s. 6d. per flone of 14lb. which amounts to 14l. night, and eats the offai turnips after the better beafts in the day-time; his keep in this way 24 weeks, till May-day, may be fet at 18. 6d. per week; he should then be put to marsh, or into good patture, till a fortnight after Michaelmas, which, fay 28 weeks, at 25. 3d. per week, is 31. 3s.; he then goes to turnips, like the former bulleck, for 8 weeks, at 3s. which is 11.48.; his aggregate charge is then 121. 3s. His weight may be expected to be 44 thone, and value 121. 28. The third is supposed to be purchased at Harleston, in December, a lean beath of the fame age as in the first cafe, at 71, which goes immediately to thraw and oilal-turnips for ing at turnips by day, and lies in the firaw-yard at night, put into the fecond year's lay, or good patture, till harveit, for about 20 weeks, at 3s. per week, which brings it to 11l. at 5s. 6d. which will amount to 12l. 13s.

On this it is remarked, that the first deduction to be drawn is that the first pays 10 per cent, interest upon the capital faid out, as well as a fair price for every thing that it confumes. That the fecond returns no interest for the original cost, but pays a fair price for what it consumes. That the third pays 15 per cent. for the original sun laid out, besides paying as the others for what is consumed. It is obvious that in this system the principal advantage is in the large supplies of dure that is raised.

The author of Modern Agriculture has well observed, that, confidering the early period at which the cattle of this country are generally flaughtered, it is not now of fo much importance to lay down rules whereby to afcertain their age with precision, yet in many cases it must prove useful. The age of cattle, like that of horfes, is discernible by their teeth. They lofe the first fore-teeth at the age of 10 or 11 months: these are replaced by others of a larger fize, and when about a year and a half old, the teeth next to those in the middle drop out. These are also replaced by others; and at the age of three years the others are renewed in like manner. becoming gradually black, unequal, and fhort, as the animal advances in age. Another mark by which to determine the age of cattle, is the appearance of the horn. Cattle fled their horns at the end of three years; and towards the root of the fecond fet of horns there is a kind of ring or joint, formed every year that the animal lives afterwards; fo that, reckoning three years for the top or plain part of the horn, and one for every interval between the rings or joints, the tun the age of any ox or cow that has horns. See AGE of

The discases of cattle make the subject of that art, called by the ancients mulo medicina, and veteratoria; and by us

The ancient riches confided wholly in the number of cattle; whence it is supposed to be, that the Romans called money by a name formed from that of cattle; pecunia from

The first threshold of the Colon, no Scot of the broads into England shall be liable to any other duties besides those to which cattle of England are liable, 5 Ann. c. S. By 5 Geo. III. c. 13. made perpetual by 16 Geo. III. c. 8. milliorts of cattle may be imported from Ireland duty free. By 5 Geo. III. c. 43. Baltials may be freely imported from the lifts of Man.

Factors, and those who sell cattle for others, are prohibited to buy any ox, steer, runt, cow, heiser, or calf, and to sell the same again alive in the same market or fair; on pain of forseiring double value, half to the king, and half to him who shall fur. Stat. 3 and 4 Edw. VI. c. 19. 3 Ch. I. c. 4. See DROVERS.

Stealing of cattle, or killing them with an intent to fleal any part of the carcades, or affilting in fuch offeners, are now made felony without benefit of clergy. See 14 Geo. II. c. 6. and 15 Geo. II. c. 34.

By cattle, in this act is to be underflood any bull, cow, ox, theer, bullocit, heifer, calf, theep, and lamb, and no other cattle whatever. Stat. 13 and 16 Geo. II. c. 34. And every person who shall apprehend and prosecute to conviction any offender, shall have 101, reward. See also BLACK Aa.

CATTLE Firm, in Agriculture, is that fort of farm in which the principal object of the occupier is the profit of live flock in fome way or other. And from the different modes in which advantage is derived from this kind of flock, it is obvious that they muit be of feveral different kinds, as breeding farms, where the chief object is that of railing young animals of the feveral kinds for the purpose of fale, dairy farms, in which the main object is that of either milk, butter, or cheefe, or the two latter; the first fort being fometimes called cow-farms; grazing farms, when the chief

butcher; and fuckling farms, as where the principal point of attention is the fattening of calves for the market. See

CATTLE-SHED, in Rural Economy, is that fort of crection which is made use of for the purpose of containing cattle while feeding or otherwise. Houses of this kind are most readily and cheaply constructed when placed against other buildings or offices, and are of very different forms according to circumstances and fituations.

This fort of buildings may be used as cow-houses or feeding-houses, being built to answer either one purpose or the other, and they are either fingle or double: in the latter way a great many cattle may be accommodated at a very

fmall expence.

The principal requifites in thefe buildings are, according to Mr. Beatfon, the following: " Ift. That they be capable of being well aired. 2. That they are so constructed as to require the least possible labour in feeding the cattle and clearing away the dung. 3. That the stalls be so formed as to keep the cattle as dry and clean as possible; with sufficient drains to carry away, and refervoirs to collect the urine and dung. He observes, with regard to the first requisite, that a free ventilation is as necessary in these buildings as in stables. How often do we fee, fays he, on entering a house where there are a good many cattle or cows, most of them, perhaps, in the highest state of perspiration, and smoking as if they had been at the hardest labour? at the same time the whole timbers of the roof are completely wet by the condenfed fumes arising from the heat and breath of the cattle. This can only happen in close buildings, which must undoubtedly be extremely unwholesome; and, he supposes, must prevent the cattle thriving fo well as they might otherwife do. To a feeder of cattle, fays he, who looks eagerly forward to the profits he is to reap, and who estimates every additional pound of weight that a bullock ought to take on each day, it would be well worth his attention to confider, whether any bullock, in a perspirating state, can fatten so well as when kept in a proper degree of temperature. He thinks it flands to reason he cannot. When such buildings are in the form of sheds, they are not so liable to this want of ventilation; but wherever the timbers above appear wet by the heat and perspiration of the cattle, it is an evident proof there should be some additional air-holes, which, in his humble opinion, ought principally to be in the roof, as recommended for stables. If there are gable ends, they should, he thinks, have a window in each, as high up as possible, with moveable boards, as in granary windows, which may, by means of a cord or fmall rod, be eafily opened or shut at pleasure. The advantages of this free and wholesome ventiation to the cattle must be very evident, and also to the prefervation of the timbers of the building; for where the timbers are often wet in this manner, they cannot be of long duration, confequently the expence of repairing or renewing them would be greatly increased.

With respect to the second qualification, there are many

different constructions of these buildings, but chiefly in the interior parts. "In many (he observes) the cattle are fastened to stakes ranged along the wall at the distance of about three feet from each other, with a space of 18 or 20 inches between the wall and the stakes to lay their food in. This is a very general construction in many parts of the country; but it is somewhat remarkable (he fays) in this as well as in many other things, that the plan most generally followed is the very worth that could have been thought of : according to this construction, except sometimes, when the cattle are fed from

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point is the fattening of different forts of animals for the them their food, which occasions a great walle of time as well as being attended with many other inconveniences. No construction can, he supposes, be more commodious than when a fufficient space is left before the cattle, for the feeder to go with a large wheelbarrow to diffribute their food. This may (he thinks) be obtained, either in fingle flieds, or in double ones, by making the cattle face each other, and leaving a free space of about four feet to admit a wheel-barrow," in the foddering of them.

He adds that the fingle ones may be formed as in Plate IV. fig. 3, Agriculture, in which A is the passage before the cattle, B the rack for their hay or fraw, C a place for laying fodder or litter in occasionally. Or it may be conftructed as in fig. 4. D the passage, E a perpendicular rack behind which are thin deals all along in the position F, for laying the hay upon; and under F is a square hole G, opposite each stall, through which the cattle are fed from the paffage D. This is a very good construction for this fort of thed, and is taken from the new offices of Mr. Biftton's, of Kilfal in Shropshire, where economy in labour and

convenience have been much attended to.

Double sheds may be constructed as in fig. 5, in which A is the paffage; B,B are the stakes to which the cattle are bound; C,C are posts or pillars to support the roof. might, he thinks, be an improvement here to adopt Mr. Bishton's plan, and make similar racks, with holes below, as is shewn in fig. 4. Another way of constructing these double sheds is shewn in fig. 6, by which a very convenient loft may be obtained in the roof. A is the passage between the cattle, and B the loft above, which, if close boarded, may ferve many useful purposes. These double sheds are, Mr. Beatson supposes, perhaps the best construction for feeding-houses, being not only the most commodious, but requiring less building for the same number of cattle than by having them all to face one way.

It is justly remarked, by the same writer, that where cattle are fed from the outfide through holes left for that purpofe, many inconveniences may arife, either in wet weather or in a fevere frost, or by a heavy fall of frow. When they are fed within, no fort of weather can occasion any interruption, especially if there is a proper place adjoining, to keep the provender in fecurity and under cover. In fingle fheds, it would be convenient to have a place above the cattle, as at B, fig. 6. for holding occasionally some hay or straw. This place might be boarded, and made to open from without by covers fulpended on hinges, which, when opened, will afford an easy access for putting in the fodder from a cart. It would there lie ready for the feeder to throw into the racks when required. The roof is in this case to be supported by polls or pillars about three or four feet high, on the top of the wall, and placed about eight or ten feet distant from each other, as at A, A, A, &c. fig. 1. in Plate V. B, B, B, &c. are the hinges of the covers, and C,C,C, &c. the rings to raise them up. D is one of the covers open, which may be held up in various ways, as by a catch, \hat{F} , f(g, 2) moveable on a small iron pin, the heaviest end, E, being within the fixed boards, and F without to catch in a hole in the cover, when opened.

In the third place, great attention is, he fays, necessary to keep cattle clean and dry. The common method of taking away the dung in wheelbarrows is attended with a good deal of labour, and where there are many cattle or cows will require perhaps feveral men's attendance. If this labour can, therefore, be abridged, and one or two men's work faved by a proper construction of building, it will be a great advantage. This should be considered in the original design bewithout, the feeder is obliged to go in among them to give fore the building is begun, and must be determined in a great measure by the form and situation of the ground. If a proper receptacle can easily be had immediately behind the cattle, for throwing in the dung at once with a shovel, without wheeling it, this would be the casest way, and will not only save trouble and expence, but if properly contrived, the dung will be the better for it. By the common method, the dung is, he says, in general so feattered about, and exposed to the weather, that a great part of its virtues is exhaled and lost; a matter of great importance to the farmer; for it is not merely the quantity, but the quality also of dung that is to be considered.

To preferve dung under cover would be attended with an expense in the confruction of a proper place, that perhaps few would chose to go to; at the same time, there is no object of more consequence to the samer than preferving the

quality of his manure.

It is added that the facility of keeping cattle clean and dry, depends very much on the construction and paving of the stalls, of which there are various kinds. In many places, however, there is no fuch thing known as a stall for cows or oxen, they being bound to stakes, without any division whatever betwixt them. In fome parts again, particularly in Cheshire and Lancashire, he observes cows are bound in pairs, at least there is but a very small division betwixt them, as will be feen by fig. 3. in Plate V. in which is a plan of thefe stalls ; A,A,A, &c. being the stakes to which the cows are bound. In other parts they are not bound at all, but every cow or ox has a feparate 'stall fo divided from the rest by rails of wood, that they cannot get out, and so narrow that they cannot even turn about. At fg. 4. is a plan of these stalls; S,S,S, &c. are the stalls. P is the passage betwixt them; T,T, &c. are the troughs out of which the cattle feed : At fig. 5. is an elevation of the rear of these stalls. RR is a rail that lifts out at the end of each stall. Sometimes there is a little door that opens, as at G. Fig. 6. is a fection of these stalls, in which it will be observed there is a short rail or brace at A, to prevent the cattle touching each other with their horns. Some people are of opinion, that cattle feed much better and quicker in stalls of this kind than when they are bound.

It is supposed that double stalls may be made without the short division, as already mentioned. The division between them, however, ought to be sufficiently boarded at the top, to prevent the cattle seeing their neighbours in the next stall. At each stake should be a trough for holding meat, and between these two troughs, another common to both cattle, for holding water, with which it may be supplied by a pipe communicating with a cistern or refervoir without.

These three troughs may be of stone, as in fig. 7. and all of one piece, if thought proper. A perpendicular rack for holding hay or ftraw may be placed over them, as reprefented in fig. 8, which is a fection or view of one of the stalls, and fig. 1, is a plan. Perhaps it would be an improvement to divide them by a rail in the middle, as at AB, fig. 7. which would prevent the cattle turning too much about, and fpreading their dung over the whole stall, for the more they are made to dung in the same place, the easier it will be to keep them clean. But although the double stalls here recommended are a good deal used for milch cows in different parts of England, yet they have in general only one trough for each cow, without any for water; nor indeed has he feen any with this conveniency, except at Burleigh, in Rutlandthire, a feat of the earl of Winchelfea, where offices and farm-houses are on an excellent construction, being planned chiefly by himfelf.

In paying stalls for cattle, the fame author remarks, " that there is generally too great a declivity made, which will

cause them always to stand uneasy and uncomfortable; for, when feeding, there cannot be too much attention paid to their ease and comfort, as well as to their food. If they are constantly wet and dirty, or in pain by standing in an unnatural polition, it is impossible they can thrive so well as otherwise they might. Yet (fays he) how little attention is there in general paid to this. One would almost be led to suppose it is the opinion of many, that if they stuff their cattle quite full of food, whatever may be its quality, it is all that is necessary. Sometimes they are chained so close to a stake that they can hardly move, nay, it is a practice in fome places to falten their heads between two stakes, by which they can neither lie down in comfort nor can they have it in their power to deftroy or diflodge those teating tormenting vermin which frequently prey upon them. Besides this, they are often fuffered to be befmeared on the back, and either fmoking with heat for want of ventilation, or thivering with cold. No animal can thrive well under fuch milmanagement, let his food be ever fo plentiful, or of ever fo good a quality; for, as an ingenious author fays; to keep cattle clean and well littered, is to them half food. Cows are more eafily kept clean than oxen, for they do not wet their stalls fo much; but even oxen, when confined to fland nearly in the fame place, cannot wet their stall above half way up, if properly constructed, and that generally about the middle. It is therefore clear, that if the moillure is immediately conducted away, and prevented from fpreading, the ox will be easily kept dry. The best way to do this is, (he thinks) in the manner described for paving the stalls of stables." See

The stalls of oxen or other cattle should, he fays, "be paved in the fame manner; but as their dung is of a more liquid nature than that of horses, it would be proper to have fome commodious method to carry it off. Perhaps in fome fituations, where there is a proper declivity, this might be done by having an iron grating behind each ox or cow, immediately over the stall drain, and as nearly as can be judged to the place where the dung will drop, which by continuing the drain, or a wooden spout, to a pit or reservoir without, and giving it a fufficient flope, will, with the affiliance of the other moisture, run and empty itself therein. If it should require the aid of a rake or hoe fitted to the drain, that may be easily applied, especially if those drains are made open and covered with a strong plank to take up when necessary. The moist dung being thus carried away, the remainder will be eafily removed .- Something of this principle, fuited properly to the fituation of the place, would, (he thinks) fave a great deal of labour, and very much facilitate the keeping of the cattle clean, and also be the mears of faving a great deal of litter when scarce or dear. The advantage of proper drains to carry off the moisture from within the offices, and refervoirs for collecting it in, are therefore very obvious, as without fuch drains it cannot be expected that the offices or the cattle within them can be kept fufficiently dry."

But though these forms and modes of constructing cattle-sheds and seeding-houses are, probably, the most frequently met with in different parts of the kingdom, they are often built on other places and in other forms, such as the circular and long square; the first of which, though rather more expensive in the construction, is probably the most economical in respect to labour, and the most convenient in the distribution of the food, especially where a great number of cattle are to be kept. In this case, the animals, contrary to the usual method, stand all round having their tails to the out wall, by which much convenience is afforded in throwing out the dung through crevices left for the purpose

receive it. The area or space within is converted to the use of feeding and attendance. There should be a room above in order to thore up different forts of food that may be wanted for the animals, to render the plan complete. The passage or gangway next the wall is left fushciently large to permit the cattle to pals to and from their stalls; and the openings in the wall for the discharge of the dung should be for contrived as to be capable of being that up when the weather is fevere.

The long square likewise admits of much room and convenience, and is a form in which many houses of this defeription have lately been erected. For this fort of flied the length of fifty or fixty feet affords room for a great number of cattle; the roof being made shelving, having the height of fourteen feet in the highest part and fix or feven in the lowest; the large place deflined for the reception of the cattle being separated from that where the dung is to be deposited by a wall or fome other convenient division. For the former the space of eighteen or twenty feet on the inside is sufficient to afford good room, the stalls being made each about twelve feet long, having the width of four feet, or four feet and a half; the gangways at the heads and behind the cattle being made three feet, or three feet and a half in breadth, doors being fixed to each, one for the admission of the animals, and the other for that of the persons who attend them. And when the buildings are of great length, it may be convenient to have doors at each end. There should likewise be troughs in each stall for the reception of water, which, where it can be made to run through them, is of great advantage; and boxes or mangers for particular forts of food, as well as racks for hav, are also necessary to render them complete. The bottoms of the stalls may be formed of strong planking laid fo as to have a very flight descent, and be perforated with holes for the ready passage of the urine into the reservoir for it. There should be openings made in the wall behind the cattle, for the purpose of discharging the dung, between every two stalls of about two feet square, with proper shutters sitted to them; and also a wooden window of about the same size to each stall, to admit light and free ventilation, being placed as high as the house or shed will admit. The reservoir for the dung and urine should extend the whole length of the fhed or building.

A shed on this plan has been found useful in practice by a person who has bestowed much attention on the convenience of this fort of farm building. See Cow-House.

HIBISCUS abelmoschus.

CATTUPHUS, or Cossophus, in Ichthyology, a name given by Aristotle and other Greek writers to a species of Labrus of a bluish black colour; the MERULA, and TURDUS nigricans of some Latin authors. It is rather uncertain which of the Linnæan species is intended by those writers.

CATTUS, or CATUS, cathoufe, was in ancient history a fort of covered shed, fometimes fixed on wheels for the purpole of moving it, in some respects similar to the vinca and pluteus

CATTU-SCHIRAGAM, in Botang, Rheed. Mal. See CONYZA anthelmintica.

CATTUSE, in Geography, a town of America, in the

state of Georgia; 12 miles W. of Tugeloo. CATTU-TIRPALI, in Botany, Rheed. Mal. See

CATUDÆI, in Ancient Geography, a name given by Suidas to those who dug their habitations under ground; such were the Troglodytes.

CATUIACA, erroneously written catoluca, carluce, a

in the wall into covered pits made on the outfide in order to place of Gallia Narbonnenfis, between Alaunium and Apta Julia, according to the Itinerary of Antonine.

CATULENSIS, an episcopal see of Africa, in Mauritania Cæfariensis.

CATULLI-POLA, in Botany, Rheed. Mal. Sec PANCRATIUM zeylanicum.

CATULLUS, CAIUS VALERIUS, in Biography, an eminent Latin poet, was descended from reputable parentage, and born at or near Verona, about the year of Rome 608, B. C. 86. At Rome, where he fettled at an early age, he formed an intimate acquaintance with fome of the principal persons in that city, as Cicero, Cinna, and Plancus, to whom he recommended himfelf by his wit and gaiety, and by the beauty of his poetical compositions, the obscenity and lasciviousness of which seemed to have been no great hindrance to his reception among the ancient Romans. In fome of his poems he attacked the private character of Cæfar with feverity; but a flight apology effected a reconciliation; and Catullus was again admitted to his table. Although he accompanied the prætor Memmius to Bithynia, Rome feems to have been the place of his stated residence; where

he lived under the character of a wit and a man of pleasure. He possessed, however, a small villa at Tibur, whither he occationally retired for relaxation, and he also speaks with an amiable enthuliasm of his paternal feat on the peninsula of Scrinio, delightfully feated on the lake Benacus. He was much attached to a mistress, whom he has rendered immortal by the name of Lesbia, though her real name was Clodia. That the unrestrained libertinism of Catullus had not extinguished in his breast the amiable feelings of fraternal love and friendship, we have sufficient evidence in the tender lines which he addressed to a friend on the death of a brother. The Eusebian chronicle has placed the death of Catullus in the year of Rome 696, B. C. 58; but as he alludes in a poem (Carm. iii.) to the confulate of Vatinius, in 707, he must have survived that period. In Blair's tables his death is placed in the year of Rome 714, B. C. 40. Joseph Scaliger extends his life to 71 years, and confequently refers his death to the year of Rome 739, B. C. 15; but Mr. Bayle has examined his arguments for this date and refuted them.

The rank of one of the principal Latin poets is affigned to Catullus by Ovid, who places him on a parallel with

" Mantua Virgilio gaudet, Verona Catullo."

Amor. l. iii. el. 15.

Martial also acquiesces in the same opinion; (lib. xiv. CATTU GASTURI, in Botany, Rheed. Mal. See Ep. 195.), and modern critics reckon him one of the most valuable examples of the golden age of pure Latinity. " He is the earliest remaining writer who gives specimens of a great variety of measures; and his subjects and styles of writing are almost equally various. His peculiar excellence is thought to confift in the fweet and tender, combined with a fort of playful timplicity, and no pieces have been more frequently repeated than some of his short tributes of affection to Leibia. They have, indeed, by their endearing diminutives, ferred as a model to a whole class of imitators. In other compositions Catullus aims at a higher flight, and exhibits much strength of imagination and expression, not without some of the harshness of a mode of vertification not yet arrived at its due polish and correctness. His epigrammatic pieces are of various characters; but fuch are the licentiousnels of idea and freedom of language in most of them, that nothing can be more offensive to moral purity. His amorous poems are likewise often in the extreme of warmth," Of his works we have extant, his "Liber Epigrammatum variorumque Poematum," dedicated to Cornelius Nepos. His poems are divided into three books, one of lyrics, another

in the edition of Venice, 1487, fol. The most approved editions of Catullus are those of Vossius, Lond. 1684, 4to. with a commentary, and Utr. 1691; of Vulpius, Patav. 1710, 4to. with annotations and an index; of Corradini, Venet. 17,38; the "Variorum," by Gravius, with the poems of Tibultus and Propertius, Utr. 1680; and Mattaire's, in 1715, 12mo., and in the Corpus Poctarum, with Tibullus and Propertius, Lond. 1713, fol. A correct edition was printed a few years ago by an alderman of London; but not fold; and in 1705 was published an English translation, glish verse, with the Latin text revised, and classical notes;" prefixed to which are engravings of Catullus and his friend Cornelius Nepos, 2 vols. Fabr. Bib. Lat. T. 1. c. 5. p. 60. &c. Nouv. Dict. Hift. Gen. Dict. Gen. Biog.

CATULUS, in Ichthyology, a name by which old authors have described the spotted dog-fish, squarus GATULUS

of Linnæus, which fee.

CATURIGES, in Ancient Geography, a Celtic people, who inhabited the mountains of Gallia Lyonnensis, or the Cottian Alps; placed by Ptolemy between Ebrodunum and Vapincum. The country which they occupied was called in Latin "Cottil regnum," and in Celtic "Cou-rich," or

CATURIGES, or CATURIGE, a town of Gallia Lyonnenfis, and the capital of the Caturiges, between Ebrodunum and Vapineum, according to the Itinerary of Antonine and the table of Peutinger, who names it "Caturigomagus;" its modern name is thought to be Chorges.

CATURIGIS, a place of Gaul in Belgica Prima, N.W.

of Nafium, on the route to Durocortorum.

CATURRACTONIUM, a town of the Brigantes in Britain, which was unquestionably the present Cattarick near Richmond, in Yorkshire. In the time of the Romans it appears to have been a great city; and feems to have derived its name from a fort of cataract in its vicinity. Here one of the Roman highways croffed the river Swale. On its banks are the foundations of large walls, and a mount cast up to a great height. Many Roman coins and urns have been dug up here. The city was finally destroyed by the Danes

CATURUS, in Botany, Linn. Mant. Class and order, diacia triandria. Nat. Ord. Tricocca, Linn. Euphorbia,

Tuff.

Gen. Ch. Male. Cal. tubular, three-cleft to the middle, or three-leaved, permanent; fegments egg-shaped, acute, concave. Cor. none. Stam. filaments three, capillary, longer than the calyx; anthers roundish. Female. Cal. from one to three-leaved; leaves egg-shaped, flat, permanent. Cor. none. Pift. germ villous; flyles three, long, multifid, pinnated, coloured, stigmas acute. Peric. capsule roundish,

tricoccous, three-celled. Seeds folitary, round. Sp. 1. C. Spicisforus, Linn Mant. Mart. Lam. Illust. Pl. 805. (Acalypha hispida, Burm. Flor. Ind. 303. tab. 61. fig. 1. Watta-Tali, Rheed. Mal. 5. p. 63. tab. 32. Cauda felis agrestis alba, Rumph. Amb. 4. p. 84. tab. 37. fig. 2.) " Spikes axillary, folitary, pendulous." A shrub. Stem from 15 to 20 feet high; wood white and close; bark thick, dusky, unctuous, inodorous; pith yellow. Branches diffuse. Leaves alternate, petioled, nearly heart-shaped, acute, bright green above; midrib pale, hairy, with a few lateral nerves. Flowers in axillary, folitary, hifpid, pendu-Ious spikes; but, according to Burman, the spikes in most of the plants brought from the island of Java are not pendulous. Fruit round, yellowith-green, infipid. A native of

of elegies, and a third of epigrams, which division appears the East Indies, where a conserve of the slowers is used in diarrhoca, and all diforders ariting from a laxity of the veffels. From a comparison of Rumphius's figures in tab. 36 and 37. with those of Rheede and Burman, La Marck suspects that feveral species are confounded together. 2. C. scandens, Mart. Lour. Coch. 612. "Spikes axillary, upright; leaves oblong, fomewhat ferrated; ftem climbing." An unarmed thrub. Stem long, branched, climbing, but without tendrils. Leaves alternate, acuminate, veined, Imooth. Flowers very fmall, white, in close short spikes, with awl-shaped bractes; calyx of the male flower three-leaved. A native of the

CATURUS ramiflorus, Linn. Lam. See BOEMERIA rami.

CATUS, in Geography, a town of France, in the department of the Lot, and chief place of a canton in the diltrict of Cahors; 2½ leagues N.N.W. of Cahors. The place contains 1344, and the canton 9907 inhabitants; the territory

CATUS pardus, in Zoology. See FELIS pardalis.

CATUS zibethicus, a name given by fome old writers to the civet, VIVERRA civetta of modern naturalitis; called also by Gesner and others felis zibethi. The English name is that name: it is oftentimes, though improperly, called the

CATUSIACUM, in Ancient Geography, Chaours, a place of Gaul, in Belgica fecunda, at some distance N. of Duro-

cortorum

CATU-TSIERN NAREGAM, in Botany, Rheed. Mal.

See LIMONIA acidiffima.

CATWYCK, in Geography, a village of Holland, on the borders of the fea, near which the Rhine lofes itself in the fand. The Romans built a castle near this spot, and the ruins may be fometimes feen, when the fea retires more than usual; 2 leagues N.W. from Leyden.

CATY, CATI, or CATTI, an East India weight, used especially in China. It is equivalent to one pound five

The caty is divided into fixteen taels, and the pic into an

The caty is also used in Japan, Batavia, and other parts of the Indies, where it weighs more or less, according as it contains a greater or less number of taels; the caty of Java is equivalent to twenty taels; that of Cambaya to twentyfeven; the caty of Siam is double that of China, and amounts to about 150 French pounds.

The Chinese also give the denomination caty to the

Siamese schan.

CATY is also a small weight whereby the lapidaries of the East weigh their emeralds, equivalent to three grains.

CATY is also a money of account, used in Java, and some of the neighbouring islands, amounting to about nineteen floring Dutch money.

In the island of Sumatra, caty is said to denote a piece of money valued at fix shillings and eight pence sterling

CATZ, JAMES, in Biography, an eminent Dutch statesman and poet, was born at Brouwers-haven in Zealand, in refigned very elevated posts under the civil government for the fake of fludy and repose. He was prevailed upon, however, by the States to undertake the arduous office of ambaffador to England in the critical and tumultuous time of Cromwell. On his return he retired to one of his effates at Sorgvliet, where he died in 1660. His poems in Dutch, almost all of which are on moral topies, have been held in

high estimation by his countrymen, and have passed through feveral editions. The latest edition was that of 1726, in 2 vols. fol. Nouv. Dict. Hist.

CATZENELNBOGEN, or KATZENELNBOGEN, County of, in Geography, a county of Germany, in the circle of the Upper Rhine, which devolved to the landgrave of Heffe in 1479, after the decease of Philip, the last count. It is composed of many districts, which, if they were united, would form a country 20 leagues long, and 10 broad; but the city of Mentz, with its territories, infulated in this country, makes an interruption of 10 leagues. The Mayn paffes through it, and divides it into Upper and Lower; the Upper belongs to the prince of Hesse-Darmstadt, and is called Darmstadt from the capital. The Lower county fell to the landgrave of Hesse-Rhinfels in 1648, except the town of Catzenelubogen, Breubach, and the cattle of Marsburg, which belong to Darmstadt.

CATZENELNEDGEN, a town and castle of Germany, in the circle of the Upper Rhine, feated on a mountain which gives name to a county belonging to the prince of Heffe-Darmfladt; in its vicinity are mines of iron; 28 miles N.N.W. of Mentz, and 22 E.S.E. of Coblentz.

CAVA, in Anatomy, is a name applied to some large

veins.

The fuperior or descending vena cava is the vessel which returns the blood from the head, upper extremities, and cheft, to the right auricle of the heart.

The inferior or afcending cava receives the blood from the lower extremities, abdomen, and pelvis, and pours it into the

right auricle.

The venæ cavæ hepaticæ are the returning veins of the liver, which join the inferior cava. For a description of these vessels, see VEINS and LIVER.

CAVA, in Ancient Geography, a large village of Alia, mentioned by Xenophon; and supposed to be in Bithynia.

CAVA, in Geography, one of the smaller Orkney illands,

about a league S. from Pomona. CAVA, LA, a town of Naples, in the province of Principato Citra, the see of a bishop, immediately subject to the pope. Since a new road has united the Sorrentine promontory with the Apennines, which passes by Cava, it has brought to this city a concourse of travellers and merchants. It has also been encouraged to traffic by many valuable privileges; a cloth manufactory has enlivened it, and increased its population; and it carries on a great trade in filk and linens. It is diftant 2½ miles N.W. from Salerno. N.lat. 40° 26'. E. long. 14° 55'.

CAVADO, a river of Portugal, which runs into the fea

near Efpofenda.

CAVÆDIUM, in Architecture. This term, derived from the words cava adium, fignifies a vacant space within the body of a house; it has therefore the same meaning with our word court. Vitruvius has a chapter upon cavædiums (lib. 6. cap. 3.) which he divides into five kinds, called, from their various forms, Tufcan, Corinthian, Tetrattyle, Difpluviated, and Testudinated. The Tuscan cavædium was a fquare court, with a roof projecting from the fides to shelter the walls, and convey the rain water towards the middle. The Corinthian cavædium was fimilar to the last, except that the roof, projecting further, was supported by columns un-The Tetrailyle was fo called, from having four columns supporting the angles of the roof. The Difpluviated was entirely open, having no roof projecting from the fides, and was therefore lighter and more agreeable for the windows of winter apartments to look into. The fifth kind was covered over, being telludinated or vaulted;

this manner was used when the span was not very great : and the space above was used for chambers or other apart-

CAVAGIRO, in Ichthyology, a fmall fish found in the Mediterranean, which Ray describes as being something of the eel shape; but thinner and slatter. The same writer also calls it Tania rubra, and Freggia. This is the Capola TENIA of recent authors, which fee.

CAVAGLIA, in Geography, a town of Italy in the lordship of Vercelli; 16 miles W. of Vercelli.

CAVAILLON, a town of France, in the department of Vaucluse, and chief place of a canton in the diffrict of Avignon, situated on the Durance, in a pleasant and fertile country, and abounding with remains of Roman magnificence; 4 leagues S.E. of Avignon. The place contains 5192, and the canton 9875 inhabitants: the territory includes 115 kiliometres and 6 communes. N. lat. 43° 52'. E. long.

CAVAILLON, a town on the fouth fide of the fouth peninfula of the island of St. Domingo in the West Indies, about three leagues N.E. of Les Cayes, and five W. by S. of St.

CAVALA, LA, a town of European Turkey, in the

province of Romania; 30 miles E. of Emboli.

CAVALCADE, a pompous procession of an assemblage of peop!e on horseback, with their equipages, &c. by way of parade in order to grace a triumph, a public entry, or

CAVALCADOUR, or CAVALCADEUR, anciently denoted a riding-mafter; but at present is disused in that fense, and only employed to denote a fort of equerries, or officers who have the direction of princes' stables. The French fay, ecuyer cavaleadeur of the king, the duke of Orleans, &c. Menage writes it cavalcadour, and derives it from the Spanish cavalyador, a borfeman.

CAVALCANTI, BARTHOLOMEW, in Biography, a learned Italian, the descendant of a noble family, was born at Florence in 1503; and having been led by the disturbances of his country to assume the profession of arms, he displayed his eloquence and his valour in an oration on liberty, which he pronounced in 1530; armed with a corfelet. Taking part against the house of Medici, he was under a necessity of withdrawing from his country after the affassination of Duke Alexander and the election of Cosmo. He then lettled at Rome, where he was employed by Pope Paul III. and his grandfon Ottavio Farnese, in many important negociations. He also faithfully served Henry II. king of France in the cause of the Siennese, as long as they were able to defend their liberties. After the termination of the war between France and Spain, he refided at Padua, where he devoted himfelf altogether to literature, and where he died in 1562. His "Rhetoric," first printed in 1559, and feveral times reprinted, has been reckoned among the best works of the kind in that age, when it was the common fault to regard Arittotle as infallible. His "Treatifes on the best Forms of Republics ancient and modern," printed in 1555, are also valued. He also wrote an Italian commentary on the first books of Aristotle's Poetics, and translated into Italian the "Castrametation of Polybius." Moreri. Gen. Biog.

CAVALCANTI, GUIDO, one of the very early Italian scholars, was born of a family of rank at Florence, in the 13th century; and became the disciple of Brunctto Latini, and an intimate friend of Dante. His father, having been a free speculator in philosophy, was placed by Dante in his Inferno, among the condemned Epicureans in the lower regions; and Boccacio intimates, that the fon was addicted to fimilar opinions. Guido was fond of a retired and contemplative life, and attained among his countrymen a high character both as a philosopher and a poet. In his pilgrimage to St. James of Compostella, he formed an anorous attachment to a lady at Toulouse; but having taken part in the contentions of his country against Corfo Donati, a principal person of Florence, was in danger of allasination in his pilgrimage. In the year 1300 he was banished to Serezano; but on account of the unhealthines of the place, where he fell sick, he was allowed to return to Florence, and died there in that or the following year. His poems, for which he is chiefly distinguished, are, allowing for the times, elegant and correct. They consist of sonnets and canzouses, and were printed at Florence in 1527, in a collection of ancient tailing norts.

cient Italian poets. Gen. Diet.

CAVALE, LA, in Geography, a finall town on the northern point of the island of Tasso, in the Archipelago, well of the bight formed by Cape Asperosa: the town projects into the sea, and has some resemblance of a horse, whence its name. This town, which was formerly called Bucephala, was for a long time in possession of the Genoese and Venetians; of late years it has become a very active point of the Levant trade; its harbour, though not very safe, is frequented by ships which load there with corp, tobacco, and other

commodities.

CAVALER Maggiore, a town of Italy, in the principality of Piedmont; 3 miles north of Savigliano, and 19

jouth of Turin.

CAVALERI, a fmall island in European Turkey, in the Archipelago between the fouth-west end of the island of Negropont, and the continent of Greece. N. lat. 38° 7'. E. long. 24° 17'.

CAVALERIE, LA, a town of France in the department of the Aveyron, and chief place of a canton in the dif-

trict of Milhau, two leagues S.E. of Milhau.

CAVALET, in the Glass Art, a small iron ring which furrounds the lumella, or hole in the center of the floor, in the tower of the LEER, used for annealing glass vessels.

CAVALIA, a town of Africa, on the Ivory coaft. CAVALIER, in Military Language, a trooper, a man of warfare or foldier, that ferves and fights on horfeback. The appellation of maitre or malter, has fometimes been given to him. Thus they fay, cette compagnie elt de trente ou quarante maitres, non compris les officiers, this company confilts of thirty or forty mafters, exclusively of the officers. This name is very old. And they inherit it from the men of arms, the first corps of cavalry that was raised under Charles VII. of France. These men at arms, who were gentlemen, carried each of them into the field with him three archers, one cutler, and one page or valet. The numbers of each were diftinguished by so many masters, so many archers, so many cutlers, and so many pages. When these last were fent on detachments, by themselves, some of the gens d'armes commanded them. And the officers did not march but with the gens d'armes alone. This term was formerly confined or reftrained to a knight or miles, and had the same import or meaning as that which the French at present annex to the word chevalier. The word now denotes any foldier that ferves and combats on horseback: and he is reckoned a good cavalier who takes particular care of his horfe and his equipage.

CAVALIER bas, the fame in a military fense as Bachelier, which title was formerly given to a young cavalier, who had commenced his military career, served his first campaign, and received the military cinclure.

CAVALIER, a term in Fortification, made use of to denote

a work raifed generally within the body of the place from ten to twelve or more feet higher than the relt of the works. Its most common situation is within the badition, and nearly of the same form. It is sometimes placed in the gorge of a badition, and sometimes on the middle of a curtain, in which case it is usually made somewhat in the form of a horse-shoe, but a lattle slatter, or not quite so much reunded, or circular.

The principal use of cavaliers is, to command all the adjacent works, and the country around them. They are feldom or ever made but when there is a hill or rifing ground,

which overlooks fome of the works.

Sometimes the earth of the rampart fills up the whole baftion, which is then called a full baftion; and fometimes the rampart follows the mafter-line, or first draught, running parallel to the parapet of the baltion, which is then called an empty or hollow baltion. The empty spaces in hollow nition, and for various other purpoles. But when the baltions of a fortified place are full, and there are any eminences or rifing grounds near it, that command any parts of the works or outworks, terraces or mounds of earth, called cavaliers, more or lefs raifed as there is occasion, are made in them, which are fometimes walled round, and always have, like other works, a parapet for covering the cannon placed in them for removing fuch exterior commands, or for defending the faces of the opposite baltions, as well as the baltions themselves, in which they are raised, should the enemy make lodgments in them. Such a cavalier is called cavalier de bassion; and, when made nearly of the same sigure with one, forms a fort of double baltion, which is often attended with great advantages. To confiruct fuch a cavalier in a baltion, draw two right lines parallel to the faces of the bastion, about twenty yards within, and diltant from the same; and form, at this distance, an interior bastion, with slanks either straight, or with orillons, similar to those of the outer ballion. or the battion itself, and you will get the magistral line of the cavalier.

Cavaliers are often made on the middle of the curtains, and near the parapet, in order to command a view of the field from the place, to discover the enemy in his works, and to double the fire which defends such parts of the town as may be attacked. At other times when any parts of the place or works are liable to be *enfiladed*, cavaliers are raised to cover them against an enfilade.

A work of this nature is fometimes erected in the ditch of a fenny place, for the purpose of covering a gate, or lodging a guard in it against surprises. It is then called a

horse-shoe, and when very irregular, paté.

Ever lince the invention of modern fortification, cavaliers have been in ethimation and use in may fortified towns, as appears from Palma-Nova, Orli-Novo, the citadel of Turin, and various other places. They are raised confiderably higher than any other parts of the works; and as they have different uses, or answer different purposes, they are also of different figures, being sometimes rectangular, sometimes round, sometimes oval, sometimes of the baltion form, &c.; for which, see Fortification, Pl. 1. fig. 2.

The principal advantages of cavaliers are thefe, that they moleft a befieging enemy as long as he is in the field, expose him to the view of the befieged in his works and approaches, annoy him in his batteries, and oblige him to open his trenches at a greater direance from the place than he otherwise would. They subject him to this inconvenience, that, to be under cover from them he must perform more labour and make greater excavations to raise his trenches and other works a good deal higher than he need do, were it not for them, which, when there is but a small depth of soil and rock

the field fufficiently high to command them. They ferve also for covering those parts of the works or place, that are exposed to an enfilade, and, when conveniently fituated, almost double the fire of the faces of the baltions. They likewife answer for firing into the retrenchments from the moment the enemy makes a lodgment in the bastion.

Some engineers disapprove of them, alleging, that they are of no great use or service, and do not contribute much towards the defence of a place, because, being retired from the out-works, they cannot keep the enemy at a distance. Then they observe, that the height of these works is attended with much inconvenience in different respects. First, in the raising of them, as it is difficult to heap up earth upon earth in this manner, and afterwards place a parapet at top of all; fecondly, that they are buts for the enemy to fire at; thirdly, that, befides this, in time of need, and, when the enemy is near, they ferve in no flead for the purposes of defence, because the men in them cannot point their cannon on objects near and below them, without either expoling themselves, or greatly diminishing the thickness of the parapet; and, lastly, that they hinder the making of retrenchments in the baltions, and that when the enemy once gets possession of them, he can turn them to a good account, and make use of them to great advantage.

In answer to these objections, it may be very justly obferved, that feveral engineers of reputation have made use of them with great advantage, conscious that, when added to good fortifications, they affuredly render it much fironger.

Thus, although they are retired within the body of the place, their height remedies that defect, enabling them to fee and command whatever is in front of them. That the difficulty of making them is not fo great as has been fupposed, as they are actually to be found in many places, and that it ought not to be objected to them, as they afford advantages much more than fufficient to counterbalance it. And that as to their being buts for the enemy's cannon to destroy and batter down, it ought to be considered that, for this purpose, he must face his batteries, and raise them very high, during which operations he is liable to be greatly annoved and interrupted by the fire of the cavaliers, and to perform a great deal of labour before he can put his own in a condition to do them any effential damage. And after he has made them, they are subject to be more suddenly battered down by the cavaliers, than the cavaliers are by them, as the one is composed of earth well fettled and rammed, and the others of earth, loofe, and fuddenly thrown up.

When there is but little foil on the outlide of a fortified place, the belieged may derive great advantages from such works, as they can raise them before-hand at their leisure to what height they choose, and may diminish the means and power of the beliegers to injure them, by bringing the earth from the outfide for that purpole, which will compel the enemy to bring earth and materials from a distance to raise his batteries and approaches fufficiently high to counteract the effects, and cover him from the command and fire of the cavaliers; an operation that must be always attended with much loss of time, as well as great labour and fatigue.

Such works cannot fail to be useful by being high, fince when placed near the extremities of the curtains, they afford a defence to the opposite battions; and not only commanding but firing to a distance, they can greatly injure and annoy the enemy after he gets into the ditch, and compel him, when he is going to make the traverse, to raise it very high, in order to put himself under cover. When they are thus placed, they do not interfere with the making of retrench-

under it, is attended with much difficulty. At the same ments in the bastions, but furnish a very good defence for time he cannot, but with extreme difficulty, raife works in them. To fay that the enemy will be able to make use of them, after he once gets possession of them, as fo many citadels against the town, city, or fortified place, is no argument at all against the construction and use of them. For on the fame ground, it might be alleged, that we never ought to make ballions. When it is confidered, that after the befiegers shall have taken all the bastions, and all the retrenchments within them, which they must do before they can become mafters of the cavaliers fo fituated, the place will hardly be able to defend itself, whether there be cavaliers or not; and when there are fuch works there will still remain this defence after the great injury the enemy must have sustained by them before he was able to force all these other works.

It may not be improper to observe, that it would not, however, be advisable to introduce cavaliers as a principal component part of the works of the body of a place, or to revete them like baltions, and employ them as fuch. For when the ballions of a fortification are at too great distances one from another to furnish a good mutual defence, or when the curtains are excessively long, it is better to place ravelins before them than to introduce cavaliers into the middles of

The height of cavaliers above the level of the rampart, must depend on convenience and the purposes for which they are raifed or erected. It ought to be from 10 to 15 feetor more. The length of one should be at the least 14 fathoms, in order to receive conveniently 4 or 6 pieces of cannon, and its breadth 6 fathoms, for them to have room to recoil in, and to be ferved commodiously. The faid height in fuch works is exclusive of that of the parapet, which should look outwards, or towards the field, like that of the rampart, and ought to be 4 feet 4 inches high, and from 15 to 20 feet thick. On the part looking towards the town a very thin parapet is all that is necessary, and the slope or afcent there, for carrying the guns up should be from 10 to 12 feet broad.

When there are hills or eminences near the works, cavaliers are fometimes made sufficiently large to hold 10 or 12 guns

each and are raifed much higher.

Different forms of cavaliers are respectively best adapted to different purposes, and much depends in this respect on the judgment and knowledge of the engineer who constructs them. The round or circular form, however, is exceedingly good. Of all figures under the fame periphery it contains the greatest area. The fire from it is equally distributed in every direction, which is not the case with that from the rectangle, square, &c. A cavalier of this form is less exposed and less liable to be ruined or battered down in any particular place than one in the form of a rectilinear figure. The same advantages are in a great measure attributable to one of an oval form, as it differs but little from the circular. The exterior flope of the parapet ought always to be confiderable, particularly if it be made of loofe or bad earth; and fo ought also that of the cavalier itself to be, wherever it is not faced with mafonry.

Some are for placing them in the entrance or gorge of the battion, between the two flanks. This position enables them to fee and to defend the faces of the opposite bastions. But it interferes with the retrenchments in these works, and is too much retired from their faliant angles for commanding effectually the parts without the body of the place. Those in the citadel of Turin are thus fituated, but it is in order to

command the town.

Cavaliers placed near the extremities of the curtains neither hinder the erection nor occupy the places of other defences, but rather increasing them have a great command of the traverse, which the besiegers make for approaching the

bassion. These situations, therefore, seem to be very proper

The capital of a cavalier placed at the middle of a curtain, fhould be at right angles to the fame. Its faliant angle found we nearly a right one, which will enable the faces containing it to furnish a pretty direct and good defence to those faces of the two ballions that are opposite to them. The middle of the curtain is a bad position for a cavalier, when it is otherwise constructed. No cavalier, indeed, placed on the middle of a curtain ought to be raised high above the rampart; for if it be, its fire along the faces of the adjoining ballions will be too plunging to produce much effect. And, on the other hand, if it be kept low, it cannot command the field much better than the curtain itself. For these reasons the middle of the curtain does not appear to be an eligible or advantageous situation for a cavalier.

That a plunging that is not near fo deftructive and annoying as a horizontal one, or one nearly fo, is a truth fo obvious, that it hardly stands in need of demonstration. For a that fired horizontally or from a very fmall elevation grazes and bounds along, and may hurt or injure fifty objects in its progress, before its force is entirely spent; whereas one fired from a confiderable height at an object at a moderate distance, or from a fmall height at one very near, never rifes if it can bury itself. But let A K, fig. 3, represent the line of the horizon, A B the altitude of any place, work, or height above the same, and let A D, A F, A M, A K, be different distances on the horizontal line, from the foot, A, thereof. Now if E G be the height of an object, at which a gun is to fire from B, GO be drawn parallel to A K, and from the points I, N, O, where G O interfects B D, B M, B K, right lines I H, N L, O a be drawn parallel to A B, the relative degrees of the extent of offence in firing from B at an object of the height, E.G., placed at the points E, H, L, a will be as ED, HF, LM, and a K respectively, or as the tangents of the angles ABD, ABF, ABM, ABK, to the radius E G.

The chances then of hitting an object of a given height from B, at different diffances from A, will, exteris paribas, be as the tangents of the angles, which lines drawn from B along the top of the object at these diffances to meet A K, form with AB, to the height of the object as radius. But if it be considered that a slut fired from B meeting the surface of the earth at D or F will bury itself if the ground admit of it; whereas, meeting the surface at M or K it may have a first, second, and even third graze, in each of which it may hit and injure almost a number of objects, it will be sound, that the chance of doing mischief is greatly beyond the foregoing ratio in favour of the shot that is fired horizontally. Heights create dead parts for some distance in front of them, which is the cause why troops in ascending them are generally exposed to but little danger from fire-arms and sutten as little los.

In maritime places cavaliers are placed either in the ballions or on the curtains, according as their fituations are heft calculated for enabling them to command a view of the fea, and to fire on flipping at a diltance.

Wherever a cavaher is placed within the body of the place, there should be a passage of 0 or 8 feet between the parapet and it, for the convenience of the soldiers, and to prevent its ruins, when it is battered, from falling into the ditch.

Some are for placing cavaliers without the body of the place, beyond the places of arms. But this feems to be a bad plan, as they mult in fach fituations be raifed very high, be reveted, and after all can furnish no slanking defences to other work.

CAVALUER de tranchée. Trench-cavalier, is a work raifed by the betiegers, of earth, and fuch other materials as they

half way between the termination of the glacis and the covert way; fourtimes only a third part of the breadth of the glacis diftant from the covert-way; and fometimes close on the very creft or highest part of the glacis. It is difficult to establish such a work. It cannot, indeed, well be done without batteries a ricocket to entilade completely the covert-way. But when the cavadiers de translike are once well clablished, to retire within the body of the place. For it is then easy to push on direct trenches or approaches to the faliant anglos the covert-way, and to make at these angles small lodgments in the forms of circular ares, by means of which the befreged may be driven entirely out of the places of arms,

the fire of the camon of the place.

In order to oblige the beligged to abandon their cavallers,
or at leaft to diminifi the britkness of their fire, it is necesfary to keep almost constantly throwing large shells into
them. These damage them materially, dismount the guns
on the batteries in them, break the carriages, and prevent
the belieged from re-placing, or re-establishing them, without great loss, if they persist in working on the cava-

of the covert-way, or infide of the glacis, and about three

ferve as a parapet to their lodgments, and flutter them from

If the cavaliers of the belieged be reveted and in the baftions it is also necessary to batter them with heavy cannon, in order so to sill up with the rubbish and ruins that part of the rampart, which is at the foot of each, as not to leave sufficient space for them to retrench themselves to oppose the affault or attack of the ballions.

When the miners once get fo far as to penetrate into the carth of the rampart, and into that of a cavalier, they should make use of mines to throw as much as they can of the earth of both into the ditch, to affirt in filling it up. After that, they should continue working on the breach, to render it practicable and of early access, after which the bestieged having no retrenchments, either in the basis or in the cavalier, will naturally furrender, to avoid having the place stormed or carried by a slault.

Should the beliegers, however, be driven to the necessity of florming the baltion, they will as from as they reach the top of the rampart make finall longments at the foot of the cavalier, on each fide of the breach to support that of the top of the breach in the cavalier.

**CAVALIERS a cheval. This is an appellation given by the Italians to the large fquare towers, which they make over the gates of cities for the purpose of placing cannon on them.

The ancients raifed cavaliers or terraffes of wood and carth against the walls of towns they were belieging, in order to throw fire, darts, &c. into them.

CAVALIERI, EMILIO DEL, a Roman gentleman, who first set the dialogue, of an oratorio, or facred drama, to narrative music, or recitaive. This oratorio was entitled; Dell Anima e dell Corpa, and was performed at Rome in 1602, the same year that Rinnuccini's Orfic, the first opera, was fet by Jucopo Peri at Florence, and performed to similar music: so that the Italians themselves are unable to determine who was the inventor of the musical decommation called recitaive, which has been cultivated and continued in the musical dramas of Italy, secred and secular, ever since; and

which, though attempted in other dialects elsewhere, frems to fuit no language but that of the country where it had its birth. See RECITATIVE, OPERA, and ORATORIO.

CAVALIERS, or CAVALEERS, in English History, the appellation given by one of the parties in the diffracted time of Charles I. called the ROUND-HEADS, on account of the short cropt hair which they wore, to another party composed of reduced officers, and young gentlemen of the inns of court, who offered their fervice to the king. Under thefe party names the different factions rendezvoused, and figura-

lized their mutual hatred. See TORIES.

CAVALLERI, or CAVALLERIUS, BONAVENTURA, in Biography, an emineut Italian mathematician, was born at Milan in 1508, and entered at an early age into the order of Jesuates or Hieronymites. In the course of his studies he manifelted fuch talents, that his fuperiors, after he had taken orders, thought proper to fend him to Pifa in order to enjoy the advantages of the university established in that city. Cavalleri at first regretted this change of situation; however, it was to this circumstance that he owed the celebrity which he afterwards acquired. Here, with the advice of Benedict Caltelli, the disciple and friend of Galileo, he applied to the fludy of geometry, in order to relieve the pains of the gout to which he was subject; and in this science he made fuch progress, and acquired such an accurate acquaintance with the ancient geometers, that Castelli and Galileo concurred in predicting the eminence at which he afterwards arrived. Soon after this period he invented his method of indivinibles. In 1620 he communicated to fome ingenious perfons and to the magistrates of Bologua, his treatife of indivisibles and another on the conic fections; and thus he obtained the honour of fucceeding Maginus as professor in the university, in the year 1620: See Indivisibles. Besides his celebrated work on indivifibles, entitled, "Geometria Indivifibilibus continuorum nova quadam Ratione promota," and published at Bologna in 1635, 4to. and again in 1653; he also published a treatise of conic sections, under the title of "La Spechio Uttorio overo Trattato delle Settioni Coniche," or " De Speculo Uftorio, &c." Bologn. 4to. 1632; a system of trigonometry under the title of "Directorium generale Uranometricum," 4to. 1632, including an account of logarithms, together with tables of the logarithms of common numbers and trigonometrical tables of natural fines, and logarithmic fines, tangents, fluents, and verfed fines; of which a new and enlarged edition was published at Bologna in 1643, 4to. entitled, "Trigonometria Plana ac Sphærica, Linearis ac Logarithmica, &c.;" a "Compendium Regularum de Triangulis;" and a "Centuria Problematum Astronomicorum." He was also the author of a treatife of astrology, entitled " Rota Planetaria," and published under the appellation of Sylvius Philomantius; and this publication was the more furprifing, as he was an enemy of judicial attrology. The last of his works was entitled " Exercitationes Geometrica fex," 4to. Bonon. 1647, and contains exercises on the method of indivisibles; answers to the objections of Guldinus; the use of indivisibles in Cossic powers, or Algebra, and in confiderations about gravity: with a mifcellaneous collection of problems. Towards the close of this year, 1647, he died a martyr to the gout, which had deprived him of the use of his fingers. Montucla, Hist. des Math. vol. ii. p. 37, &c.

CAVALLERIA, among the Ancient Spaniards, a kind of tax, or imposition on the inhabitants of great towns and

cities, for the support of horsemen.

CAVALLEROS, in Geography, a town of North America, on the north-west part of the bay of Panama; 75 miles S.W of Panama.

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CAVALLES, a cluster of small islands in the Southern Pacific ocean, near the coaft of New Zealand; 3 leagues N.W. from Point Pocock.

CAVALLI, FRANCESCO, a Venetian dramatic compofer, who furnished the theatres of Venice, between the year 1639 and 1666, with 35 operas. Of his genius, science, and fertility, we are now unable to judge, except by Erifmona, one of his operas that has been preferred in England, and which having examined, we find the mufic as good as that of any of the time and kind. And indeed, the number of his operas is a strong eloge upon his genius, in a city

where the musical drama was more cultivated in the 17th century, than in any other part of Italy.

CAVALLI Marini, in Natural History. These are deferibed by old writers as being little dried animals about the length of a man's thumb, found on the fea-coast near Puzzuoli. The head, they observe, resembles that of a horfe, and the body terminates in a tail like that of a shrimp. Women, it is faid, use them to increase their milk; and apply them as an anodyne for the breaft. Bruifed with vinegar and honey they are applied as a plaster to the part bitten by a mad dog. This species of fish is also found on the other fide of Italy, along the coast of the Adriatic; but rot in fuch abundance. The marine animal, fo curioufly defcribed, is no doubt the small species of Syngnathus, or pipefish, known among modern naturalists by the name of Hippocampus. See SYNGNATHUS HIPPOCAMPUS.

CAVALLINI, PIETRO, in Biography, a historical painter of the thirteenth century, was born at Rome in 1279, and became the disciple of Giotto. The number of his paintings is faid to have amounted to 1300, and his piety was no less extraordinary than his affiduity as an artift, in confequence of which he has been esteemed as a faint. His principal works are at Rome, where he affifted Giotto in the celebrated picture in Mofaic, which is over the grand entrance into the church of St. Peter: but his performance in fresco was in the church of Ara Cœli at Rome; in which he represented the Virgin and child above, furrounded with glory, and below was the figure of Octavian, and also that of the fybil, directing the eye and the attention of the emperor to the figures in the air. It has been fuggested by Mr. Vertue (see Anecdotes of Painting, vol. i. p. 17) that the shrine of Edward the Confesfor, and the croffes erected to the memory of queen Eleanor, were constructed from the defigns of Cavallini by Abbot Ware: and he supposes Cavallini to be the inventor of Mofaic, alleging that Giotto was 20 years younger than the other. But this appears, by the tellimony of Vafari, and of other writers, to be an anachronism; as Giotto was three years older than Cavallini, and was, in reality, his instructor in the art of Mosaic. Befides, the abbot Ware died in 1283, when Cavallini was only four years old, and eight years before the death of queen Eleanor, who died in 1201. Pilkington.

CAVALLO, in Geography, a fea-port town of America in the provice of Venezuela, on Terra Firma, or ifthmus of Darien, 25 miles N.E. of St. Jago de Leon. It is well fortified, and in a former war was unfoccefsfully attacked by Commodore Knowles. S. lat. 10° 15'. W. long. 08° 12'. CAVALLOS de Fam. two fmall islands in the Atlantic

near the coaft of Portugal, about half a league S.S.W. of Esposenda. N. lat. 41° 50'. W. long. 8° 6'.'. CAVALQUET. This is the name given to a particular

found of the trumpet, which the cavalry make use of on approaching towns or passing through them.

CAVALRY, in French cavalerie, or cavailerie, in Min-

tary Language, a body or bodies of troops, who ferve and fight on horle-back. Of these there are different descriptions in almost every country. In this, independent of the veomanry and volunteer cavalry, we have two regiments of life-guards, one of horie-guards, feven of dragoon-guards, five of dragoons, and nineteen of light-dragoons.

reduction of the horfe-grenadier guards, are kept for the purpole of guarding the metropolis and of efcorting his majefty. They are generally called the first and second lifeguards. Each of them confifts of fix troops and a kettle

called the Oxford-blues, from having been originally raifed mafter of this corps holds his appointment under the fign manual, and is, in this respect, an exception to the general regulations, that affect the quarter-mafters of all our other regiments of cavalry, who hold theirs only by warrants.

The order of precedence among our cavalry is the following. First, the life-guards; fecondly, the horfe-guards; thirdly, the dragoon-guards; fourthly, the dragoons; and

Horje is also a general term, as well as cavalry, for mounted foldiers. In Ireland there are four regiments of horfeguards. The first troop of horse in our service was raised in 1660.

The dragoons, though regiments of horse or cavalry, differ from the relt in this circumstance, that they are liable to be dismounted, and are obliged, when necessary, to fight on foot as well as on horse-back. The first regiment of dragoons was raifed in 1681.

Light-horse is an appellation given by us to all cavalry in general, that is composed of small and lightly accounted men mounted on light and swift horses. Ours were first

raifed in 1757.

Hungarian cavalry, now commonly called Hustars, wear a short waistcoat, with a pair of breeches and stockings in one, with short light boots, generally red or yellow, and a doublet, that has five rows of buttons, which hangs loofely on the left shoulder. The men wear large sur-caps adorned with cock's feathers. But the officers have cagles' or herons' feathers in theirs. They are armed with long crooked fabres, light carbines, and pistols. Before they begin an attack they lay themselves so flat on the necks of their horses, that it is almost impossible to discover their force or number. But when they come within pistol-shot distance of their enemies, they raife themselves up with astonishing quickness, and charge with such vivacity and alertness, that it is extremely difficult for those they attack, to preserve their order. Being dextrous horsemen, when they find it necessary to retreat, they move with fo much celerity, in consequence of their horses being so capable of enduring fatigue, and their equipage being fo light, that no other cavalry can pretend to follow or keep up with them, as they leap over ditches and fwim across rivers with furprising eafe and facility. Most of the German powers have cavalry under the name of Huffars, as well as France, into which they were first introduced by Louis XIII., and were called Hungarian cavalry; which circumstance shows that this appellation was prior to that of Huffars.

Cuiroffers is a term made use of to denote a fort of heavy cavalry armed with chiraffes, as most of the German horse are. The feveral German powers, particularly the emperor and the king of Prussia, have regiments of cuiraffiers. And the late king of France had one. But there have been no cavalry of this description in England, since the time of the revolution. The Austrian cuiraffiers are reckoned the em-

peror's beit troops.

Of the French cavalry.

Before the year 1678 the regiments of French cavalry confilled of two, three, or four squadrons; each squadron confilted of three companies, and each company of a captain, a lieutenant, a marshal des Logis (quarter master) and fifty maitres (troopers).

During the war of 1688 their ancient regiments were divided into squadrons, and every squadron consisted of four companies. A company confided of 40 maitres, and had four officers, as formerly. The new regiments confided each of four foudrons, of which each had three companies. And each company was composed of 50 maitres and four officers.

During the war of 1701 the fquadrons conflict each of four companies; and each company had 35 maitres and four

Before the breaking out of the war of 1741 each regiment of their cavalry confiited of four fquadrons; each squadron of four companies, and each company of 25 maitres. During the war the companies were increased each to 35 men. The regiment de Royal Allemands, and that de Rolen, confilted each of fix fquadrons, and each fquadron of three companies of 50 men each. The regiment of Fitzjames had four squadrons, and each squadron three companies of 46 men each. That of Nassau had the same number of squadrons and companies, but each company had 50

The ordinance of the 15th of March 1740 reduced the cavalry to 120 squadrons, confitting each of four companies,

and each company of 30 men.

The ordinance of the 25th of March 1776 made each regiment confift of four fquadrons of cavalry, and one of light horse, of one company each. By the 11th article of that ordinance there was attached to each regiment of cavalry a fquadron under the title of an auxiliary fquadron, for the purpose of replacing, in time of war, the men, that might be deficient or wanting in the squadrons of cavalry or light-

The ordinance of the 5th of August, 1784, made some alterations in this arrangement, and made each regiment of cavalry confift of four squadrons, and each squadron of one company. By it both a peace and a war establishment was prescribed. But in both the one and the other the number of officers and non-commissioned officers of all ranks, was

By it also the fix regiments of light-horse were reunited to the cavalry, and every regulation for them was prescribed. And they were to retain the rank they then held among themselves, and with regard to the other regiments of

The offenfive arms of the cavalry are, the pistol, the carabine, the blunderbuss, the fusee and bayonet, the sword and

The defensive arms of the cavalry are the calotte or leather cap, the casque, and the demi-cuirasse, or half cuirass.

As the Franks, before they conquered Gaul, had but very little cavalry, it is probable they employed in their armies by degrees the Gallic cavalry, which possessed much reputation, and for a long time had formed the molt numercus part of the Roman cavalry. Clovis, at the battle of Tolbiac, fought at the head of his cavalry, and in 537 Theodebert carried fome with him on his expedition into Italy. At the battle of Tours, in 732, we are told, that the French army confifted of 60,000 foot, and 12,000 horse, armour, and had no other offensive weapon than the lance or

Under Pepin, in 768, the number of their cavalry was

ed that of their infantry. This probably was owing to the vall extent of his empire and the infurrections, that were constantly taking place in it, which required prompt and expeditious movements from one place to another. In his time the horsemen or cavaliers were armed with swords, and coats of mail made of small rings, inter-wrought or connected

like links together.

Towards the end of the second race of French monarchs, and the beginning of the third, their armies were almost entirely composed of cavalry; a circumstance which arose out of the nature of their fituation. Not willing to confide the defence of their country to the body of the people, who were then ferfs or flaves, it was left in a great meafure folely to the nobleffe, who would not ferve but on horseback. They, accordingly, formed a corps of cavalry or horse, to which the name of gendarmerie was given. The gendarmes were armed with cuiraffes, braffets, cuiffes, greaves, gauntlets, helmets, with the lance, the fword, and the hatchet. Their horses were covered with plates of iron, or with though of leather. The infantry were employed in going after forage, raifing up the wounded gendarmes, and in performing fimilar fervices.

The cavalry, that got the name of light, was composed of the vasfals whom the seigniors or nobleste carried along with them. They had not all the arms of the gendarmes, and did not fight in the fame line with them. They were furnished with very little defensive armour; they carried the hatchet, the club, and fword, and ferved nearly as huffars do.

Louis le Gros, having established communities, formed from that militia, in 1108, fome light horfe. But there was no regular formation or establishment of cavalry in France before the time of Charles VII., who made one under the name or appellation of compagnies d'ordonnance, and one of infantry, at the same time under that of Francs-archers. Then the cavalry assumed a more regular form, and fought in fauadrons; whereas, before that time they had not been accustomed to fight but in a fingle rank, because no one of the nobles that composed it chose to stand behind ano-

The gendarmerie is the first corps of French cavalry next to that of the Maifon du Roi, and has always been remarkably diffinguished for its valour and intrepidity. Charles V. having applied to Francis I. in 1552, to lend him a fum of money, and that illustrious corps, to affift him in repulfing the Turks, by whom he was at that time hard preffed, received for answer from the French monarch to the first of his demands, "that he was not a banker;" and to the fecond, " that his gendarmerie never fought but with their king at

their head."

In 1445, Charles VII. observing the difficulties he experienced in affembling the nobleffe, who then composed the French cavalry, the continual wars they were engaged in having exhaulted their means of supporting the expence, and wishing, for various good reasons, to have a corps of cavalry that should be constantly engaged in his service, and which he could dispose of at all times, and on all occasions, as he might think proper, created or formed fifteen companies, to whom he gave the name of hommes d'armes d'ordennances du Roi. These companies were composed of the bravest and most experienced men in military service then in the kingdom. Each of these companies consisted of 100 lancers, or hommes d'armes, and each homme d'armes had five followers or aids, viz. three archers, one cutler, and one page or valet. Each company then contained 600 men, all mounted on horseback; and the fifteen companies formed together a body of 9000 cavalry. This was the commencement of a

augmented. Under Charlemagne its number almost equal- standing army in Europe. That fagacious king set the example to other monarchs, and pointed out to them the molt effectual method of not only counterbalancing, but also of lowering, by degrees, the exorbitant power of their

> The officers of these companies were all seigniors of the first distinction. The hommes d'armes, or maitres, themselves were gentlemen, and their followers were obliged to wear the livery of the captain of the company to which they belonged. For this purpose they ornamented their coats with

the colours that composed it.

This uniformity of drefs in each company was established that they might be known in action, and when they were guilty of any irregularities; whence proceeded that uniformity in cloathing that has been fince elfablished among troops in every nation. These companies afterwards diminished, in regard to the number of men in each, but always retained their reputation for valour. This diminution was occasioned by the establishment of a considerable body of light horse or cavalry, in which several of the gendarmes accepted of employment; fo that under the reign of Henry IV. the armour cap-a-pie having been abolished, the gendarmes reased to be distinguished from the other cavalry but by their name and prerogatives. At last under the reign of Louis XIV. at the time of the peace of the Pyrenées, all these ancient companies were reduced to the four first, of which the king chose to be captain, and to some others that belonged to the princes of the blood. These last were suppressed as the princes died. The same king afterwards, however, augmented that corps to the number of fixteen companies, at which establishment it was continued.

The Scotch company of gendarmes du Roi was the only one that remained of the fifteen which Charles VII. eftablished in 1445. It had the appellation of cent lances, or the hundred lances, and was unquestionably the oldest troop in the kingdom. It possessed some privileges superior to those of the Scotch body-guards, though these held the first rank, and was always held in such high estimation, that, fo long as it was composed of Scotchmen, it was commanded by Scotch noblemen of the first qualification, and even by feveral of the blood-royal. The ions even of the kings chose to bear the title of captain of that company, which, of right, belonged to them, as appears from feveral treaties, and the example of the duke of York, afterwards king of England, under the title of James II.; who was captain of it in 1667. And it was not till after he refigned the command of it, that it was commanded by a French

feigneur.

Under Henry IV. there were carabins, who did not form a separate corps, but were put by fifties into the companies of light horse, and had no other captains or cornets, than the captains and cornets of these companies. These carabins, under Louis XIII., formed regiments, and were difpoled of in separate corps, in the same manner as the carabineers, who were distributed among the regiments of light cavalry, were, in the reign of Louis XIV., formed into regiments of carabineers. Since his time the French cavalry has confitted of different bodies. Some were in companies, others in corps or regiments. The body guards of the king, the gendarmes, the light horse, the mulqueteers, have been on the footing of companies, and have not formed regiments. The reft of their cavalry have been diffributed in regiments commanded by colonels, and gone under the general name of light cavalry, which, however, is diffinet from the compagnies des chevaux legers d'ordonnance.

The Spanish cavalry is naturally good. And were it properly disciplined and taught to make the best use of its

The Turks, the Tartars, the Arabs, and even the Moors themselves, or the people of the kingdoms of Fez and Morocco, have excellent horses for cavalry as well as the Spaniards. But their fabres, though of a good temper, are not fo useful or fo well calculated for doing execution, as the Spanish fword, or even the swords of the Germans. Besides the advantage of good and sleet horses, they sit so fhort on the stirrup, that they can stand up quite straight at a full gailop, and, supporting themselves with their stirrups, can make a better ftroke than those who use long ones, and at a greater dilance.

The Turkish cavalry owes its origin to the Scythians, a race of people, that were always fond of making war on horfeback, and transmitted that passion to the Turks.

The Sultans fo tyrannifed over their new fubjects, after conquering them, as even to deprive them of their lands, and appropriate them to the maintenance and support, not only of the Serratculy infantry, and the marine, but also to that of the cavalry. At the same time they left the conquered countries divided into and distinguished by the names of kingdoms, provinces, great and fmall departments; and iffued for each of these districts precise and distinct orders, touching the prompt raising of the militia and the support of the cavalry.

Their cavalry is not all on the fame footing in regard to pay. It is divided into the cavalry capiculy, the cavalry topachly, the cavalry ferratculy, and the cavalry de

The cavalry capiculy or spahis, possess no lands, but are paid by the grand fultan, and ferve as a guard to his person. Their number amounts to about 15,000, one half of whom are called filhataris, and are diffinguished by a yellow standard or cornet, and the other half are called spahis glanis, or spahaoglari, who are diftinguished by a red cornet or standard. Originally these last served the first. But having in an engagement given aftonishing proofs of valour to the shame and difgrace of those, whose servants they had been, they were formed into a feparate and dillinct corps. Their offensive armour confiles chiefly of the sabre and the lance, which they call mifrack. They frequently also carry bows and arrows, and fometimes piltols and carbines. And they make use of the long dart or javelin, called gerit, which they handle with much address and dexterity, catching it up from the ground, when their horfes are even at full speed, if they mifs their aim in throwing it at the enemy. When the grand feignior takes the field in person, it is customary to make a prefent of 5000 afpres to each spahi to enable him to purchase bows and arrows.

When the spahis are on a march, they follow their standard without observing any certain order, advancing in a confused manner in small bodies, sometimes in the van of their

own corps, and foractimes in the rear.

Befides thefe two bodies of spahis, there are four others, who are not called on to ferve but when the nigent necessities of the state render their fervices absolutely necessary. The first of these are called sig-ulesigi, and carry a standard red and white; the second sol-ulesigi, and carry a standard white and yellow; the third fag-gurcha, with a green standard, and the fourth fol-curcha, with a white one. All thefe fpahis receive a daily pay, from 12 to 20 aspres, and are liable to perform every kind of fervice.

There are likewife spahis called timarists, who are obliged to ferve at their own expence as foon as the beigherbeys or governors of provinces command them, in confequence of the lands they possess, the revenues of which are appropri-

force, there are hardly any troops that could fland its ated to this fervice. Of these there are two kinds, the one called texkerelirs and the others texkeretis.

The Tezkerebirs receive the grants of their timars from the court of the grand feignior. But the greatest revenue of one of them mult not exceed 1999 afpres.

The Tezkeretis take their letters patent from the beglerbey; and the revenue of one of their timars is commonly

from 3000 to 6000 afpres.

The Chiaous also form a branch of the cavalry capiculy. They are people of the court as well as of war, carrying, like aides-de-camp or adjutants, the orders of the fultan, the vizier, or other general, to the officers of the army, whether these be verbal or in writing. They escort the couriers dispatched on affairs of importance, and ferve themselves when it is necessary. They are always within reach of the vizier, and affect to pals for inferior agas. Their cheif, called Chiaous-basey, is immediately about the vizier.

The cavalry topachy or topachly is, properly fpeaking, that which the officers of the countries subject to the Ottoman empire support out of the revenues of the lands called Maly-mukata. These officers not only pay this cavalry, but also furnish them with provisions under the name of usciur,

which exactly fignifies tithes.

The cavalry ferratculy is a militia destined to guard the frontiers. They are obliged to remain on the confines of the Ottoman empire, both to prevent incursions by the ene-

my and to act as efcorts when wanted.

The horfemen of this corps, on the frontiers of Hungary between the Imperialifts and the Turks, were the choiceft and very bravest men. They are commanded by one or more officers called alaybech, who arrive at these commands by their valour and experience in war. They are, for the most part, natives of the environs of the frontiers, that, from their knowledge of them, they may be the more expert in guarding them against inroads or incursions. Besides the Turkish they speak the Hungarian and Sclavonian languages.

The cavalry de tribut, or tribute cavalry, is so called from its being furnished by provinces, where the people are not only tributary to, but even flaves of the empire, as they can have no particular prince to govern them, but those only who are entirely subject, in all respects, to the will of the porte. The government can change them, depose them, and nominate them at pleasure. These princes are moreover obliged to acknowledge the fultan as their absolute sovereign, and to do homage to him as his vassals. Bessarabia, Moldavia, and Walachia, are of this number.

Of the advantage, ufe, and application of cavalry.

In open, plain, extensive, and level countries, or in those that are interfected with deferts, there always have been, and ever must be, a considerable proportion of cavalry employed on all enterprizes, and on operations, both of offence and defence, on account of their fingular utility and the necessity of making use of them. They are singularly useful in protecting the wings and centre of an army; for engaging in an open plain; for furnishing detachments; for efcorts; for forming blockades; for intercepting supplies intended for places belieged; for foraging; for fcouring a country; for procuring intelligence; for the fpeedy conveyance of difpatches; for haraffing and fatiguing an enemy's army; for covering a retreat; &c. &c. Cavalry, indeed, is fo peculiarly uteful and necessary for a great variety of operations, in countries where it can act fuccefsfully, and to advantage, that it has in all ages been held by the greatest generals in high estimation. The very successful services, which troops of this defeription have performed, the valt number of de-

cifive advantages, that have been obtained by means of them. in the most important battles, of which history, ancient and modern, furnishes the details, the unanimous testimony in their favour of authors regarded as judges of military affairs, and masters in the art of war, prove beyond the possibility of contradiction, that cavalry is not only ufeful, but abfolutely necessary in armies. The great Turenne used to fay, that it was with good cavalry that one could fo molest and harafs an enemy's army, as to ruin it by degrees. It is, however, often attended with inconveniences to have a great number of cavalry, as you cannot take the field with a numerous body of them till there is grafs or green forage for the horfes, The Turks, whose military force consills greatly in cavalry, on this very account, open their campaigns later than other people, and retire from the field fooner. Befides a very great number of cavalry occasions such a prodigious confumption of forage as fometimes to compel a general to quit an advantageous camp or position contrary to his inclination, or fooner than he wishes, from other considerations.

It ought also to be remembered that open and level countries only are favourable for the operations of cavalry. And they cannot be maintained but at a great expence. Accordingly in mountainous countries, and states that were but small and at the same time not very fertile, rich, or wealthy, there have generally been but sew cavalry. The military force of Switzerland has for the molt part consisted chiefly of infantry. In the states of Greece, if we except Thessily, a great part of which was level, rich, and fertile, their cavalry formed but an inconsiderable proportion of their forces.

The Thesialians were dextrous horsemen, and carried the discipline and arms both offensive and defensive of their cavalry to great perfection. The other parts of Greece imitated them. And from the Greeks the Romans borrowed the arms and armour for their cavalry, who, as Polybius expressive informs us in his fixth book, were in his time armed exactly as those of the Greeks. His words on this subject are

the following. "The manner in which these troops (the Roman cavalry), are armed; is at this time the fame as that of the Greeks. But anciently it was very different. For, first, they were no armour upon their bodies; but were covered in the time of action with only an under garment. In this method they were able indeed to descend from their horses, or leap up again upon them with greater quickness and facility. But as they were almost naked, they were too much exposed to danger in all close engagements. The spears also, that were in use among them in former times, were in a double respect very unfit for service. First, as they were of a slender make and always trembled in the hand, it not only was extremely difficult to direct them with exactness towards the destined mark, but very frequently even before their points had reached the enemy, the greatest part of them were shaken into pieces by the bare motion of the horses. Add to this, that these spears not being armed with iron at the lower end, were formed to strike only with the point, and when they were broken by this stroke were afterwards incapable of any farther use. Their buckler was made of the hide of an ox, and in form was not unlike to those globular dishes that are used in facrifices. But this was also of too infirm a texture for defence. And as it was at first not very capable of service, it afterwards became wholly ufeless when the substance of it had been fostened and relaxed by rain. The Romans therefore having observed these defects, soon changed their weapons for the armour of the Greeks. For the Grecian spear which is firm and stable, not only serves to make the first push or stroke with the point in just direction and with fure effect, but with the help of the iron at the opposite end,

may, when turned, be employed againft the enemy with equal freadines and force. In the fame manner also the Grecian fixeds, being strong in texture and capable of being held in a fixed position, are alike serviceable both for attack and for defence. These advantages were soon perceived and the arms adopted by the cavalry. For the Romans above all other people are excellent in admitting foreign customs that are presented to their own." It was by using both ends of such a spear that Philopemen killed Machanidas the tyrant of Sparta at the battle of Mautinea.

The fame judicious hiltorian in his remarks on the battle of Cannæ, in which the Romans left 70,000 men on the field, observes that the Carthaginians on that eccasion, as well as in the other buttles they fought under Pamibalwith the Romans, were chiefly indebted for the victory to the numbers of their cavalry; and that hence fueceeding ages would be able clearly to perceive, that in time of war at is far more advantageous to have a great superiority of cavalry, with no more than half the infantry, than an army that is in all its parts equal to that of the enemy. In that action the Romans had eighty thousand Foot and somewhat more than fix thousand Horse; and the Carthaginians had somewhat more than forty thousand infantry, including the Gauls and Spaniards, and about ten thousand cavalry.

At the battle of Trebia, Hannibal had upwards of ten thousand cavalry, the Gauls included, whereas Tiberius had only about four thousand. On the other hand Hannibal had only about 20,000 infantry, whereas Tiberius had 36,000.

In the action near the Ticinus between the Roman and Carthaginian cavalry and light infantry, Hannibal had a fuperior number of horse. There is a circumstance, however, that ought not to be loft fight of, namely, that Polybius, in making these observations, supposes the armies to be acting in an open country or in one favourable for the operations of cavalry. For he expressly tells us, that Publius, after his defeat near the Ticinus as the country round him was allflat and open, and the Carthaginians superior in their cavalry, marched in halte through the plains, repassed the Po, and then went and encamped near Placentia, a colony of the Romans. He also informs us, that at the battle of Trebia, the ground that lay between the Roman and Carthaginian camps, was a smooth and naked plain; but that the banks of the river were confiderably high and covered with close shrubs and bushes, which suggested to Hannibal the idea of an ambuscade. We likewise learn from him, that the country where the battle of Cannæ was fought, was all plain and open, and that on this very account, and the superiority of the Carthaginians in cavalry, the conful Æmilius thought it would be prudent to decline a general engagement till he could draw the enemy to some other ground where the infantry might bear the chief part in the action. For the same reafon, the prudent and fagacious Fabius kept along the fides of the hills, observing the motions of the enemy, without descending into the open plains. The battle of Zama, too, was fought in an open and level country. And Scipio Africanus was chiefly indebted for the victory he there gained over Hannibal, which terminated the obstinate and long contested struggle between Rome and Carthage, for the fovereignty of the world, to his superiority in cavalry. It must therefore certainly be allowed, that a superior number of good cavalry is of prodigious moment in a country or in fituations where it can act to advantage. But on the other hand it must also be allowed, that in a woody, mountainous, broken, abrupt, and uneven country, where it cannot act to advantage, it is very little useful, and least of all in an enclosed country like Great Britain, which in this respect is widely different

from the continent of Europe or indeed any other country. Anyperfon acquainted with inilitary manœuvres, or accultomed to reflect on them attentively, must be fensible that cavalry cannot be employed to advantage in either attacking or defending this country, and that therefore for the purpose of national defence, a very small proportion of them indeed is necessary. He must also be equally sensible, that neither the Prussian nor German tactics can be of any utility, or even be made use of in carrying on military operations in this country; and that therefore in desending it, that very constitutional, and at the same time very considerable part of our force, called the volunteers, as well as the militia, if properly employed and disposed of in the moment of invasion, should it ever arrive, will be equal, if not superior to our regular forces, particularly in their own counties. The same reasoning will extend to our numerous horse-artillery, which in most fituations could, in case of invasion, be of little or no use in defending this very and singularly enclosed country, in which no operation, or even series of operations of an invasing enemy can prove decitive, if we only adopt a proper mode of desence.

It was anciently the cultom of the Romans to choole their cavalry as well as their infantry, and to add two hundred horfemen to every four thouland foot. But in the time of Polybius, the cirizens from whom the cavalry was taken or felected were first enrolled, having been before appointed by the cenfors according to the rate of their revenue. And three hundred of them were affigned to every legion, which then confilled of 4200 foot. The number of the Roman cavalry then in his time bore but a fmall proportion to that of their infantry, being to it in the ratio of only 3 to 42 or 1 to 14, whill the cavalry of the allies was to their infantry

in the ratio of 1 to 7.

Scipio Africanus, after taking New Carthage in Spain by morn, paid great attention to his cavalry before he took the field with them, and even introduced among them a new fyftem of evolutions, difcipline, and exercife, which is deferibed by Polybius in his tenth book, and is well deferving of the most ferious attention of evalry-officers even at this day.

The order of battle now generally adopted and practifed in Europe, is to place the cavalry on the wings, and the infantry in the centre, each to be fulfained or supported by itself alone, instead of arranging them in such a manner as to make them surnish mutual support and assistance to each other. The placing of the cavalry in a line with the infantry on its slanks certainly retards the motions of the whole, as no part of the line can advance unless the whole does.

Marshal Saxe in his order of battle therefore places small bodies of cavalry, not only behind his infantry in the centre of his first and second lines, but also in the referve, at the distance of about thirty paces; and half way between his two lines of cavalry, on the wings, battalions armed with pikes and formed into squares with large intervals between them, for the free movements of the horse and for the facility of their rallying under cover of and behind these battalions in squares, if broken or repulsed. He also places transversely between his two lines of infantry and nearly in the directions of right lines joining their extremities, battalions drawn up in the usual depth to slank those in square, and to cover the starks of his infantry.

General Lloyd being decidedly of opinion, that cavalry should never appear till the moment it is brought into action, places none of it in the wings, but the whole of it in two lines behind the infantry. This last he forms in such a manner as to leave an interval of 150 yards between every two battalioss. His first line of cavalry is placed in separate squadrons at a proper diltance behind his infantry, and opposite to the intervals between the battalions. And his second

line of cavalry is, in like manner, placed in feparate fquadrons at a proper dilance from and opposite to the intervals between those of the first. His shanks he covers with battalions in the rectangular form, armed with pikes, and at right angles to his line of infantry. In front of his army he has two lines of square redoubts with one angle of each towards the enemy; and in front of each of his battalions he has an expanlement, leaving however fufficient intervals for the whole

CAVAN, in Geography, an inland county of the province of Uliter, Irciand, fituated midway between the Atlantic ocean, and the Irish fea, the extremities of the county being but 14 miles diftant from either of these waters. It the north-east and east by Monaghan, on the fouth by Meath, Wellmeath, and Longford, and on the west by Leitrim. Its greatest length from east to west is 40 Irish miles (51 English); and its greatest breadth from north to fouth 22 miles (28 English). Its area is 470 square miles (755 English) or 301,000 acres (483,573 acres, Erglish measure) of which about 19,000 may be ranked as mountain, bog, or water. The number of houses in 1791 was 18,139, from which we may ellimate the population at about 90,000, which is 5 to a house, and much less in proportion to the number of acres than that of some other northern counties. The number of parishes, according to Dr. Beaufort, is 30, of which 26 with 24 churches are in the diocese of Kilmore, 3 in the diocese of Ardagh, and one in that of Meath. It fends only the two county members to the house of commons, the boroughs of Cavan and Belturbet having loft the privilege of being reprefented in confequence of the union. The face of the county is very irregular, being entirely hill and dale without any extent of level; in fome places it is rocky, but excepting the mountains and water very little under actual waite. To the north and well the prospect is bleak, dreary, and much exposed, but in the other parts, especially on the banks of the Erne, it is not well theltered and woody, but the feenery is highly picturefque and engaging. Numerous lakes of great extent as I blowly allow the interior, and, per coally speaking, the features of the country are strikingly disposed for ornamental improvements. The barriers of the county on the north and well are highly marked by Sliebh-Ruffell, and the mountains of Ballynageeragh; and Bruce Hill is a firiking feature in the fouthern extremity. The climate is cold. chilly and boifterous, but not unwholesome, and the inhabitants, inured to it, are a hardy race, remarkable for good health and longevity. The foil is not fertile, though confiderably engaged in tillage; it is chiefly a ftiff brown clav. over heavy yellow argillaceous substrata, and produces naturally a coarse rushy pasture. Wheat is very little cultivated. but there is great abundance of oats. The mountainous parts contain feveral minerals; in Quill mountain is a rich iron mine, and there are also found lead ore, manganese. coal, fullers'earth, pipe-clay, and other fubiliances which may hereafter be turned to a good account. There are also some mineral waters, especially the sulphureous one at Swanling

The principal river is the Erne which croffes the county from fouth to north, and receives fome small streams in its way to the celebrated lough of the same name in the county of Fermanagh. The lakes are numerous; some of them very extensive sheets of water, which cover several hundred acres. Many of them are dry in summer, and others considerably less than in winter, so that by proper management much land might be reclaimed, and the falls are such that a considerable supply of water might be conveyed to a consi

that

that would connect Coote hill and Cavan with Lough Erne. Such a canal, befides the conveyance of manufactures, would facilitate the carriage of lime-flone, which is much wanted for manure. The linen manufacture is carried on in this county, and the average fale of linen manufactured in it is valued at about 100,000l. The principal bleach-greens are in the neighbourhood of Coote hill, and Killeshandra. The average value of land is about 15s, the acre. This county was formerly called East Brefiney, and also O'Reily's county, from the Irish family which possessed it. It was forfeited at the beginning of the reign of James I.; when it was divided amongst English and Scotch undertakers, servitors, and natives. Some changes were made by Oliver Cromwell, but many of the allotments are at prefent possessed by the descendants of James's settlers. The assizes are held, and other public bufinels transacted at the town of Cavan. Coote's Stat. Acc. of Cavan, Beaufort's Memoir, Transactions of Dublin Society, &c.

CAVAN, the affize town of the preceding county, is a poll and market town, but has no manufacture, nor is it in any way of importance. There is an endowed school with an income of eight hundred a year in lands, fet in the fame manner as bishops' lands, fecured to it at the time of fettling the county, and the prefentation to which is with government. Until the act of union Cavan returned two members to parliament. Distance N.W. from Dublin 54 Irish

miles. N. lat. 54". W. long. 7° 16'.

CAVAN, a place in the county of Donegal, Ireland, near Lifford, where Mr. Mafon erected a temporary observatory by appointment of the Royal Society in 1769 for the purpose of observing the transit of Venus. From a number of observations made during a residence of near eight months, he determined the longitude of this place to be 7° 23' W.; and the latitude to be 54° 51' 41" N.; and thus afforded an important datum for the construction of future maps of the county, of which Dr. Beaufort has availed himfelf.

CAVANA, or CABANA, in Ancient Geography, a town of

Arabia Felix, according to Ptolemy.

CAVARES, or CAVARI, in Ancient Geography, a people of Gallia Narbonnensis, who inhabited the bank of the Rhodanus opposite to that occupied by the Volcæ. Ptolemy affigus them the colonies of Araufio and Cabellio, and fome others. Straho reprefents them as a very powerful people, who held in fubjection feveral others. They possessed the districts of the towns of Orange, Avignon, Cavaillon, and Carpentras.

CAVATINA, Ital. cut off. This term in Music, which in times of Da Capo, when almost every opera song had a fecond strain in a different key from the first, implied a short Air without a fecond part, is now feldom used as a section

of an air, but as an entire air of short duration.

CAVATUM Sal, in the Materia Medica, a term used by fome of the old Roman writers, as a name for the finelt fort of fal GEMMAS.

CAVAZATES, in Geography, a town of the illand of

Cuba; 120 miles E. of Havanna.

CAVAZION, or CAVASION, called also CAVING, in Architedure, the underdigging, or hollowing of the earth, for the foundation of a building. Palladio fays, it ought to be the fixth part of the height of the whole building. See FOUNDATION.

CAUB, in Geography, a town of Germany, in the palatinate of the Rhine; feated on the Rhine; 20 miles S. of Coblentz, and 28 W. of Mentz.

CAUCA, a river in the illhmus of Darien, which has its fource in common with La Magdalena, in the lake Papos, near the 3th degree of S. latitude, and which falls into this

CAUCA, in Ancient Geography, Coca, a town of Hither Spain, S.W. of Rauda. Appian speaking of the treatment which this place received from Lucullus, against the faith of treaties, calls the glory which the Romans derived from it "hateful glory." The emperor Theodorus was a native of this city. The Itineraries place it on the route of Segovia. According to Appian, it feems to have been fituated. between the Tagus and Darius. The position of the modern Coca is that which has been above affigued to

CAUCADÆ, a people of Afiatic Sarmatia, placed by

Pliny near the river Lagous.

CAUCALIS, in Botany, (xavxali;; Theoph.) Tourn. Clafs 7. & 6. gen. 2. Linn. gen. 331. Schreb. 464. Willd. 528. Juff. p. 224. Vent. vol. iii. p. 31. Gært. 94. Clafs and order, pentandria monogynia. Nat. ord. Umbellata, Linn.

Umbellifera, Just. Vent.

Gen. Ch. Cal. Umbel universal, unequal, with very few rays; umbel partial with more rays, the exterior ones larger. Involucre universal; leastets generally the number of the rays, undivided, lanceolate, membranous at the edge, egg-shaped, short; sometimes none. Inv. partial, with similar leaflets, longer than the rays, often five. Perianth proper, five-toothed, protruded. Cor. univerfal irregular, radiate; florets of the dife generally abortive. Gor. proper. of the dife male, imall; petals five, inflexed-cordate, equal: of the ray, hermaphrodite; petals five, inflexed-cordate; unequal, outer one the largelt, bifid. Stam. Filaments five, capillary; anthers small. Pift. Germ oblong, scabrous, interior; ftyles two, awl-shaped; stigmas two, spreading, obtule. Peric. Fruit ovate-oblong, longitudinally striated, hispid with rigid briftles. Seeds two, oblong, convex on one fide, flat on the other.

Eff. Ch. Leaflets of the involucres undivided. Corolla radiate; flowers of the difc male. Fruit somewhat egg-

fhaped, ftriated, armed with rigid brittles.

Sp. 1. C. grandiflora, Linn. Sp. Pl. 1. Mart. 1. Lam. 1. Willd, 1. Gært. tab. 20. fig. 5. Lam. Illuf. Pl. 192. fig. 1. Jacq. Aust. tab. 54. (C. umbellis planis; Hal. helv. 740. C. arvensis echinata magno flore; Bauh. pin. 152. Tourn. 323. Morif. hift. tab. 14. fig. 3. Echinophora flore magno; Riv. pent. 25. E. pycnocarpus; Column. Ecphr. 1. p. 91. tab. 94.) " Each involucre five-leafed; one leaf double the fize of the relt." Linn. "Umbels flat; exterior petals very large; involucres of about five leaves." Lam. Root annual. Stem a toot high, channelled, branched. Leaves twice or thrice winged, finely cut, pale green, flightly villous. Umbels more than two inches in diameter, confilling of from five to eight rays. Flowers white; inner ones with very fmall petals; outer ones with a bifid petal four or five lines long; fo as to make the general umbel, but not the partial ones, appear completely radiate. Leaves of the involucre membranous, and whitish at their edges. Lam. Seeds somewhat compressed, having four thick dorfal ribs, each of which is armed with rigid, afcending, pungent spines placed somewhat alternately or in pairs; and between thefe three elevated furrows, furnished with small, fhort, briftle-shaped prickles, divariented and incurved upwards. Gært. A native of corn-fields in the fouth of Europe, flowering in July and August. 2. C. dauccides, Linn. Mant. p. 351. Syll. nat. 2. Smith Engl. Bot. 197. Jac. Aust. tab. 157. Gart. tab. 20. (C. leptophylla; Huds. Flor. Ang. ift Ed. but not of Linnaus. C. parviflora: Lam. Conium Royeni; Liun. Sp. Pl. 350. Echinophora tertia leptophyllon purpurea, tab. 97. fig. z. Five-leaved bur-paisley) fmall bur-paisley. "General umbels trifid, without an involucre; partial ones with about three fertile flowers, and a three-leaved involucre. Leaves thrice compound." Root annual, ipindle-shaped, small. Stem branched, zigzag, divaricated, leafy, angular, a little rough at the angles. Leaves alternate, triply winged; leaflets pinnatifid, Smooth, prickly underneath, on the nerves. Umbels lateral and terminal; peduncles longer than the leaves, divariented, furrowed; general one, of fourcely more than three rays; but fometimes with one or two more, which are smaller and barren; partial ones of about five, almost fessive slowers, of which three only perfect their feeds; petals fometimes quite white, but generally reddiff, nearly equal. Dr. Smith. Seeds oblong, nearly femi-cylindrical, having four thick dorfal ribs which are armed with rather remote, rigid, spreading, prickles; the intervals between them flightly grooved, and fometimes belet with minute spines or hairs. Gært. A native of England and other parts of Europe, chiefly on a calcareous foil, flowering in June. 3. C. latifolia, Linn. Syst. Nat. 7. Mart. 3. Lam. 6. Willd. 3. Eng. Bot. tab. 193. Jacq. Hort. tab. 128. Gært. tab. 20. fig. 5. (Tordylium latifolium; Linn. Sp. Pl. Hudf. Flor. Ang. 1st Ed.) Great bur-parfley. "General umbel trifid, involucred; partial ones with five fertile flowers; leaves pinnated, ferrated." Root annual. Stem three feet high, erect, branched, angular, rough with extended or afcending briftles. Leaves alternate, unequally pinnated; pinnæ lanceolate, decurrent, opposite, acutely ferrated, rather glaucous, scabrous. Peduncles opposite to the leaves or terminal, very long, scabrous; general rays rarely four, flout, angular, rough; leaves of the involucre three or four, egg-shaped, thort, membranous at the edge; partial umbels of leveral nearly feffile flowers, flowers red, a little radiate; leaves of the partial involucre fimilar to those of the general one, fometimes muricated at the keel. Fruit egg-shaped, muricated with purple scabrous brittles. Dr. Smith. Seeds two, rather large, egg shaped, gibbons on one fide, and muricated with feven ribs; three broader and thicker, generally armed with a double feries of rigid, pungent spines; the other four furnished with only a fingle series of spines; flattish on the other fide, and marked in the middle with an elevated line, which England, found in Hampshire, Cambridgeshire, Bedfordthire, and Derbythire, flowering in July. 4. C. mauritanica, Linn. Sp. Pl. 3. Mart. 4. Lam. 9. Willd. 4. Mohr. E.N.C. 1742, vol. vi. p. 401. Walth. Hort. 127. "General involucre one-leafed; partial one three-leaved." A native of the coast of Barbary. 5. C. maritima, Lam. 5. Poiret itin. 2. p. 16. 3. Cav. ic. 2. tab. 101. (C. pumila; Willd 5. Vahl. Symb. 2. p. 47. Gouan. Fl. monsp. 285. Bauh. pin. 153. Tourn. 323. C. involucro universal-diphyllo; Ger. Prov. 237. tab. 10. Morif. tab. 14. fig. 7. Lappula canaria; Bauh. hift. 3. p. 1. Daucus muricatus 3. Linn. Mant. 3.52.) "Stem low, pubefcent; fegments of the leaves rather obtufe; umbels involucred; fruit egg-fnaped, thick, belet with unequal yellowish prickles." Lam. It varies in the number of the leaves of the general involucre, which has occasioned a difcrepance in authors with respect to this character. Root annual, fimple, long, white, with few fibres. Stems from three to five inches long, a little cylindrical, pubefcent, and almost foft to the touch. Leaves petioled, villous, yellowish green, rather thick, twice winged, with fmall, fomewhat obtuse segments. Peduncles long, pubescent. Umbels bisid in the plants, described by Gouan, Gerard, and Morison; mulfind, i. e. from three to five, or even feven-leaved, in those

of Vahl, Bauhin, and Tournefort. Flowers reddift. A. native of the fea coall in the fouth of Europe and in Barbary. 6. C. crientalis, Linn. Sp. Pl. 5. Mart. 5. Lam. 10. Willd. 6. Pallas It. 3. p. 522. Bellon. It. tab. 200. C. orientalis altissima, tolio serusa: Tour. Cor. 23. "Umbels spreading, partial leaflets thrice compound, laciniated; last divisions linear." Lien. Obf. Martyn, La Marck, and Willdenow, have all quoted this specific character without a comment ; but the term partial leaflets is furely obscure, if not maccurate, referring, not as may be thought at first fight, to the leaslets of the involucre, but to the proper leaves of the plant. Root biennial. Stem two or three feet high, cylindrical, a little branched. Leaves thrice winged, finely cut. Umbels terminal, loofe, very large; confilling of from twelve to fifteen rays, two or three inches long; partial umbels very fmall, of nine or ten short rays. General and partial involucres very short, many-leaved. Seeds rough with briftles terminated by a fmall viscous gland. A native of the East. 7. C. capensis, Lam. 12. (C. africana, Willd. 7. Thunb. pred. 49?) "Stem very low, rough; general and partial involucres generally five-leaved; fruit globular, muricate." Lam. "Umbel trifid; partial umbels five; leaves twice pinnatifid, hairy." Thunb. Stem two inches high, slender, angular, zig-zag, with one or two branches. Leaves small, twice winged; segments linear, acute. Umbels terminal, of four or sive rays, very rough. Flowers white, a little radiate. Fruit imall, globular, befet with short points. La Marck, from a dried specimen communicated by Sonnerat. A native of the Cape of Good Hope. S. C. leptophylla, Lam. 6. Willd. S. Ger. Prov. 236. Hoff. germ. 93. (Echinophora tertia leptophyllon purpurea; Col. i. p. 96, tab. 97) " Leaves thrice winged, very flender; umbels generally trifid, without an involucre; little umbels three-leaved, threefeeded." Lam. "General involucre almost always none; umbels bifid; partial involucres five-leaved." Willd. Root annual. Stem from eight inches to a foot high, branched. flightly angular, a little villous on its upper part. Leaves more finely cut than in any other species of the genus, triangular, thrice winged; fegments thort and fine. Umbels three, fometimes four and even five-rayed. Seeds large, rough with long points. La Marck, from a living plant. A native of the South of France. Dr. Smith observes (Eng. Bot. 197) that it is not certain what plant Linnaus originally intended by his leptophylla. 9. C. platycarpos, Lam. 7. Willd. 9. Gouan fl. monf. 285. Roth. Beytr. 1. p. 122. (C. monspeliaca echinato, magno fructu, Bauh. pm. 153. Tourn. 323. Morif. hift. 3. tab. 14. fig. 2. Echinophora altera asperior platycarpos, Col. Ecphr. 1. tab. 94.) " Umbel trifid; general and partial umbels three-leaved." nual. Stem a foot and half high, a little branched, angular, beset with a few scattered hairs. Leaves large, green, twice winged. Pedunoles very long. Umbel very short, rarely of four rays; one of the leaves of the involuere sometimes gashed; partial umbels with from seven to ten slowers, of which feldom more than two are fertile. Fruit large, oval, flightly compressed; rough, with long, unequal, purplish points. Lam. A native of Italy and the south of France. According to La Marck Linnæus confounded this plant with Daucus muricatus. 10. C. infola, Curtis Flor. Lond, fafc. 6. tab. 25. Smith Flor. Brit. 4. Eng. Bot. pl. 1314. Relh. Flor. Cant. 108. (C. arvenus, Willd. 10. Hudson. Withering, Hull, Sibthorp, Abbot, Lightfoot, C. helvetica, Jacq. hort. Vind. vol. iii. tab. 16. C. fegetum minor, Anthrifco hispido similis, Rai. Syn. 220. Scandix infeita, Linn. Sys. nat. ed. 12. Herb. Linn.) spreading hedge-parsley. "Umbels of many close rays. General involucre almost always none.

rone. Leaflets pinnatifid. Branches spreading." Smith. Root annual, tapering, white. Stem about a foot and a half high, crect, leafy, round, furrrowed, rough, divided into numerous alternate, divaricating branches; terminal leaflet clongated. Leaves alternate, rough, pinnate, deeply cut, and fometimes almost bipinnate. United terminal, erect; general umbel fometimes of one leaf; partial ones of feveral tharp rough leaves. Floquers fomewhat radiate, white, or cream-coloured, rarely flesh-coloured; anthers yellow, sometimes purplish. Fruit rather large, ovate, rough, green or reddift, but not tipped with purple. A native of fields and way-fides in England, Germany, Switzerland and France; flowering in July. Nearly allied to the next species. II. C. anthrifeus, Mart. 8. Willd. 11. Curt. Lond. Fafc. 6. tab. 22. Fl. Dan. tab. 919. (C. aspera, Lam. 2. Tordylium anthrifcus, Linn. Sp. Pl. Jacq. Aust. tab. 261.) Upright hedge-parfley. "Umbels of many close rays. Involucre of many leaves. Leaflets pinnatifid. Branches rather erect." Smith. Root annual, tapering, yellowish. Stem almost three feet high, erect, leafy, furrowed, rough, with closely deflexed hair; branches alternate. Leaves alternate, scabrous; terminal leaslet elongated; common petiole dilated, channelled. Umbels terminal, erect; involucre of many awl-shaped, scabrous leastets, much shorter than the ray; partial umbels cluftered, flat; partial involucres about the length of the pedicels. Flowers white or reddilh, small, but little radiate; anthers violet coloured; flyles divaricate, reflexed. Fruit egg-shaped, larger than that of the preceding species, armed with incurved briftles, violet at the tip. A native of England, and other parts of Europe, in hedges and waste places; slowering in July. 12. C. japonica, Willd. 12. " Involucres many-leaved: feeds egg-shaped; leaves twice compound; leaflets wedge-shaped, pinnatifid; stem hairy." A native of Japan. 13. C. hiffanica, Lam. 11. Hebr. Ifnard. & Vaill. MSS. "Umbels compound, feffile, lateral; leaves thrice-winged, finely divided, whorled at the flower bearing knots." Stem fearcely a foot high. Leaves petioled, three together in a whorl, occupying the place of the general involucre. Umbels generally of five rays, two of which are so short that the partial umbels appear rays, two of which are to most that the partial unbels appear felfile; partial involucres two or three, generally funple, but fometimes refembling the leaves of the plant. 14. C. nodo-fa, Mart. 9. Willd. 13. Rai. fyn. 220. Hudf. Fl. Ang. 114. Eng. Bot. tab. 199. (C. nodiflora, Lam. 3. Tordylium nodofum; Linn. Sp. Pl. Jacq. Auft. app. tab. 24.) Knotted flone or baftard parfley. "Umbels lateral, fimple, nearly felfile; ftems proftrate," Root annual, fmall. Stent branched, leafy, striated, roughish with reflexed hairs. Leaves fomewhat glaucous, twice-winged; pinnules pinnatilid and gashed. Umbels opposite the leaves, solitary. Flowers white, or reddish, small, clustered, on short peduncles, surrounded by the linear hairy leastets of the involucre. Seeds small; outer ones muricated with longish, straight, rough, rigid hairs; inner ones rough with warty points. Whether the latter are abortive has not yet been determined. Dr. Smith. A native of England and the fouth of Europe on the borders of corn fields, and on banks; flowering from May to

CAUCALIS carota, Roth. See DAUCUS Carota.

CAUCALIS major daucoides tingitana, Morif. Ray. See DAUCUS muricalus.

CAUCALIS fanicula, Crantz. Roth. See SANICULA. CAUCALIS feandix, fcop. - Scandicina, Withering Flor. Dan. See SCANDIX anthrifeus.

CAUCALIS peregrina, Bauh. pin. See TORDYLIUM pere-

CAUCALIS maxima, Banh. pin. See TORDYLIUM maxi-

CAUCANA, in Ancient Geography, a port of Sicily, mentioned by Ptolemy, and placed 200 stadia from Syra-

CAUCANTHUS, in Botany, Lam. Encyc. Bofc. Nouv. Dict. Forskal. Class and order, decandria trigynia.

Gen. Ch. Cal. one-leafed, bell-shaped, five-cleft. Cor. Petals five, fix times larger than the calyx, ciliated and curled on one fide. Stam. Filaments ten. Pifl. Germ fuperior, oval, villous: fligmas truncated.

There is only one known species. A shrub. Leaves clustered at the top of the branches, opposite, orbicular, en-tire. Flowers white, in terminal corymbs. A native of

Arabia on the mountains.

CAUCASUS, in Ancient Geography, the name of the highest and most extensive range of mountains in the northern part of Asia; and which the ancients erroneously considered as a continuation of mount Taurus. See TAURUS. According to Strabo (tom. ii. p. 760) this mountain extended from the Euxine to the Caspian sea, including, as within a wall, the isthmus that separated these seas. It divided Albania and Iberia towards the fouth from the level country of the Sarmatæ on the north; and abounded with various kinds of trees, fome of which were used in the construction of ships. According to Herodotus (lib. I. and III.) it commenced above the territory of Colchis, and bounded the northern part of the Caspian sea. Procopius says, that the eastern limit of this mountain had two defiles, one of which was called the "Caspian way," and the other the "Caucafian way." These defiles served as a passage to the Huns when they invaded the territories of the Persians and Romans. Pliny fays, that Seleucus Nicator had formed a project of joining the Euxine and Caspian seas by a wall; and it is also said that Antiochus Soter or Antiochus Theus executed Nicator's project. This wall funk into ruin after the fall of the Seleucidæ. Herodotus mentions the two passages in this mountain; and he says that the Scythians and Cimmerians made use of them in their incursions into Upper and Minor Asia. They are also mentioned by Pliny, Tacitus, and Lucan. The ancient mythologists report that Prometheus was bound on this mountain for having stolen fire from heaven, and that Hercules came hither to release him: and it is reported by fome historians, among whom is Strabo, that the rivers of this mountain brought down gold fand, which was collected in sheep-skins. The inhabitants of this mountainous region were very numerous, and formed, as some say, 70, and according to others 300, different nations, who spoke various languages, and subfilted upon the flesh of wild beasts, fruit, and milk, having, on account of their uncultivated and favage manners, no intercourse with one another. The appellation of Caucasus is supposed to have been transmitted to the Greeks by their intercourse with the Persians, in whose language cau or cob fignifies a mountain: whence, it is faid, was formed Cob-cas, or the mountain of the Chasas, an ancient and formidable tribe, who inhabited this immense range from the eastern limits of India, to the confines of Persia, and probably as far as the Euxine and Mediterranean leas. Captain Wilford informs us (Afiatic Refearches, vol. vi. p. 455) that the Chafas are often mentioned in the facred books of the Hindoos. Their descendants still inhabit the same regions, and are called to this day by the fame name. They belonged to the class of warriors, but they are now confidered as the lowest of the four classes; having been thus degraded, according to the institutes of Menu, by their omiffion of the holy rites, and by feeing no Brahmins. Ifidorus (Orig. 1. 14. c. 28.) fays, that Caucasus, in the eastern languages, fignifies white; and that a mountain close to it is called Cafis by the Scythians, in which language it fignifies fnow and whiteness.

Ruffian travellers, who reprefent them as forming a range Euphrates and deferts of Algezira. The Caucanan mounfide, are an alpine range, entending between the Euxine and the Cafpian, from well to eath, in length about 350 English vered with perpetual ice. Its breadth on the northern declivity extends at most to 50 miles, and runs along the prodigious northern plain, which, taken in the quadrature, meafores one thousand English miles; being bounded on the cast regions a confiderable time, and took pains in inveltigating western extremity at Ghockae to Targhu, 95 German miles, and in breadth, on the fide adjoining the Caspian fea, 53; kui to the fouth form a divition between the eathern and weltern half) 90; and in the western part, along the Porta Cumana, a celebrated narrow pass, 150 miles. The icy ridges Guldenstadt not more than from 5 to 7 versts in breadth. breadth, or rather only finks down towards one part. The tory to miles broad, which confilts almost wholly of fand-stone; and this again runs out afresh in a clayey plain the promontory are iron-flore, fulphur-pyrites, vitriol, petrocopper rarely occur in the promontory, but frequently in the regards the quality of the superior regions of the Caucation that the mountains in that region are very rich in minerals; diffried of Azghur, likewife contain very rich ores; that in the plains of that river are found fine marble, coal, and warm fprings;

that in the mountains by the Terek, as far as the village Stephantz-minda, there is lead, filver, and ion ore; in the come the mouth of the river Cuban in the north-well to the content of the river Kur, into the Cafpian fea, in the fourhalt. A chain probably extends from Caucafus fouth-well to the vicinity of the bay of Scandercon. This ridge can be not been the Antitaurus of antiquity, various acts of which have been known by different names. At the other extremity of the Caucafus other chains branch out the Perfact of Perfa, or, at leaft, fo imperfectly connected with the nountains of Hindoo-Koh, that it would be difficult to make any continued chain. Much lefs can they be regarded as an extention of Mount Taurus, which terminates at the cubarrates and deferts of Algezira. The Caucafua mean aday, are an alpine range, extending between the Euxine and de, are an alpine range, extending between the Euxine and de, are an alpine range, extending between the Euxine and the Cafpian, from well to eath, in length about 550 English tiles, and towards the north and fouth in a level country all round. As they approach both the feas, they very much seeline. The whole range has a tract of about 5 miles in the greatest elevation of the chain, which is co-cred with perpetual ice. Its breadth on the northern delivity extends at most to 50 miles, and runs along the provided with perpetual ice. Its breadth on the northern delivity extends at most to 50 miles, and runs along the provided with perpetual ice. Its breadth on the northern delivity extends at most to 50 miles, and runs along the provided that care be first taken to establish strong and well-ground and the well by the Valakhian mountains. The Marshal Vo Bibberties, who remained in the revises of the theirish the inhabit the mountains, the reverse of the provided that care be first taken to establish fitting and the revision of the mines against the reverse of the theirish track to establish from an analysis of the caucafus to great advantage, especially for Ruffla; pr

These mountainous regions have been, from time immemorial, and still are, the habitation of bold and valiant warenorial, who have with determined resolution resisted the reliterated attacks of the Mongols, Arabs, Persans, Tartars, and Russians, and maintained, in a considerable degree, their freedom and independence. On the ridge of Caucaius, and in the elevated and almost inaccssible valies, there is found a most singular mixture of small people of various denominations, whose erigin and different languages it is extremely difficult to explore. Their distinct and appropriate languages are very numerous, and branch out into an incredible diversity of dialects; some of which deviate so entirely from the known languages of Asia and Europe, that they admit of no comparison with them; others again are known languages without any foreign admixture; and others are a mixture of several known ancient languages, to which class belong the all Georgian Manyalian Pritan Archive and

Tartarian languages.

The various tribes of mount Caucalus confilt of a motley mixture of the original inhabitants with colonies of their conquerors, the Mongols and Tartars, particularly the latter: and on account of the difficulty of reducing them to their primitive itocks, they are ufually all comprised, the Georgians excepted, under the denomination of "Mountain-Tartars." Several of their tribes are properly Ruffian fubjects; others are vaffals; and others again are protected by Perfia and the Porte, or have hitherto maintained their independence. Among the inhabitants of the northern bake of Caucafus, we find, befides the Nogayans and Truchmenians, who are genuine Tartars, three particularly numerous and nearly related tribes, composing the ground plot of most of the Caucasian nations; viz. the "Ticher-kelians" (Fe Caucasians), "Auchalians" (fee AUCHASES), and "Zichians" or Tschekians, called by the Ruffians Yasi, and principally inhabiting the file of Taman, which fee. Under the former appellation of Tscherkessians put even leveral not only the other two thems just mentioned, but even leveral

petty tribes of Caucasus, as the Tschetschengians, the Kiltenzians, &c. The people properly bearing this name inhabit that part of Caucafus which is called the Great and the Little Kabardia, the islands of the lower Kuban or Cuban, and the fouthern bank of that river. They denominate themselves Adige, i. e. islanders; by the Russians they are called Ticherkelli, and by the rest of Europe Circassians. The other two tribes are, properly speaking, only one collateral branch of the former, and have belonged to the Ruffian empire, as inhabitants of the Cuban or Caucafus, fince the year 1783. The following tribes are as yet only valials to Ruffia; viz. the "Kumyks," who inhabit the plain bordering on the rivers Sunsha and Terck, and in whose territory are the famous hot-baths of Kitzliar. See KUMUK .-The "Ticheschengians" or Mikschessians, who live in the eastern part of the Great Kabardia, and in time of war can raife 5000 horsemen .- The "Kistenzians," who inhabit the Little Kabardia and whose force is nearly equal to that of the preceding people. - The " Offetinzians" or Offes, probably fprung from the ancient Uzes or Polovtzes, and found in the middle part of the Caucafian mountains. They confift of feveral fmall stems, who are either governed by myrzas, or live under one common prince, who is a vaffal of the Ruffian empire. The other Caucalian tribes have little or no connection with Ruffia; and the most remarkable are the 66 Lefghians," who inhabit the province of Lefghistan in the eastern Caucasus, between Kakhetty and Dagheltan. They are divided into 27 flems, and are totally independent.

The "Taulintzians," who occupy the fummits of the mountains, confiit of feveral petty tribes, and acknowledge the protection of Perfia .- The "Amberlinians" dwell in the vallies formed by the mountains of Ghilan, and often change their patron-fovereign, but are at prefent under the Perhan monarch .- The "Georgians" or Grufinians are the most numerous and powerful body of the mountaineers of Caucafus. See GEORGIA. Tooke's View of the Ruffian Empire, vol. i.

CAUCASUS, in Ancient Geography, a fea-port of the island

of Chios, mentioned by Herodotus, lib. v. c. 33

CAUCASUS, province of, in Geography, one of the governments of Ruffia, in the fouthern region, which compriles the Cuban, and all that district to the east and fouth now in the possession of Russia, between the rivers Don and Cuban, and between the Caspian and Euxine, extending as far as the conlines of Georgia, and continually augmenting by the reduction and submission of the wandering hordes of mount Caucafus. By the treaty concluded between Catharine II. of Ruffia and the Ottoman Porte, June 21, 1783, authenticated by the feal of government, Jan. 9th, 1784. the provinces of the Crimea and the Cuban, to which the empress gave the ancient names of Taurida and Caucafus, were annexed to the Russian dominions.

CAUCHABENE, in Ancient Geography, a people of

Arabia Deferta, according to Ptolemy

CAUCHUMILI, in Geography, a small island belonging to the Turks, in the Mediterranean; 20 miles S.W. of

Stanchio. N. lat. 36° 30'. E. long. 26° 24'

CAUCI, in Ancient Geography. See CHAUCI. An ancient people of Ireland under this denomination, according to Ptolemy, are supposed by Camden to have inhabited the prefent county of Wicklow; and they are faid by Mr. Ledwich to have come, with the Menapii, direct from Germany to Ireland.

CAUCH Nummi, a base fort of coin, current under the lower empire; thus called because concave, like a little cup, from the barbarous Latin, caucus, a cup. Haloander and Meursius are miltaken in faying this coin was so called from having the figure of a cup on it. Du-Cange. The caucii are the same with what are popularly called among the Italians, medaglie di S. Elena, sometimes superstitionsly worn by the

CAUCOLIBERUM, in Ancient Geography, a name given about the 7th century to a town of Gaul, now Col-

CAUCON, in Botany, a name used by Pliny, and some

other authors, for the equifetum, or horfe-tail CAUCON, in Ancient Geography, a river of Greece in the Peloponnesus, which passed by Dyma, and discharged itself into the Teutheas, according to Strabo .- Alfo, a maritime place of Sicily, 200 fladia from Syracuse; called Cau-

cana by Ptolemy.

CAUCONES, an ancient people of Paphlagonia, who inhabited the coast of the Euxine Sea from the Mariandynians to the river Parthenius, according to Strabo; but in other times this space was comprised in Bithynia. Some authors pretend that they were driven from Arcadia together with the Pelafgi, and that they had been wanderers like them. Others fay, that they were Scythians: and others fay, that they were Maccdonians. One part of this nation fettled in Greece near Dyma, in the diffrict of Buprafium and the Lower Elide. Another part occupied the territory of the Lepreates and Cypariffians, and the town of Macilla in Triphylia. Herodotus speaks of these lalt; (lib. i. c. 147.) and gives them the name of Pylians to diftinguish them from those of the Lower Elide near Dyma. Homer mentions the Caucones; who were Paphlagonians, and who came to the fuccour of Troy.

CAUCUS, in Ichibyology, a species of carp about eighteen inches in length, that inhabits the fresh waters of Chili. Molina describes it in his natural history of that country, as having thirteen rays in the anal fin; the body tuberofe,

CAUDA is fometimes also used in Anatomy to denote the

CAUDA Povis, in Ancient Geography, a promontory of the island of Cyprus, so called by Ptolemy, and placed by M. d'Anville at Boos Ura to the fouth west.

CAUDA Capricorni, in Afronomy, a fixed flar of the fourth magnitude, in the tail of Capricorn, called also by the Arabs, Dineb Algedi; marked y by Bayer.

CAUDA Ceti, a fixed flar of the third magnitude; called

CAUDA Cygni, a fixed flar of the second magnitude in the Swan's tail; called by the Arabs, Dineb Adigege, or Eldegiagich, marked a by Bayer.

CAUDA Delphini, a fixed that of the third magnitude in the

CAUDA Draconis, the Dragon's tail, the name of the moon's fouthern or defeending NODE.

CAUDA Equina, in Anatomy, a name applied to that portion of this, with the rest of the spinal marrow, sce

lish, is called the horfe-tail. The official kind is more par-

CAUDA Leonis, in Aftronomy, a fixed flar of the first magni-

GAURA Urfa Majoris, a fixed flar of the third magnitude,

in the extreme part of the tail of the Great Bear; called also by the Arabs, Alalioth and Benenath, and marked n by

Baver.

CAUDA Urfa Minoris, a fixed flar of the third magnitude, in the extreme part of the tail of the Leffer Bear; called also the polar flar, and by the Arabs, Alrukabab, marked a by Bayer.

CAUDAMATRIS, in Geography, a town of the island

of Ceylon; 64 miles N.W. of Candy

CAUDAR, a river of Spain, which runs into the Xucar a little above Cuença.

CAUDATUM, in Conchology, a species of Buccinum with an ovate shell surrounded with roundish ribs; the beaks

a little prominent. Knorr, &c.

This shell is fuscous, umbilicated, with a large sperture, the lip of which is plaited and toothed within; fpire with fix short inflated whorls. The length is three fourths of an inch; very thin, of a straw colour, brownish in the ribs, with

five horizontal lines in the whorls of the spire.

CAUDATUS, Lat. in Mussic, a musical note with a tail to it; as a minim to dillinguish it from a semistree, which is round. In the early period of counterpoint, a tail added to a note made it of double its natural length; as a tail to a breve made it a long . See the ancient

time table.

CAUDEBEC, in Geography, a town of France, in the department of the Lower Seine, and chief place of a canton in the diffrict of Yvetot; feated on the Seine, furrounded with walls flanked with towers; a town, though not large, populous and commercial; 5 leagues W. of Rouen, and Se. of Havre. The place contains 2800 and the canton 13,694 inhabitants; the territory comprehends 210 kiliometres and 18 communes. N. lat. 49° 33'. E. long. 0°

CAUDEBEC, in Manufactures and Commerce, a fort of hats, thus called from the town of Caudebec above mentioned, where they manufacture a great number of them. They are made of lamb's wool, of the hair or down of oftriches, or of

camel's hair

CAUDEC, in *Ornithology*, the name given by Buffon in his natural history of birds to the Gmelinian mufcicapa audam, and yellow crowned fly-catcher of Latham. Buffon in another work, Pl. enl., calls it gobemouche tacheté de Cavenne.

CAUDECOSTE, in Geography, a town of France, in the department of the Lot and Garronne, and diffrict of

Agen; 21 leagues S.E. of Agen.

CAUDELLENSES, in durient Geography, a people of Galha Narbonneniis, S. of the Vulgientes. They were the ancient inhabitants of Cadenet, where has been found an infeription that adorned the front of a fmall temple or facellum, built near the place and dedicated to the goddefs Dexiva. Many medals of filter, and other curiofities, have been dug

up at the fame place.

CAUDEX, in Betany, is confidered by Linnæus as one part of the root of plants, of which the radicle is the other. It is divided by him into the candex defeendens, and the caudex afeendens. The caudex defeendens is the flock or main body of the root, gradually firlking downwards into the ground, and producing the radicles which extract the nouriflment from the earth, and are the only effential part of the root; for annual plants have most frequently no defeending caudex. The caudex afeendens is a continuation of the fame flock gradually rifing above the ground, and producing the preper herb of the plant, or the branches and leaves with their various appendages. There are many

plants, both annual and biennial, in which it is not found. In trees it is ufually filled the trunk; in flurubs the caulis or flem; and as it has never been admitted into the popular idea of a root, it is nearly fallen into difuse. Indeed it was never much employed by Linnæus himself in his practical works.

CAUDEX, in Gardening, a term, which, by some early writers on vegetation, fignifies the item or trunk of a tree; but according to the later ones the flock or body of the root, part of which afcends and part descends. It has been obferved by Dr. Darwin on the authority of Linnaus, that the part which joins together the plumula, or leaf, and the radicle, or root-fibres, is called the caudex, when applied to entire plants; and may, therefore, be termed caudex gemma, when applied to buds. In herbaceous plants, the caudex is generally a broad, flat, circular plate, from which the leafftem ascends into the air, and the radicles or root-fibres defeend into the earth. Thus the caudex of a plant of wheat lies between the stem and the radicles, at the basis of the lowermost leaf, and occasionally produces new stems and new radicles from its fides. Thus the caudex of the tulip lies beneath the principal bulb, and generates new smaller bulbs in the bosom of each bulb-leaf, besides one principal or central bulb; the caudex of orchis, and of fome ranunculufes lies above their bulbous roots; whereas the caudexes of the buds of trees constitute the longitudinal filaments of the bark, reaching from the plumula or apex of the bud on the branch to the base of it, or its root-fibres beneath the foil. Nor, continues he, is this elongation of the caudexes of the buds of trees unanalogous to what happens to fome herbaceous plants; as in wheat, where the grain is buried two or three inches beneath the foil, an elongation of the caudex occurs almost up to the furface, where another fet of fibrous roots is protruded, and the upright ftem commences. The fame happens to tulip-roots when planted to those of many other vegetables.

He is also of opinion, that the caudex of the buds of trees not only descends, as above described, but also ascends from each bud to that above it; as on the long thoots of vines, willows, and briers, in this respect resembling the wires of thrawberries and other creeping plants. Thus the caudex buried beneath the foil to protect it from the frost; while the earth, and endures the winter froils without injury. The long caudexes of the individual buds of trees, which conftifrom the mulberry bark brought from Otaheite. On inadhere, where it is probable they occasionally inofculate, like some of the vessels in animal bodies; because, when fome buds are cut off, the neighbouring ones flourith with greater vigour, being supplied with more of the nutritious juices. This informs us, he fays, why the upper bark of a caudexes of the individual buds are supplied directly with nuof the blood (fap) in their leaves; whereas the under lip of the wound is nourished only by the lateral or inofculating veffels; which, he thinks, supplies us with an argument against the individuality of trees, and in favour of that of

buds. See Bud.

CAUDI-CAPONE, in Ancient Geography, a place of Italy, mentioned by Horace.

CAUDIES

CAUDIES; in Geography, a town of France, in the department of the East Pyrenees, and diltrict of Perpignan; o leagues W.N.W. of Perpignan.

CAUDIMANE, in Zoology. Some French naturalists difcriminate by this name those animals which have the tail flexible, muscular, and prehensile, such as the Sapajou tribe of monkies, &c.

CAUDINE fauces, or furculæ, in Ancient Geography, a defile by which the Romans, after a defeat, were obliged to pass from Campania into Samnium, in 432, and where they preferved their lives under the humiliating condition of paffing under the jugum or yoke.

CAUDISONA Vipera, in Zoology, a name by which au-

thors call the RATTLE-SNAKE.

CAUDIVERBERA Peruviana, the name given by Laurenti to the Gmelinian LACERTA caudiverbera, which

CAUDIVERBERA Egyptiaca, Laur. is variety & of the same Species.

CAUDIUM, in Ancient Geography, a small town of Italy, in Samnium, belonging to the Hirpini, on the route from Capua to Benevento. CAUDO, an island of the Mediterranean, in the neigh-

bourhood of that of Crete. Suidas.

CAUDROT, in Geography, a town of France, in the department of the Gironde, and diffrict of La Reole, feated on

the Garonne; 5 miles W. of La Reole.

CAVE, a subterraneous hollow place of a certain extent. Some authors diftinguish between a cave and a cavern, making the first the effect of art, and the latter of nature. Caves were doubtless the primitive habitations; before men brought themselves to erect edifices above ground, they took shelter under it. The primitive manner of BURIAL, was also to reposite bodies in caves, which appears to have been the origin of the catacombs. Phil. Trans. No 244. p. 344.

Badmington cave, in Wiltshire, consists of a series or row of uniform holes, wherein pieces of armour are faid to have been found, whence they are by many supposed to have

been tombs of ancient warriors.

Caves long continued the proper habitations of shepherds. Among the Romans, caves, antra, used to be consecrated to the nymphs, who were worshipped in caves, as other gods in the temples.

The Persians also worshipped their god Mithras in a natural cave, confecrated for the purpose by Zoroaster.

Kircher, after Gastarellus, enumerates divers species of caves, divine, human, brutal, natural, and artificial.

Of natural caves, some are possessed of a medicinal virtue, as the Grotto de Serpente; others are poisonous or memphicical; others are replete with metalline exhalations, and

others with waters.

Divers oracular caves occur among the ancients, the fumes of which intoxicated the head, and produced a fort of furor or madness, which was interpreted inspiration, prophecy, and divination. Such were the facred caverns at Delphi, which inspired the Pythia. Such also was the Sybil's cave at Cumæ in Campania, still shewn near the lake Avernus: though Borrichius takes this to be of modern date, and not the true Antrum Sibylle, fo finely described by Virgil. Homer likewife gives a description of Arrion Nupton, the Cave of the Nymphs, on which Porphyry has a treatife still extant, containing many of the fecrets of the heathen theology, both natural and fymbolical. Virg. Æn. lib. vi. Hom.

The cave of the nymph Egeria, where Numa held nightly conversations with that deity, is still shewn at Rome.

The cave of Trophonius, originally the manfion of that celebrated Bocotian, became afterwards famous for the oracles which Apollo delivered in it. Pausanias, who visited it, gives a large description of the ceremonies observed by those who entered the cave to confult that god. Vide Potter Arch. lib. ii. cap. 10. p. 290, &c.

CAVE, in Agriculture, is a term provincially employed to fignify the raking off any coarfe material, fuch as the fhort straws and ears of grain, from the corn in chaff on the barn-

floor during the time of threshing, &c.

CAVE, CARVE, or COLT, is a term used for earth that flips down from the banks of canals, &c.

CAVE, dead, live, in Mining. See LIVE cave.

CAVE-Hill, in Geography, one of the hills in the county of Antrim, Ireland, near the town of Belfalt. It is found to be 1191 feet high.

CAVEA, the place in the ancient theatres where the spectators were feated. The cavea, called by the Greeks xoshov, stands contradistinguished from the fcena, oxma, which was the place for the actors. The cavea was divided by partitions into three equal parts, rifing one over another: ima cavea, appointed for the people of quality, and magiftrates; the middlemost, media cavea, for the commonalty; and the uppermost, fumma cavea, for the women.

As the theatres were open at top, porticos were erected behind the cavea, where the audience might retire for shel-

ter in case of rain.

CAVEA also denoted the middle part in amphitheatres, otherwife called ARENA.

CAVEA was also used for the cage or den of a wild beaft. kept for the amphitheatrical shews. See CAGE.

CAVEAR, CAVIAR, or KAVIAR, a kind of food or pickle, in great use, and repute throughout Russia: and also introduced upon the English table.

It is formed from the Italian caviare, or barbarous Greek xaGiagi, which fignifies the fame.

The cavear or caviar, called by the Russians ikra, is an article of great importance in its reference to the industry and commerce, as well as to the palates of the Russians, who derive great advantages from it, not merely as an article of trade, but also of diet, particularly during the three lents which they observe with great strictness. It is prepared in the parts about the Volga, the Ural, and the Caspian, of the roes of flurgeons, sterlets, fevrugas, and sitrinas. The lump of roe is the first thing taken out after cutting up the fish. A large beluga will, yield above 5 pood of roe; but this, on account of the quantity of viscous matter that is mixed with it, is not much efteemed. From a sturgeon never more than 30 pounds has been taken, and from the fevruga, only 10 or 12. As of the beluga roe five eggs weigh a grain, fo a large beluga has 6 or 7 millions of eggs. The different treatment of the roe determines the different quality of the cavear. The worlt fort is the common "pressed cavear," "payusnaia ikra." In the preparation of this the roes are cleanfed from the coarfelt strings and fibres, then falted with about two pounds of falt to the pood, and spread out upon mats in the fun to dry, which in fair weather requires about fix hours, and in cloudy weather, at most, a day. It is afterwards trodden with the feet, the person who treads it having leathern stockings. It is then put into tubs. To make this fort for fale, it is common to take the spoiled roes of dead fish thrown upon the shore, or such as are too greafy for other forts, and even the fragments and offals that would not pass through the sieve of the finer kind, falt it in boxes, and then tread it down in tight tubs. Such cavear costs in Astrakhan half a ruble per pood. A better fort is that called the "grained or scasoned cavear," " Sernillaia ikra," but this is too falt to fuit every palate. When the roe is cleanfed from the coarser particles, it is shaken into long troughs, salted with 8 or 10 pounds to the

pond, and by shovelling it over and over, well mixed. It is main a fibrous parts; then, like the former, it is prefied in tubs. The peod colls between one and two rubles; and this fort is the ufull hod of the common people during the least and falls enjoined by the religion of the country; but it is too falt for every one's taffe. The cleanest and Fed fort is the "fack-cavear," which, to appearance, confils entirely of the eggs of the roes, and does not easily become falls in the cleanest and the country of the eggs of the roes, and does not easily become falls in the cleanest and the country of the eggs of the roes, and does not easily become falls in the cleanest and the country of the eggs of the roes, and does not easily become falls in the cleanest and the country of the eggs of the roes, and does not easily become falls in the country of the eggs of the roes, and does not easily become falls in the country of the eggs of the roes, and does not easily become falls and the country of the eggs of the roes, and does not easily become falls and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the roes, and the country of the eggs of the eggs of the roes, and the roes are root to the eggs of the roes, and the roes are root to the roes, and the roes are root to the roes are root to the ro come fetid; it is denominated from its preparation "mefbrine, till the grains are quite foft. It is then hung up in long narrow pointed bags of ftrong linen, refembling jelly bags, the brine has obzed through, the bags, hanging on transverse in leathern flockings. This fort requires the roe to be quite fresh, and is the dearest, costing two rubles per pood, and upwards. In winter the roe is caren fresh, and deemed a time. In winter large quantities of unfalted cavear are feat from the Volga to all parts. The method here used in falting the rocs is by putting them, after being well cleanfed and falted, into eitherns with a number of holes in the bottom; through which they are fet to drain by weights laid fifth proper for the purpole. Among these are reckoned the white salmon and the pike, from the roes of which from the river Ural, where the Coffacks have the best method of preparing them. Formerly the trade in cavear was a monoto v of the crown; and in the time of Peter I. the conto 41,000. In later years the quantity exported has been more various than that of ifinglals. In 1783 it amounted to 1544 pood. Cavear is exported modly to Italy (pressed of courfe, because of the voyage), where it is caten by the lich in fast-time. In Germany, also, with the increase of luxury, it is much more in requed than it was about 40 years ufe, but principally for exportation to Italy, &c. import confiderable quantities of cavear. To be good, it should be of a reddith brown colour, and very dry. It is eaten with oil and lemon; fometimes with vinegar; fome eat it alone with bread; and others only as a fauce or pickie, like ancalled Batargo, which fee.

court to fibp the proceeding of one who would prove a will, or obtain letters of administration, to the prejudice of another. See PROBATE.

It is also used to stop the institution of a clerk to a benefice. An institution, after a cavent entered, is void by the

ecclefiafical law; but this the temporal courts pay no regard to, and look upon a caveat as a mere nullity. Blackst.

CAVEATING, in Fineing, the act or art of difengaging, refhifting the fword from one fide of the adverlary's Iword

the other.

Caveating is a motion whereby a man brings in an inflant his fword, which was prefented, on any fide of his adverfary's, generally beneath its hit, to the opposite fide; either from within, or without, or vice cerfa; or from having its point high, to be low, or the reverle; and either on the fame fide it is preferted in, or the opposite fide.

Cavesting is fo necessary a motion in fencing, that withit is there could be fearcely any offensive part, or pursuit. It is withal fo easily performed against the ordinary tierce and quart guards, that it gives a constant opportunity to make a variety of quick fabtle feints against them, which by reafon of the small cross made by the weapons on these guards,

difficult.

The confideration of this put fir William Hope on the fearch of a new method of guard, which, by reaton of its greater crofs on the advertary's fword, renders the cavearing and making feints more flow, and configuratly the parade

more certain.

CAVEDO, in Commerce, a long measure used in Portu

el, and equal to 27 13 English inches

CAVEDONE, Jacobro, in Biography, an historical painter, was born at Saffucio near Jiodena, in 1380, and culcuted in the Academy of the Caracci, where he learned delign; attending also frequently the schools of Baldi and Patierotte, to study after the naked. In order to acquire a proper knowledge of colouring, he shitted Venice, and attentively examined the perfections of Titian; so that upon his return to his own country, his performances were much admired; and adjudged to possess an agreeable mixture of the style of the Caracci with the thits of Titian. For some time at Bologna, the works of Cavedone were esteemed could to the compositions of Annibal. His best manner was itrong and free, and the tints of his colouring were natural and beautiful. But at three different periods of his life, this painter is faid to have had three different manners. his refl excellent, his second industrent, and his last teeble and very bed; which degradation has been aferibed to the effect of poverty, fickness, and bodily injury, and elso of domestic affiction. In the church of St. Salvatore, at Bologna, there are several very capital performances of Cavedone; but one of his best performances is in the church of the Mendicants at Bologna, in which he represent Petronius and another faint on their knees, in the lower part of the picture, and the Virgin and child in the cioues attended by angels. This maîter died in 1000, a ed 30.

CAVELIN, or rather KAVELING; thus they call at

diz

CAVENDISH, or Candish, Thomas, in Biography, an eminent navigator and naval adventurer in the reign of queen Elizabeth, was the fon of William Cavendiffic edg, of Trimley St. Martin, in Suffolk, where he was born, and whole citate he inherited. But having confum this property by early extravagance in his attendance on the court, he determined to retrieve his aliais by a predatory voyage against the fettlements of the Spaniards. The fleet which he fitted cut for this purpose confished only of three vessels of 120, 60, and 40 tons, manned with 123 persons of various qualities. Having equipped this small squadron for a voyage of two years,

he took the command, and failed from Plymouth July 21, 1586. After touching at Sierra Leona in Africa, he Aretched over to the coalt of South America, and ran along it as far as the mouth of the straits of Magellan. Here he found, at a place named by him Port Famine, the wretched remains of a Spanish colony which had two years before been dispatched in order to form a fettlement in that inhospitable clime. Having reached the South fea, he directed his course northwards, and notwithstanding various encounters with the Spaniards, which gave him an opportunity of displaying with his small number of men very distinguished valour, he succeeded in burning Paita, Aca-New Spain. At length, being off California in November 1587, he performed the extraordinary exploit of capturing, with a force much reduced, the Spanish admiral's ship of ing home with his booty, he croffed the South Sea with one of his two fmall veffels, the other being deltroyed, to the Ladrones in 45 days. Thence proceeding through the Indian Archipelago, he passed the straits of Java, and having touched at the cape of Good Hope, arrived at Plymouth, after having circumnavigated the globe in 2 years, 1 month, and 10 days, the shortest period in which it had then been effected. In 1501, he planned another expedition, and fet fail August 26th with three tall thips, and two barks, fuitably equipped. This adventure was attended with various difasters, which disconcerted and defeated his projects; fo that his principal fuccess was the capture of the town of Santos in Brazil. With part of his fquadron, he entered the straits of Magellan in April, 1592; and being forced by the inclemency of the feafon into a of the cold, and want of provitions. Having lott many of his crew, he relinquished his purpose of traverting the South Sea, and proposed to proceed to China by the Cape of Good Hope; but first returning to the coast of Brazil, he suffered many losses by some rash attempts to pillage towns which were prepared to refilt him; and deferted by feveral of his men, and controlled in his fchemes by the mutiny of others, he was prevented from accomplishing his purpose of returning to the strait of Magellan, and failing to the South Sea. Sickness and chaggin at length terminated his life, probably whilft he was at sea in his way to England. " From the relations we have of this navigator, he feems to have possessed great perseverance, with a true enterprising spirit, but not sufficiently under the control of prudence." Biog. Brit.

CAVENDISH, WILLIAM, duke of Newcastle, a distinguished leader of the king's party in the civil wars of Charles I. was the fon of fir Charles Cavendish, younger brother of the first earl of Devonshire. He was born in 1592, and educated by his father, who directed his attention to that polite and folid literature, which in that age was thought a proper accompaniment to high birth and rank. James 1. made him, when very young, a knight of the bath, and when the death of his father devolved upon him a large estate, he was raifed in 1620, to the peerage, by the title of baron Ogle, and vifcount Mansfield. By Charles I., who beacured him with his favour, he was advanced to the higher title of earl of Newcastle-upon-Tyne. His attendance at court involved him in expences beyond his income; but he received some recompence by the honourable trust, commited to him in 1638, of the tutelage of the prince of Wales, afterward Charles II. Some court difgust induced him to relign this honour in 1640. His attachment to the royal

cause, however, was unabated; and on the approach of open hostilities between the crown and parliament, he offered his fervices for fecuring the important post and town of Hull, which were then thought premature. In 1642 he took of the town of Newcattle and the four adjacent counties; and was foon after invefted with a commission, constituting him general of all his majelty's forces raifed north of Trent, with very ample powers. With great exertions and expence supplied by his private fortune, he levied a confiderable army, with which, for fome time, he maintained the fupehe chiefly depended upon the proteffional skill of heutenantgeneral King, a Scots officer of merit; whilst he himfelf indulged in the courtly pleasures and literary fociety to which he was attached. In beltowing commillions he was charged with a blameable profusion; and his appointment of fir W. Davenant, the poet, to the post of lieutenant-On the advance of the Scots army into England, and its junction with those of Fairfax and Manchester, the marquis promoted, threw himfelf into York, which was foon invelted battle of Marstonmoor, fought July 2d, 1644, began withalmost totally destroyed. Mortified by this defeat, and de-fpairing of the royal caufe, he took shipping at Scarborough, fidence, where he fuffered with equanimity and resolution respect by the governing powers of the country and occa-fionally visited by the exiled king. After an absence of 18 he lived for the most part in retirement, profecuting his favourite studies and endeavouring to repair his shattered for-Abbey, where a very sumptuous monument is erected to work is a book of horfemanthip, first put hihed in French at Antworp in 1658, and afterwards in a femewhat different that art, and has been rendered peculiarly valuable by the

CAMENDISH, MARGARER, duchefs of Newcoffle, wife of the preceding, was the daughter of fir Charles Lucas of Effex, and in her time much celebrated for literature. Dittinguishing herfelf, under the care of her mother, by her attachment to fludy, and victing Oxford, where the court refided, in 1643, the was appointed one of the maids of honour to queen Henrietta Maria. She accompanied her majetty to France, and at Paris first faw the marquis of Newcastle, then a widower, who married her in 1645. With him the lived in retirement during his exile; endearing herfelf to him by the charms of her conversation and the productions of her pen. Upon his reinstatement in his fortunes and honours, the principally devoted herfelf to the composition of plays, poems, letters, philosophical discourses, orations, &c. in which she became a very voluminous writer; her works at length amounting to 13 folios, 10 of which are in print. She was more distinguished by her disposition to commit to paper any thoughts that occurred to her, however crude or trivial, than by her taste and judgment. So important in her own estimation were these thoughts, that she kept within call a number of young ladies, who rose at any hour in the night when the fummoned them, in order to pen down her meditations, left the should forget them before morning. She seldom bestowed the trouble of revising on her works, "lest," as fhe faid, "it should disturb her following conceptions." From the mercenary pedants of the age this folly obtained the most extravagant applause; and both at Oxford and Cambridge the poetry and philosophy of the duchess of Newcastle were applauded with boundless adulation. Her writings have long since been configned to oblivion, and scarcely a fragment of them is fought after by the English scholar, except a few lines descriptive of melancholy, quoted in the Connoiffenr, No 69, and praised beyond their defert. The duchefs had derived much greater honour from her strict attention to domestic duties than from her writings. She

died in January, 1673-4. Biog. Brit.
CAVENDISH, WILLIAM, first duke of Devonshire, eminent for his patriotism, was the eldest son of William, third earl of Devonshire. He was born in 1640, educated with great care in elassical literature, and brought into public life as knight of the shire for the county of Derby as soon as he was of age. On various occasions, public and private, he distinguished himself by his spirit and personal valour; and in 1677 commenced that steady opposition to the arbitrary measures of the ministers of Charles II., which caused him to be regarded as one of the most determined friends to the liberties of his country. Intimately connected with the patriotic lord Ruffel, he joined him in all constitutional proceedings for the fecurity of free government and the protellant religion; but as foon as he found a tendency in fome of the oppolition party to the adoption of illegal and dangerous measures, he withdrew from their meetings. Nevertheless he remained attached to lord Russel with an unabated friendship; on his trial he appeared as a witness in his favour; and he even made the generous propofal of promoting his escape when under fentence of death, by changing clothes with him in prison; which lord Ruffel declined accepting. After the execution of that nobleman, lord Cavendish teshisied respect for his memory by marrying his eldest son to the daughter of his friend. In 1684, he succeeded to his father's title; and being regarded as one of the most formidable opponents of king James's arbitrary defigns, attempts were made to intimidate him, but they were ineffectual. Having rashly struck a gentleman who had offended him within the verge of the court, he was fired in the exorbitant fum of 30,000l., and being obliged to give a bond for the payment of it, this was held as a pledge against him. He then retired into the country, and employed himfelf in improving his magnificent house at Chatsworth, where he displayed his taste in architecture and decoration. In this retirement, however, he was not inattentive to public events; and when he observed evident indications of a fet-

tled defign for subverting the religion and liberty of his country, he held conferences at Whittington, a village in his neighbourhood, with lords Danby and Delamere, and others, for the purpose of effecting the revolution. On the landing of the prince of Orange, the earl of Devonshire was one of the first who declared for him. He fecured the town of Derby, and at Nottingham received the princels (afterwards queen) Anne, whom he conducted to her confort at Oxford. He threnuously supported all the measures which led to the transferring of the crown to king William and queen Mary, and officiated as lord-high-fleward at their coronation. In confequence of his zealous attachment to the royal pair, honours and dignities of various kinds were conferred upon him; and, in 1694, he was advanced to the titles of marquis of Hartington and duke of Devonshire. Uncorrupted by these diffinctions, he maintained a parliamentary conduct, that was free and independent; and whilst he firmly supported the throne, he occasionally resisted projects which he thought to be unjust. Under queen Anne he retained all his posts; and was appointed one of the commissioners for treating on the union with Scotland. He died in August, 1707, in the 67th year of his age; and the following infcription was, by his own direction, placed upon his monument:

WILHELMUS DUX DEVON. BONORUM PRINCIPUM FIDELIS SUBDITUS, INIMICUS ET INVISUS TYRANNIS.

William duke of Devonsbire, a faithful subject to good princes, hating and hated by tyrants.

In love and fighting the duke of Devonshire had a strong tincture of the gallantry of the age. His manner was dignified; his spirit bold and free. He was well accomplished in polite arts and tludies; and occasionally amused himself in poetical composition, of which two pieces were published; "An ode on the death of queen Mary," and "An allufion to the bishop of Cambray's supplement to Homer." Biog. Brit. Gen. Biog. CAVERIPATAM, in Geography, a town of Hindoostan,

in the country of Mysore; 90 miles E. of Seringapatam,

and 130 W.S.W. of Madras.

CAVERN. Caverns are, in a great measure, peculiar to mountains; and are feldom or never found in plains. They frequently occur in the Archipelago, and other islands; because islands generally confist of the summits of mountain. Like precipices, they are formed by the finking or mouldering of rocks, or like abysses, by the action of fire. Caverns may be produced by the fame causes which occasion gulfs, apertures, or finkings of the earth; and thefe causes are explofions of volcanoes, the action of fubterraneous vapours, and earthquakes, which create fuch commotions in the is not fo confiderable as it is famous; and the fame observamount Beni-guazeval, in the kingdom of Fez, which throws out fire. In the county of Derby in England there is a very large cavern, which is much more capacious than the celebrated one of Bournan, near the Black Forest of Brunswick. The entrance to this cavern, called the " Devil's hole," is larger than the door of any church; a fmall river runs through it; and after advancing in it fome way, the vault of the cavern finks fo low that in order to proceed farther, it is necessary to lie flat in a boat, and to be pushed through the narrow passage by people employed for the purpose; and after getting through this avenue, the roof, or arch, of the cavern rifes to a great height; and after

after walking a confiderable way on the fide of the river, the arch finks again fo low, as to touch the furface of the water. Here the cavern terminates. The river, which feems to have its fource in this part of the cavern, fwells occasionally, and transports heaps of fand, which, by accumulation, form a kind of blind alley, the direction of which is different from that of the principal cavern. See PEAK, CAS-TLETON, and BUXTON. Other remarkable caverns are · found in the northern ridge of English mountains. In the vale of Kingfdale, on the western extremity of Yorkshire, is Yordas cave, which prefents a subterraneous cascade; this cave is about 50 yards in length. But the most noted is Wethercot cave, not far from Ingleton. It is furrounded with trees and fhrubs, in form refembling a lozenge, divided by an arch of limestone; in passing under which, you behold a large cascade, falling from a height of more than 20 yards; the length of this cave is about 60 yards, and the breadth 30. Among other curiofities of a fimilar kind, we may mention Hurtle-pot, in Yorkshire, which is a round deep cavity, near 40 yards in diameter, almost surrounded with rocks about 30 feet perpendicular above its black waters, while the overbranching trees increase the horrors of the scene. The river Ribble near its origin finks into a deep cavern; and filently pervades the mountains for about three miles. In Carniola, near Potpechio, there is a large cavern, in which is a confiderable lake. Near Adelfperg we meet with a cavern, in which a person may travel two German miles, and which contains several deep and tremendous precipices. The Mendip Hills in Somersetshire present extensive caverns, and very fine grottues, near which are found veins of lead, and fometimes large oak trees, buried 15 fathoms deep. Wookey-hole in these hills, near Wells, is a stalactitic cavern of about 600 feet in length, divided by low passages into various apartments; one of which, called the hall, fomewhat refembles a Gothic chapel, and is faid to be 80 feet high; while the fartheit, denominated the parlour, is of moderate height, but extensive diameter. On the north-west side of the Mendip hills is a more remarkable curiofity, which is a confiderable cavern, at the bottom of a deep ravine, near the little village of Berrington or Burrington. Here are found human bones gradually incorporating with the lime-stone rock; a constant dripping from the roof and fides depositing a stalactitic sediment on the bones. Several nodules contain perfect human feulls. At the further end, where the height is about 15 feet, there is a large conic thalactite, which nearly meets a pillar rifing from the floor. This cave was very lately difcovered; and as the matter increases so rapidly, it is conjectured that it would foon have been closed up. Hence it is probable that these bones are of no remote antiquity, and may, perhaps, be the remains of fome wretches who had taken shelter here from the cruelty of Jesseries, after the infurrection of Monmouth. In the county of Gloucester, about five miles north of Bristol, there is a large cavern called "Pen-park-hole," supposed to have been an ancient mine, at the bottom of which are thirty-two fathoms of water. M. Buffon observes, that the Devil's hole, and other caverns, from which large springs or brooks issue, have been gradually formed by the operation of the water, and that their origin cannot be afcribed to earthquakes or volcanoes. One of the largest and most fingular caverns with which we are acquainted is that of Antiparos, described by Mr. Tournefort. See ANTIPAROS. large cave in a mountain of Livadia, formerly famous for the oracles of Trophonius, is fituated between the lakes of Livadia and the fea, from which, at the nearest part, it is diftant about 4 miles; and it has no lefs than 40 fubterraneous paffages, through which the waters run under the mountains. VOL. VII.

See CAVE and GROTTO. In all countries, which are fubject to carthquakes or volcanoes, caverns are frequent. The thructure of most of the islands of the Archipelago is exceed. ingly cavernous. The islands in the Indian ocean, and particularly the Moluccas, appear to be chiefly supported upon vaults. The land of the Azores, and the Canaries of the Cape de Verd islands, and, in general, of almost all small islands, is, in many places, hollow and full of caverns; because these islands, as we have already remarked, are the tops of mountains which have fuffered great convulfions either from volcanoes, or by the action of the waters, of the frosts, and of other injuries of the weather. In the Cordeliers, where volcanoes and earthquakes are frequent, there are many caverns, precipices, and abyffes. The famous labyrinth in the island of Crete is not the work of nature alone. M. Tournefort affures us, that in many parts it exhibits traces of the operation of men; and it is probable that this is not the only cavern which has been enlarged by art. Mines and quarries are constantly dug, and after these have been long deferted, it is not easy to determine whether such excavations have been the effects of nature or of art. Some quarries are very extensive. That of Maestricht, for instance, is sufficient to shelter 50,000 men, and is supported by more than 1000 pillars, 20 feet high; and the earth and rock above are 25 fathoms thick. The falt-mines of Poland exhibit excavations still more extensive. See SALT.

CAVERNOSA corpora clitoridis, in Anatomy, two small bodies, resembling in structure, on a small scale, the cavernosa corpora of the male penis. See Generation, Organs of.

CAVERNOSA corpora penis, two strong ligamentous tubes, filled with cellular substance, and forming the chief bulk of

the male penis. See GENERATION, organs of.

CAVERNOSUM corpus urethræ, or more properly corpus spongiosum urethræ, a peculiar vascular substance surrounding the greater part of the urethra in the male subject. See Generation, Organs of

ject. See GENERATION, Organs of.

CAVERS, in the Language of Miners, are any poor people that go about the mines in Derbyshire, to beg or iteal ore from the miners. They are punishable in the bergmote

or minery court.

CAVERY, or CAUVERY, in Geography, a river of Hindooftan, which rifes in the Bednore country, paffes by Serringapatam, Trichinopoly, &c. and difeharges itfelf by three branches into the bay of Bengal.

CAVESAS, in Geography, a cluster of small islands in the Spanish main, a little to the east of Cape St. Blas. N. lat.

9° 30' to 9° 40'. W. long. 78° 20' to 78° 40'.

CAVESON, CAVEÇON, or CAVEZON, in Horfemanship, is an instrument of iron or other matter which is applied to the nose of a horse in order to tame him, by pressing hard on his nostrils and squeezing them.

The word is derived from the Spanish Caveça, or Ca-

beça, head.

The cavefons for breaking young horses are usually of iron, made semicircularly, of two or three pieces turning on joints; others are twisted, others are flat, others hollow in the middle, and indented like saws, called mordant; which last are now banished the academies. The rope and leathern cavesons serve for passing the horse between two pillars.

An iron cavefon spares a young horse's mouth in the breaking, since by means hereof he is accultomed to obey the hand, and bend the neck and shoulders, without injuring his mouth. All iron cavesons are mounted with a head-stall and a throat-band, and two straps or reins, with three rings: through the middle ring, one rein is passed to make a horse work round a pillar, and through the two side rings the other two reins are passed, which the rider holds in his X hand,

hand, or fastens to his saddle to keep the horse's head in

This kind of instrument has been employed and confidered from the earliest days of modern horsemanship, even to the prefent time, as the most effectual, and almost the only means of breaking and reducing a horse to suppleness and obedience. Cavefons are variously constructed; but they differ from each other in no effential point, except in being of different degrees of mildness or feverity: and, indeed, it is aftonishing to what an excess of cruelty they were carried in order to answer the latter purpose. Being tied over the nose, made of iron, and armed with sharp teeth, they harrowed and tore the poor animal in a shocking manner. Nevertheless, it was a fort of proverbial boaft among the old horfemen, that a " bloody note" made a " good mouth;" their chief intention being to reftrain and bend the horse by the caveson, and to fave the mouth at the expence of the nofe: at the fame time encumbering the horse with both, without confidering that while they thought of faving the mouth, by not making it acquainted with the bitt, it could never, till it had been properly worked and formed, be true and faithful to the hand; and that in order to be made, it must first be prepared and seasoned: and although a raw and ignorant mouth may be spoiled by a rough and injudicious hand, yet there is no natural mouth, however good, that does not require to be moulded, and wrought upon by the bitt, before it can be brought to fuch a temper and feeling as to act in a close and delicate correfpondence with the hand which is to govern it. Upon this principle and mode of reasoning, it must follow, that if a horse is to be worked only by means of the caveson, and the bitt is to be inactive, or flightly employed, let him be ever fo well dreffed to the cavelon, yet, when he comes to be rode with the bitt alone, as he ought fometimes to be, his mouth, for want of practice, will be aukward and unformed, though years may have been spent to make him otherwise complete. The caveson, therefore, considered in the most important view of it, and allowing it the most extensive merit, should never be used but as preparatory to the bitt, and as an engine to bend and supple the horse. In this latter office, it certainly can boalt a power much superior to that of the bitt, and fuch as must entitle it to the greatest applause, if it were not attended by one humbling circumstance, that, while it bends, it pulls down the head, and puts the horse is certain, that if the fervices of the fnaffle were not known, the cavefon would deferve much praise; and as it is very efficacious in bending and fuppling the horfe, it may at least dispute precedence with the bitt; but the snaffle combines both these advantages. . Berenger's Hist, and Art of Horsemanship, vol. ii. ch. 11. See BITT and SNAFFLE.

CAVETTO, in Architecture, a hollow member or moulding containing a quadrant of a circle. It is frequently used in cornices, see Plate XXI. Architecture. The word is Italian, and is no more than a diminutive of eavur, hollow.

CAUHQ-ROY, in Natural History, a name given by the natives of the East Indies to a fort of fossil which they calcine, and afterwards give in large doses in the hiccough and many other complaints. It is also used in dyeing. The Indians boil it in water, and dye or stain their cloths with it, to make them appear different from others: it is a kind of ochre, or clayey iron ore, and is found in great abundance in the hills, and iron is sometimes extracted from it.

CAVIA, in Zoology, a genus of quadrupeds that appears to form an intermediate link between the murine, and rabbit tribes. The animals of the cavia genus have generally a flow and fometimes leaping pace, and are observed to never

climb. They live like the refl of the glires on vegetable fubilities, and in their natural flate inhabit excavations in old trees, or burrows which they dig in the earth. The fore teeth of the cavia, which are two in number, are cuneated; the grinders eight; toes on the fore feet, from three to five; on the pollerier feet, from four to five; tall either very floort, or none: clavicles, or collar bones, none.

Erxleben, Buffon, Gmelia, and other authors, deferibe the following species of the cavia genus: C. Paca, Acuschy, Aguti, Leporina, Americana, Aperca, Cobaya, Patacho-

nica, or Magellanica, and Capybara.

CAVIA Paca, the fpotted cavy, is tailed; the feet fivetoed; and the fides lineated with yellowith. Erxleben.— Mus Paca, Linn.—Cuniculus Paca, Brill.—Paca, Maregrave.

- Laubba, Bancroft.

This species is near two feet in length: the form thick and clumfy, and bearing fome refemblance to that of a pig, for which reason it has been sometimes called the hog-rabbit. by the natives of that part of South America: the French fettlers in Surinam call it lievre aquatique, or the water hare. The head is round; the muzzle short and black; the upper jaw longer than the lower; and the lip divided like that of the hare: the noilrils are large; the whikers long; the eyes large and prominent, and of a brown colour; the ears short, body very plump, larger behind than before, and covered with coarfe, fhort, thinly feattered hair, of a dufk brown colour, deepest on the back : the throat, breast, insides of the limbo and belly, dingy white; and on each fide of the body are fituated contiguous to each other. The legs are fhort, and the feet have five toes, four of which are armed with ftrong and sharp claws; that on the fifth toe being very small. The tail confifts merely of a fmall conic projection not more than

The fpotted cavy ishabits Guiana, Brafil, Paraguay, and other parts of South America, and appears to be common throughout those countries, with the exception of Paraguay, where, according to M. D'Azara, this animal is very rare. It lives principally in burrows which it forms in the banks of rivers, residing in its hole during almost the whole day, and venturing out in quest of food in the night. The slesh of the paca is of a good slavour, and is held in eftern in South America as an article of food, but is very fat. It is easily domesticated, and in this state readily feeds on almost every kind of vegetables. The semale is faid to produce but one young at a birth. A variety of the paca entirely white has been found peracther river St. Prageis.

CAVIA Acufehy, olive cavy. Tailed, with olive-coloured body. Erxleben and Schreber-Acouely, Buffon. Olive

Carry, Pennan

This species, which is about half the size of a full grown rabbit, inhabits the woods of Guiana. By some writers the acouchy is considered as a variety of the aguti, from which it differs in being somewhat smaller, rather thinner, and entirely of an olive colour, paler, or more inclining to whitish beneath: the tail also is rather longer than in the aguti. Both animals are natives of the same parts of South America, and their manners are similar, except that, according to M.'de Borde, it does not attempt the water like the aguti. M. de Borde observes that the acouchy produces but one young at a birth. Its voice resembles that of Cavia cobays, or guinca-pig. This kind is easily tamed, and the sleth is eatable. See Akousehy.

Cavia Azuti, long-nofed cavy. Tailed; body tawny brown; belly yellowith; Erxleben and Schreber.—Man

Agut

Azuti, Linn .- Caniculus agouti, Briff .- Agouti, Buffon .-

Long-nofed Cavy, Pennant.

The agouti is an inhabitant of South America, and the West Indies. It is the fize of a rabbit; the body plump, and thicker behind than before; the head rather fmall and fomewhat compreffed laterally; fnout long and rather sharp; nofe divided at the tip, and the upper jaw longer than the lower; ears short, broad, naked, and rounded; neck rather long, but thick; legs thin, almost naked and blackish; the hind legs longer than the anterior ones, and furnished with only three toes; tail externely fhort, naked, and fometimes fearcely visible; the whole of the animal covered with hard, flrong, and flining hair, in general of a rufous brown colour with blackiff freekles; rump orange-coloured.

Buffon observes that the agouti has the hair, grunting, and voracious appetite of the hog; and when fully fatiated hides the remainder of its food, like the fox, in different places. It takes delight in gnawing and fpoiling whatever it comes near. When irritated, it bites fiercely; its hair flands creet along the back, and it strikes the ground violently with its hind feet. It does not, he remarks, dig boles like the rabbit, but lives in the hollows of trees. Roots, potatoes, yams, and fruits are its principal food. It uses its fore paws, like the fquirrel, in carrying food to its mouth; runs fwiftly up hill, or on even ground, but its fore-paws being fhorter than its hinder ones, it is in danger of falling upon a declivity. The flesh of the aguti being nearly as good as that of the rabbit, and the fkin of fuch a durable quanty, as to form an excellent upper leather for shoes, the hunting of these animals is an object of attention among the Indians and negroes. They commonly go in fearch of them with dogs, or take them in traps; the natives know also how to allure them by whillling or imitating their cries, and kill as many as they pleafe. When they go among the fugar-canes they are eafily taken, for finking at every flep in the straw and leaves which cover the ground, a man may eafily overtake and kill them with a flick. When in the open country, it runs with great fwiftness before the dogs; and having gained his retreat nothing can force him to come out but smoke; for which purpose the hunters burn faggots and firaw before the mouth of the hole, but the animal feldom quits the place of his concealment till the last extremity. The young agouti is eafily tamed. When in a wild flate they generally dwell in the woods, where the female chooses the molt obscure parts, and there prepares a bed of leaves and grafs for her young. She usually brings forth two or three at a time, and in a day or two afterwards. the carries them in her mouth like a cat, into the hollow of fome tree, where the fuckles them for a thort space of time, for they are foon in a condition to run about and provide for themselves. They multiply as fast as rabbits, producing three, four, and fometimes five young ones, during every feafon of the year. When in a domestic state they never remore to any great distance, and always return to the house; but constantly retain somewhat of their wild disposition. In general they remain in their holes during the night, unlefs the moon thines bright, but run about most part of the day. See Aguti.

CAVIA leporina, 3 of Gmelin, a supposed variety of the aguti, is deferibed by Erxleben as having a tail, and the body of a rufous colour above, beneath white .- Mus leporinus, ecuda abbreviata, palmis tetradacigiis aldomine albo. Linn. Catefly. — Javan cavy, Pennant.

This differs from the aguti chiefly in being of a reddiff.

colour above, with the break and belly white; the legs are long; the pofterior part large, and the tail very short. It

is the fixe of a hare, and is a native of Surinam and other parts of South America. Dr. Shaw observes that this is altogether an American animal, and notwithstanding its common title of the Java hare, is not found either in that island, or in Sumatra as erroneously supposed by some. See AGUTI.

CAVIA Americana, y of Ginelin.—Cuniculus Americanus, Seba.—Cuniculus, &c. Briffon. A variety of the aguti very closely allied to the preceding, and perhaps not dillinct from it. Marcgrave, and other authors after him, fpeak of the aguti having fix toes on each of the pollerior feet inflead of three. A variety is also spoken of with a yellowish belly, with four toes on each of the anterior feet, and three on those behind. See Aguri.

CAVIA Aperea, rock cavy. Taillefs; body above tawny ash, coloured beneath, white .- Cavia Aperea, Erxleben .-Cuniculus Brafilienfis, Aperca dictus, Marcgrave. - Rock cavy,

This animal is a native of Brasil. The length is one foot; its circumference, feven inches. The general colour is the fame with that of our hares, and its belly is white; its upper lip is divided in the fame manner, and it has the fame large cutting teeth, and whilkers round the mouth, and on the fides of the eyes, but its ears are rounded like those of the rat, and fo fhort as not to exceed a finger's breadth in height; the fore legs are about three inches in length, and the hind legs a little longer; on the fore feet are four toes covered with a black fkin, and armed with fmall fhort claws; the hind feet have only three toes, the middle one of which is longest; the head is somewhat longer than that of a hare, and its flesh like that of the rabbit, which animal it refembles in its manners of living. This kind retires into holes and clefts in the rocks, whence its name of rock cavy. A variety of this species is described of a black colour spotted with tawny: other varietics differing only in colour are likewife mentioned by authors.

CAVIA Patachonica. Tail short and naked: nose with tufts of curly hair; bedy ferruginous-grey above; beneath, and patch on each thigh, white; rump black .- Cavia Patachonica, Shaw Zool .- Cavia Magellanica, Turt. Gmel. Syft. Patagonian cavy, Penn .- Hare, Narborough's Voy. to

Magell. p. 33.
Sir John Narborough appears to have been the first discoverer of this species. He calls it a hare, and informs us it inhabits Patagonia, where it is by no means fearce. In fize this curious animal exceeds the common hare; Mr. Pennant relates in his Hift. Quad. that it has been known to weigh more than twenty-fix pounds. Its colour above refembles that of a hare; the under parts whitish; breast and sides tinged with ferruginous; on each thigh is a large oval white patch, and the rump or region round the tail is black: the ears are long, rather broad, and sharp-pointed. On each fide of the nole is a tuft of fhort foft hair, exclusive of the vibriffæ, or whifkers. The legs are long; the claws long, ftraight, sharp, and of a black colour; they are four in number on the fore feet, and three on the posterior ones. Tail as in the aguti, a naked stump. The sless white and delicate, and is confidered as an excellent food. This curious species of cavy is described from a fine specimen in the late Leverian Museum.

CAVIA Cohaya, Guinea cavy. Variegated cavy. Guinea pig. Taillefs, variegated with white, rufous, and black, Schreber .- Mus Porcellus, canda nulla, palmis tetradaciylis, plantis tridactylis, Lann .- Cuniculus indicus, Nieremb. Briff. &c .- Cavia cobaya, Marcgr. braf .- Cockon d'Inde, Buff .-Guinea pig, Edwards .- Reflless carry, Penn.

Though a native of South America, the Guinea cavy lives and breeds in temperate, and even in cold countries.

provided it be taken care of, and sheltered from the inclemency of the weather. This animal is frequently reared in Europe, and though very prolific, the attention they require is but poorly rewarded by the prosits derived from them. The skin is of little or no value, and their slesh, which is indeed eaten by some people, is notwithstanding very indifferent. Busson conceives this objection might be removed by rearing them in warrens, where they might have air, space to range in, and an agreeable choice of herbs. Those kept in houses have the same kind of bad taste with the house rabbit, while the slesh of those kept in gardens during summer is less disagreeable though still inspid. They willingly seed on a great variety of vegetable substances, and may be successfully reared on parsley, cabbage, and sow-thistles. In winter they may be fed with bread, carrots, and

various kinds of grain. The guinea pig is an animal of very warm disposition, being in heat to early as five or fix weeks old; their growth, however, is not completed before the end of eight or nine months. The females go with young three weeks, and they have been known to bring forth at the age of two months. The first litter confists only of four or five, the fecond of five or fix, and afterwards they will fometimes have eleven or twelve. The female does not fuckle her young more than twelve days, and when the male returns to her, which he never fails to do three weeks after the has littered, the drives them from her, and if they perfift in following the often kills them. Thus thefe animals bring forth at least every two months, and as their young produce in the fame period their multiplication is aftonishing. In one year, fays Buffon, a thousand might be produced from a fingle couple, but their consequent increase is checked by various means of destruction. They have no distinct fentiment but that of love, and when disputing for a particular female, they will shew themselves susceptible of anger, fight bitterly, and are fometimes killed in the contest before they will yield. In their quarrels they not only bite, but kick each other like horses with their hind feet. their lives in eating, sleeping, and love: their sleep is short but frequent, they eat every hour, night and day, and indulge in their amours almost as often as they eat. It has been obferved that the male and female feldom fleep at the same time; but feem alternately to watch each other, one fleeping while the other is feeding. They subfist on all kinds of herbs, especially parsley, which they prefer to either grain or bread; and they are also fond of apples and other kinds of fruit. Like the rabbit they eat little at a time, but precipitately and very often. They grunt like a pig; make a chirping noise when pleased with their females, and have a fharp loud cry when hurt, or irritated. They are very delicate in their constitution, and so chilly that it is difficult to preferve them through the winter, the place where they are kept during that season must be therefore warm and dry. When they feel cold, they affemble and press cluse together, and in this fituation are fometimes found dead. They are naturally of a mild disposition, and in their manners are remarkably neat: they are frequently observed in the act of fmoothing and drefling their fur in the same manner as 2 cat. This little animal is very eafily rendered tame, but is feldom observed to shew any very lively attachment to its benefactors; neither is it diftinguished by any remarkable degree of docility.

Cavia Capybara, river cavy. Tailless; anterior feet three-toed and palmated, Schreber.—Sus Hydrocharis, Linn. —Hydrocherus, Brist.—Cavia capybara, Pallas.—Cabiai, Buston.—Thick-nofed tapir, Penn.

The capybara inhabits the castern parts of South Ame-

rica, but is faid to be more common in Brasil than in any other regions. This animal grows to the length of two feet and a half, and weights sometimes one hundred pounds. It feeds not only on various vegetables, and particularly on sugar canes, but also on fish, in which particular it differs from most animals of the Glires tribe. The habits of the capybera are adapted to its mode of life; it frequents sensy woods near large rivers, swimming with the same facility as the otter, and, like that animal. dragging its prey out of the water and eating it on the bank. Its excursions in quest of prey are made principally during the night.

In general, the capybara is confidered as an animal of a gentle disposition, and is readily tamed and made familiar. The female produces but one young at a birth. These animals are said to go in pairs, and are naturally thy and timid. Their voice resembles the braying of an ass. The capybara runs but indifferently, on account of the length of the feet, and therefore commonly makes its escape by plunging into the water and swimming to a great dislance. Buffon supposes from the number of its teats this to be a prolific animal; but this is contradicted, and it is afferted to produce but one at a birth. The siesh has a rank and fishy taste, which renders it but an indifferent article of food.

The capy bara has a large head, and a thick divided nofe, with strong and large whisters on each side; the ears are small and rounded; the eyes large and black; the upper jaw longer than the lower; in each jaw are two very large and strong cutting teeth; and the grinders, which are eight in each jaw, are divided into three slat surfaces on the upper part; the neck is very fiort; the body short and thick, and covered with coasse brown hair; the legs short; feet long, the foremost divided into four toes, connected to each other by means of a small web at the base, and tipped with thick claws or rather hoofs at the extremities; the hind feet are formed in a similar manner, but are divided only into three toes. This animal sometimes, while feeding, sits up, in the manner of a squirrel, holding its sood between its paws. It is faid to commit considerable devastion in gardens during the night time, especially among the esculent vegetables.

CAVIN Hudfenis of Klein, is the quadruped called HYSTRIX dorfata, by Gmelin, Schreber, and other late authors.

CAVIN Capenfis of the twelfth edition of the Linnzan

Syst. Nat. and of Pallas, is HYRAX capenfix of Gmelin, and Schreber.

CAVIANA, in Geography, an ifland of the North Atlantic Ocean, under the equinoctial line, formed by the two mouths of the river Amazons, which furround it. W. long. 50° 30'.

CAVIANO, a town of Naples, in the province of Lavora; 7 miles N. of Naples.

CAVIDOS, or CABIDOS, in Commerce, a Portuguese long measure, used in the mensuration of cloth, linen, and the like, equivalent to two feet eleven lines, Paris measure.

CAVIL, caviliatio, is defined by fome a fallacious kind of reason, carrying some resemblance of truth, which a perfon, knowing its salfehood, advances in dispute for the sake of victory.

The art of framing fophisms or fallacies is called by Boethius, cavillatoria.

CAVILLARGUES, in Geography, a town of France, in the department of the Gard, and diffrict of Uzes; 8 miles N.E. of Uzes.

CAVIN, in Military Language, a hollow place or foot of ground fit for covering a body of troops or favouring the approaches to a place. Cavins near a place belieged are of great

advantag

advantage to the beliegers, as by means of them they can open the trenches nearer to it, confiruct places of arms, and station parties of cavalry for the protection of the workmen under cover from the fire of the place. A commandant or governor of a place, who attends to his duty and understands it properly, will know how to turn cavins to the disadvantage of the enemy, from the moment he perceives that the place he commands is menaced or in danger of being attacked.

CAVING. See CAVAZION.

CAVINGS, in Agriculture, a term provincially applied to the rakings or coarse materials, as short straws, ears of grain, &c. collected from the corn in chast, while thrashing. CAVING CHAFF, the coarse chastly straw or other similar

material raked off from the grain after the operation of thrashing.

CAVING RAKE, the tool or implement employed in the above operation, and which is a fort of barn floor rake with

a short head and teeth of considerable length.

CAVITA, in Geography, a port town of the island of Luçon, or Luconia, 3 leagues S. W. from Manilla, the capital of the ifland. It was formerly a very confiderable place; but as the great towns in the Philippine islands, as well as in Europe, exhauft the small ones, there now remain "in this place only the commandant of the arfenal, a contador or accountant, two port lieutenants, the commandant of the town, 150 foldiers in garrifon, and the officers belonging to that corps. All the other inhabitants are metis (a species of mulattoes, half black, or the immediate offspring of a white man with a black woman), belonging to the arfenals, and form, together with their families, which are generally very numerous, a population of about 4000 inhabitants divided between the town and the suburb of St. Roch. There are two parishes, and three monasteries for men, each occupied by two ecclefiaftics, though 30 might eafily be accommodated. The Jesuits had formerly a very fine house, of which the trading company, established by the government, has obtained possession. In general, nothing is now seen here but ruins: the ancient edifices of flone are deferted, or occupied by Indians, who never repair them; and Cavita, the fecond town in the Philippine illands and capital of a province of the fame name, is now only a paltry village, uninhabited by Spaniards, except the military officers, and those of the civil administration. In the port belonging to this town, the commander has established an order and difcipline which give it great reputation. La Perouse's Voyage, vol. i. p. 269, &c.

CAVITY, in Anatomy, is a term applied to feveral hollow spaces, lined by membranes and containing the different viscera of the body. As the extent of these cavities is bounded and defined by the membranes, which line them, and they have no external communication, they are frequently called the circumscribed cavities of the body. These spaces are in every instance completely and accurately filled by the contained viscera; which generally have their surface covered by a ressection of the mem-

brane which lines the cavity.

The furface of the vicera is in contact with that of the dather of the grant of the coming actually adherent, by the fecretion of a fluid from the exhalent arteries, by which the opposed furfaces are constantly preserved in a moist state. Hence it will be seen that the anatomical term cavity, in the sense which we have now mentioned, does not denote any void or empty space, and that it differs in that respect from the common acceptation of the term. The following cavities of this kind are found in the body: Cavity of the Abdomen; Pelvis; Pericardium; Thorax;

and Tunica vaginalis tellis; for a particular description of which the reader is referred to those articles—The various joints of the body present examples of similar cavities; they are lined, and circumscribed by the capsular ligaments.

The word cavity is also frequently employed in ofteology; where it is not only applied to larger and more circumscribed spaces, as cavity of the cranium, cavity of the orbit, but also to the comparatively superficial impressions which contribute to the formation of joints, and which are denominated articular cavities of the bones. The same term is applied to the space included in any hollow part of the body; thus we have cavities of the heart, of the arteries and veins, of the stomach, intestines, &c. &c.

CAUK, or CAWK, formed probably of the German kaalq, fpax, is used by miners in the Peak, to denote a coarie fort of fpar; being a vitriolated ponderous earth, or marmor metallicum, generally found near lead mines, which will draw a white line like chalk, or the galactites. Phil. 'Tranf. N° 110, p. 226. Hid. N° 39, p. 770. It is unfoluble in acids, and fusible by fire. See EARTH, ponderous.

It is properly no other than a sparry matter, rendered very coarse, by being mixed with a large portion of earth. In some places it is sound more clear and transparent than in others: it approaches in this state to the nature of crystal, and is called bastard cauk, and bright cauk. Philos. Trans.

Nº 407

There is a fingular process mentioned by Dr. Lister, which is that of vitrifying antimony by its means. This is done with great readine's and speed by it, and the glass. thus made, will produce fore effect on other metals, which no other glass will, nor indeed any other preparation of antimony. The method of preparing it is this; take a pound of antimony, flux it clear; have in readiness an ounce or two of cauk in a lamp red hot; put it into the crucible to the melted antimony, and continue it in fulion: then cast it into a clean mortar not greafed, decanting the clear liquor from the lump of cauk. This process gives more than fifteen ounces of glass of antimony, like polithed steel, and bright as the most refined quicksilver. The cauk, in the mean time, is found to be diminished, not increased in its weight, and will. never flux with the antimony, though ever fo flrong fire be given it. This is a very odd mineral, and this learned author supposes it to be allied to those white, milky, and mineral juices which are found in mines. The effect of both is evidently the fame; for the milky juice of lead mines vitrifies the whole body of antimony, in the same manner that the cauk does in this experiment. Phil. Trans. No 110.

That there is fomewhat very peculiar in the cauk is plain from this effect on antimony, which no other thing of this kind is possessed of; for lapis calaminaris, sulphur vivum, galactites, mundicta, alum ore, spar, and many other things, have been tried with antimony in the same manner, but not

one of them has this effect.

CAUKING, in Architecture, fignifies dove-tailing down. See Dove-tailing.

CAUKING time, in Falcoury, a hawk's treading time. CAUKING, or CALKING a ship. See CAULKING.

CAUL, in Anatomy, is the part generally described under the term OMENTUM. See PERITONEUM.

CAUL, or CAULE, among Mineralists, a reddish pinkcoloured stone, found in the strata of the tin-mines. See Tin-CAULCI, in Ancient Geography, a people of Germany

placed by Straho towards the ocean.

CAULEDON, from xaulos, a flem, in Surgery, is applied to fractures which happen transversely, wherein the parts of

the

the broken bone flart afunder, so as not to lie directly against each other.

CAULESCENT, in Botany, a term applied to fuch

plants as have a ftcm.

CAULIAC, Gui DF, or Guido de Cauliaco, in Biography, a celebrated reflorer of the art of furpart of the fourteenth century. He fludied medicine at Montpellier under Raimond de Molicres, and made fuch progress that he was early appointed teacher in furgery in year 1348, at which time a dreadful pestilence broke out. which vilited every part of the then known world, and deants. Under this prince, whose confidence he gained by tation for his abilities, that he was retained in his office of chief physician to the court, under Innocest the Sixth, and Urban the Fifth. It was during the pontificate of Urban, in Chirurgiam," which gained him fuch reputation, that Fallopius does not hesitate to compare him to Hippocrates. Cauliae not only restored the furgery that had been taught from his own flock. He first, Douglas fays, taught that indirection of the fibres of the mufcles. He also described more accurately than had been done before, the lower end of the humerus, and the joint of the elbow. He revived the use of the trepan, and invented several instruments, of which he gave the figures; among them, a pair of forceps, to take up wounded arteries. His work may be confidered, Haller fays, as an abridgment of all that had been done on the subject of surgery before his time; it also contains the names and the practice of feveral writers on the art, whose works have perished, and who are not noticed by any other writer. His work, originally written in the Latin language, has been printed many times, and translated into all the modern languages. The first impression of it appeared at Ve nice, in the year 1490, in folio; an English translation of it was published in 1541. fol. A copy of this edition was in Laurence Joubert published a translation of it into the French in the year 1585. 4to. Haller Bib. Chirug. Eloy. Dict. Hist.

CAULIAS, an appellation given to the juice drawn from the stalk of the filphium, contradillinguished from that drawn from the root of the same plant, which is called rhizias.

Schröder makes the caulias the same with our affafectida. CAULICI, in Ancient Geography, the name of a nation which inhabited the coast of the Ionian sea. Steph. By z.

CAULICOLES, CAULICULI, in Architeture, denotes those eight lesser branches, or stalks, in the Corinthian capital, which spring out from the sour greater principal caules, or stalks.

The word comes from the Latin caulis, the flalk, or ftem of

a plant

The volutes of this order are fullained by four caules, or primary branches of leaves; from which arife these caulicoles or lesser foliages.

Some authors confound the caulicoles with the volutes

themselves; fome with the helices in the middle, and some with the principal stalks whence they arise.

CAULIFEROUS HERBS, are fuch as have a true caulist flalk, or trunk, which a great many have not; as the capillaries, &c.

The former are either perfectly cauliferous, as cabbage; or imperfectly, as mostles.

CAULIFLOWER, in Betany. See Brassica Olera-

CLA

CAULIFLOWER, in Gardening, an effected plant belonging to the genus Bra field. It is faid to have been first brought to this country from the island of Cyprus. By cultivation, this since vegetable has lately been much improved in fize, as well as in its other properties, and become common at our tables during the greatest part of the summer months, and even in the beginning of the autumn. See Brassica.

CAULINE, in Betany, a term applied to the leaves, &c. of plants when they proceed from the flem, in contradition to those which proceed from the root or branches.

CAULINIA, (in honour of Filippo Cavolini, a Neapolitan gentleman, aithor of feveral works on bottan and a vology,) a genus feparated from Najas by Willdenow, and deferibed by him in a differtation published in the memour of the Royal Academy of Berlin, 1821, and republished in the Annals of Botuny, vol. 2. Clafs and order, monacia menundria. Nat. Ord. Tunnlates, Linn. Naiades. Juff.

Gen. Ch. Mile. Cal. rone. Cor. none. Stan. filament none: anther obiong, dehiftent at the tip. Female. Cal. none. Cor. none. Pipl. germ egg-shaped: thyle fillform, caducous; sligma bifid. Periz. capfule oblong, one-feeded.

Seed oblong, egg-fhaped

Sp. 1. C. fragilis. Willd. Ann. Bot. vol. ii. tab. 1. fig. 2. (Naiss y. Lien. Sp. Pl. N. Minor. Allion, Pedem. 2 to6. Schkuhr Bot. Hand. 3 tib. 276. Pluvialis minor. Micheli gen. tab. 8. fig. 3.) "Leaves ternate or opposite, linear awl-shaped, recurved, prickly-toothed, rigid." Roots filliform, quite simple, very long and perpendicular. Stem from one to seven inches long, branched from the base, dislussly ascending; branches dichotomous, smooth, compressed branches winch long or more, acute, proceeding from a roundish membranous sheath; teeth alternate, micronate. Plateers awillary; sligmas one, two or three. The whole plant is very brittle; so much so that when fresh, the stalk and leaves will break to pices if touched by the hand. A native of lakes and rivers in Italy, France, and Germany. 2. C. indica. Wild. Ann. Bot. tab. 2. "Leaves ternate or opposite, linear, awl-shaped, repand; younger ones brilly-toothed." Stem a foot and half or two feet long, swimming, round, shiftorm, dichotomously branched. Leaves spreading, straight. Floreers axillary, seffile: germ oblong; style sliftform: sligmas twe, simple. It differs from the preceding species in being large, st. when young, they have sharp, brilleshaped teeth, which afterwards drop off, whence the full grown leaves become simple at the border. A native of Trenquenar. 3 C. slexisis. Will. Ann. Bot. tab. 1. fig. 1. "Leaves in fixes. Precar, toothed at the tip, spreading." Stem a foot long, somewhat dichoromous, branched, fillform; ound. Leaves: wherls, sheating quite entire towards the bottom. Floreers axillary, selfile; germ oblong; style shistom; stigmas two, simple. A native of Pentsylvania. The whole plant in all the species is constantly immersed in water.

CAULIS

CAULIS, in Botany, xxulos, Gr. as defined by Theophraitus, is that part of a plant which rifes above the ground in a fingle flock, and is common to annuals and perennials, though, as the venerable botanist observes, in trees it has a peliar name, and is called salexon or trunk, in the common English sense of the word. The Latin writers seem to confine the term to the stem of herbaceous plants. According to Linnæus, in his Philosophia Botanica, it is a species of trunk in its most extensive fignification; denoting, in the language of the great Swedish botanist, the organ which multiplies the plant, or, in plainer language, that part in every plant which rifes above the ground, and supports the parts of fructification, either with or without branches and leaves. See TRUNK.

The caulis or ftem, in the Linuxan fense of the word, is the most common kind of trunk, that which supports some of the leaves, as well as the fructification; but Willdenow, in his Principles of Botany, confines the term to herbaceous plants, and confiders the trunk as peculiar to trees and

Stems are diffinguished from each other as they are,

1. Simple, or proceed in a fingle unbroken form nearly to the fummit of the plant. In this point of view they are either quite entire, i. e. without branches; or nearly fo, i. e. furnished with only a comparatively few branches, and those fo small as not to deltroy the integrity of the slem. 2. Compound; fo subdivided as nearly to lose the appearance of a stem. 3. Dichotomous; always divided into pairs as in viscum album, misletoe, valeriana locusta, corn sallad, &c. 3. Flexuofe, or bending in a zigzag manner, so as to form a number of alternate curves or very obtuse angles. 4. Climbing. (scandens;) too weak to support itself, and therefore feeking support from other bodies. 5. Twining, (volubilis;) afcending in a spiral direction round the stem or branches of another plant, or any kind of foreign prop. In fome plants, as in humulus, helxine, lonicera, and tamus, the direction is from left to right, i.e. according to the course of the fun as seen by a spectator in our hemisphere with his face to the fouth: in others, as convolvulus, phaseolus, &c. from right to left, or oppolite to the course of the sun. 6. Ered; nearly perpendicular. 7. Nodding; with the upper part bent outwards towards the horizon. 8. Incurved; with the upperpart bent inwards. 9. Declining; bent downwards fo as to form an arch. 10. Ascending; growing first in an horizontal direction, and afterwards curving upwards. 11. Procumbent; feeble and refting on the ground. 12. Decumbent; upright near the root, but afterwards bent down, so that the greatest part of it is procumbent. 13. Greeping, (repens); running along the ground, and here and there throwing out roots. 14. Sarmentous; filiform, almost naked; or having leaves in bunches only at joints or knot- where it strikes root. 15. Rooting, (radicans); throwing out lateral radicles, by which it attaches it felf to other plants for fullenance or support; as in cuscuta, and hedera helix. 16. Parafitical; growing entirely on other plants; as viscum, epidendrum, tillandria. 17. Articulated; having joints at certain distances. 18. Knotty, (nodofus); fwollen at the joints. 19. Geniculated; knee-jointed, bending at the joints fomewhat in the manner of the human knee. 20. Round, (teres); cylindrical, without angles. 21. Half round, (semiteres); round on one side, and slat on the other. 22. Compressed; having two opposite slat sides. 23. Ancipital; two-ecged, compressed with tharp edges. 24. Angular ; having more than two angles separated by angular or curved hollow spaces. 25. Triquetrous, &c. three-fided, &c. having the spaces between the angles perfectly flat. 26. Trigonous, &c. having the spaces between the angles convex. Linnaus is by no means clear in his definitions of the last three terms, and is differently understood by different authors. We have

endeavoured to confiruct ours fo as to convey diffinct and precite ideas: premiting however, that an attention to the etymology of the words is more likely to confound than to enlighten; but for this we are not answerable. 27. Winged, (alatus); with a membranous dilatation on each fide. 28. Furrowed, (fulcatus); fluted or grooved, marked with deep, broad, longitudinal channels. 29. Striated or freaked; fcored with shallow, slender, longitudinal lines. 30. Even, (lavis); with a level furface, i. e. not furrowed or striated. 31. Rugged or feabreus; rough with tubercles, or prominent stiffish points. 32. Muricated; armed with sharp awl-shaped points. 33. Smooth, (glaber); with a polithed furface, free from every kind of roughness. 34. Tomentous; covered with foft hairs fo interwoven as to be scarcely discernible. 34. Villous; covered with fost close hairs, forming a fine nap or pile like velvet. 35. Hifpid; befet with fliff briffles. 36. Sheathed, (vaginatus); furrounded with the lower part of the leaves. 37. Perfeliate; passing through the leaves, as in bupleurum rotundifolium, expressly called in English thorough-wax..

CAULKING, CAUKING, or CALKING, in Ship Building, the operation of driving a quantity of oakum, or old ropes untwifted and drawn afunder, into the feams of the planks, or into the intervals where the planks are joined to each other in the fides or decks of the ship, in order to prevent the entrance of water. After the oakum is driven very hard into these seams, it is covered with hot melted pitch or refin, to keep the water from rotting it. The first among the ancients, who made use of pitch in caulking, were the inhabitants of Phenicia, afterwards called Corfica. Wax and refin appear to have been commonly used previous to that period; and the Poles, at this time, use a fort of unctuous clay for the same purpose. Kennet derives the word

from the barbarous Latin calciatura, skocing.

CAULKING Irons, are iron chiffels for driving the oakum into the feams. Some of thefe irons are broad, some round, and others grooved.

CAULNE, in Geography, a town of France, in the department of the North Coalls, and district of Dinas; 35

leagues S.W. of Dinas.

CAULON, CAULONIA, OF VALLONIA, in Ancient Geography, a fmall town of Italy, fituate on the east coast of Brutium, N. of Locri, and S.W. of the promontory Cocintum. It was founded by a colony of Achæans, and for a time made a part of the territory of the Locrians Epizophyxians. This city was demolished, and its inhabitants transported into Sicily by Dionysius the tyrant about 400 years B. C. Ovid and Virgil mention it; but it did not fublist in the time of Ptolemy.

CAUM, a place of Spain, marked, in the Itinerary of

Autonine, between Ofca and Mendiculeia.

CAUMANA, one of the branches of the river Indus,

near its mouth, according to Arrian.

CAUMONT, in Geography, a town of France, in the department of the Calvados, and chief place of a canton, in the diffrict of Bayeux; 4 leagues S.S.W. of Bayeux. The territory includes 170 kiliometres and 20 communes.

CAUNE, LA, a town of France, and principal place of a diffrict in the department of the Tarn; 7 leagues E.N.E. of Caltres. The place contains 2458, and the canton 7351 inhabitants: the territory comprehends 285 kiliometres and

CAUNES, LES, a town of France, in the department of Aude, and diffrict of Carcaffonne; 7 leagues W.N.W. Narbonne, and 3½ N.E. of Carcaffonne. CAUNENUS, in Ancient Geography, a fee of Afia Mi-

nor, in Lycia.

CAUNGA, in Botany, Rheed. Mal. See ARECA Catechu.

CAUNGLASS-POINT, in Geography, a cape on the fouthern coast of Dingle bay, county of Kerry, Ireland. N. lat. 51° 58'. W. long. 10° 8'.

CAUNI, in Ancient Geography, a people of Mauritania,

according to Ptolemy

CAUNSRA-HEAD, in Geography, a cape of the county of Kerry, Ireland. N. lat. 52° 8' 30". W. long.

CAUNUS, (Sphinx) in Entomology, a variety of the Fa-

CAUNUS, in Ancient Geography, Moncaio, a mountain of Spain, placed by Livy in Celtiberia .- Alfo, a town in the island of Crete. Steph. Byz .- Alfo, a town of Æolia .-Alfo, a town of Alia Minor, in Ionia.-Alfo, a town of Caria, on the fouthern fide of the Doride, called " Rhodiorum" or of the Rhodians. It was fituated at the foot of mount Tarbelus, W. of the fmall gulf of Glaucus. The air was proverbially infalubrious in fummer and autumn, on account of the extreme heat, and the evil was increased by the abundance of its fruits. Steph. Byz. fays, that this city took its name from Caunus, known in fabulous hiftory for his inceftuous love of his fifter Bilbilis; whence the proverb denoting this fort of attachment, viz. & Kauno; igo;, This city was the native place of the cele-Caunius Amor. brated painter Protegenes. The citadel, according to Strabo, was above the town, and called "Imbros." It has been conjectured that the ancient Caunus has been occupied by the town now called Kaignez.

CAUPHIACA, a town of Persia, in the interior of the

country, according to Ptolemy

CAURALE, Buffon, and CAURALE Snipe, of Latham, in Ornithology. See ARDEA HELIAS of Pallas and Gmelin. CAURANANI, in Ancient Geography, a people of Arabia Felix, whose name denotes their wealth in cattle, according to Pliny.

CAURASIÆ, a people of Spain, in Bœtica.

C. AUREUM, in Entomology, a species of Papilio, the wings of which are indented, tailed, fulvous with black spots; posterior pair marked beneath with a golden C. Fabricius. This infect inhabits Asia.

CAURIENSES, in Ancient Geography, a people of Spain in Lufitania, according to Pliny, who ishabited the town called by Ptolemy Caurium; which M. d'Anville places in the country of the Vettones, N.E. of Norba Cæfarea.

CAURIS, in Conchology, a name by which certain authors formerly diftinguished shells of the CYPREA genus. The word cauris is of Indian origin, being the name by which the small money-couries are known among the natives of the West Indian islands. It is from a false pronunciation of the word cauris, that these shells are now called couries or gozuries. See CYPREA.

CAURO, in Geography. a town of the island of Corsica,

or the department of Golo; 9 miles E.S.E. of Ajazzo. CAURROY, FRANCIS EUSTACHE DU, in Biography, an eminent French mufician, was born in 1540; and became mafter of the chapel to the kings Chailes IX. Henry III. and IV., and also canon of the holy chapel in Paris, and prior of St. Aioul. By his contemporaries he was named the prince of muficians; and he was much beloved by cardinal du Perron, who frequently wrote verses for him to set to mutic, and composed a pompous epitaph for his tomb. He died in 1609, and was buried in the church des Grands Augustins at Paris. Of his works, which feem never to

have been known out of France, there remain a " Mals for the Dead," for four voices, which used to be sung annually in the cathedral of Paris, on the commemoration of the faithful deceafed; and a book called "Melanges de la Mutique de Eustache du Caurroy," Paris, 1010. This last in France. The merits of this compofer will appear to a modern musical critic to have been much over-rated. Bur-

CAURSINES, Caurfini, in English History, denote Italian bankers or money-changers, who flocked into England, France, and the Netherlands, about the year 1235. calling themselves the pope's merchants, but, by departing from the proper bufiness of merchants, and becoming agents for the pope in his usurious transactions, they rendered themfelves as odious as the Jews. According to Matthew Paris. a contemporary hiltorian, they fometimes exacted no lefs a very severe prosecution. They were several times banished the kingdom for their extortions, and re-admitted by the interest and intrigues of the popes. Mat. Paris. Hist. Ang. p. 403. Du-Cange.

They are also called caorcini, coarcini, catarcini, cawarcini, and corfini. Some will have the name formed from Caorfi, Cahors, a city of France, where they flourished more than ordinarily. Others derive it from the Gorsini, a family of

wealthy merchants at Florence.

CAUS, in Ancient Geography, a village of Peloponnefus, in Arcadia, and in the country of Telephusia. According to Steph. Byz. and Paulanias, Æsculapius was worshipped

here under the appellation of "Caufian."

CAUSA Matrimonii pralocuti, in Lago, a writ that lies when a woman gives land to a man in fee, or for life, to the intent he shall marry her, and he refuses to do it in a reasonable time : and in fuch case for not performing the condition, the entry of the woman into the lands again has been adjudged lawful. The hufband and wife may fue this writ against another, who ought to have married her.

CAUSA Nobis significes, a writ directed to the mayor of a town, &c. who being by the king's writ commanded to make feilin of lands to the king's grantee, delays doing it. The writ requires him to thew cause of the delay.

CAUSALITY, or CAUSATION, in Metaphysics, the power or action of a cause in producing its effect.

It is a dispute among the school-philosophers, whether, and how the causality is distinguished from the cause and effect? Some held it a mode, or modal entity, superadded to the cause, &c. others contend for its being the cause itfelf, only considered principiative and terminative, &c. See CAUSE

CAUSALTY, in Metallurgy. See CASUALTY.

In the tin-works the causalty is thrown in heaps upon banks, which in fix or feven years they work over again, and receive a new fupply of metal from it. Phil. Tranf. Nº 138.

p. 952. CAUSE, CAUSA, that which contributes to the production of an effect; or that by virtue whereof a thing is done, or from which it proceeds .- In which fense, cause

stands essentially related to effect.

In every part of natural philosophy, it is assumed as a fundamental principle or axiom, that no event or change comes to pass merely of itself, that is, without relation to any thing elfe; but that every change stands related to, and implies the existence and influence of something elfe, in confequence of which fuch change came to pass, and which may be regarded as the principle, beginning, or fource of the change

chance referred to it. Accordingly, the term cause is usually employed to denote the supposed principle of change; and the term effect is applied to the change confidered in its relation to the principle of change whence it proceeded; for it mult be observed, that both these terms, as commonly used, are relative. The axiom or principle, to which we have above referred, is usually thus expressed; " For every effect there must be a cause :"-" Nothing exists, or nothing comes to pass, without a cause:"-Nihil turpius philosopho quam FIERI sine causa quicquam dicere." This principle, which is the soundation of natural philofophy, has been regarded both as a physical and as a metaphysical axiom: physical, as expressing an important general fact with respect to the material world; metaphyfical, as expreffing a corresponding law of human thought, or fomething which all men of competent judgment think, and cannot help thinking. This axiom, however, though it must be admitted as unquestionably true, has not precluded a difference of opinion with regard to the meaning of the term caufe, and the relation conceived to sublist between cause and essed. Mr. Hume is reprefented by Dr. Reid, as the first author, who maintained (ubi infra), that we have no other notion of a cause, but that it is fomething prior to the effect which has been found by experience to be constautly followed by the effect; but it will appear in the fequel of this article, that a fimilar opinion, at least with regard to physical causes and effects, had been maintained long before, as well as after his time. Accordingly, his theory regarded events as fimply conjoined, and not connected together by any conceivable process, nor produced the one from the other by any operative principle. As all our reasonings concerning matter of fact feem to be founded on the relation of " cause and effect," it is of importance to investigate; and, if possible, to ascertain this relation. Mr. Hume affirms, as a general proposition, admitting of no exception, that the knowledge of this relation is not, in any inflance, attained by reasonings a priori; but arises entirely from experience, when we find, that any particular objects are constantly con-joined with each other. Let an object, fays this acute writer, be prefented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its fensible qualities, to discover any of its causes or effects; nor, he fays, can our reason, unaffilted by experience, ever draw any inference concerning real existence and matter of fact. This proposition, he alleges, will readily be admitted with regard to fuch objects, as we remember to have been once altogether unknown to us; fince we must be conscious of the utter inability, which we then lay under of foretelling what would arise from them. Such events as bear little analogy to the common course of nature, are also readily confessed to be known only by experience. The case is the same, when an effect is supposed to depend upon an intricate machinery, or fecret structure of parts, for we then do not hefitate in attributing all our knowledge of it to experience. But the fame truth may not appear to have the fame evidence, with regard to events which have become familiar to us from our first appearance in the world, which bear a close analogy to the whole course of nature, and which are supposed to depend on the simple qualities of objects without any fecret structure of parts. Such effects we are apt to imagine that we may be able to discover by the mere operation of our reason, without experience. But, in order to convince us that all the laws of nature, and all the operations of bodies, without exception, are known only by experience, Mr. Hume suggests a variety of restections. The mind, he fays, can never possibly find the essect in the Vov. VII.

supposed cause, by the mest accurate scrutiny: for the effect is totally different from the cause, and consequently can never be discovered by it. And as the first imagination or invention of a particular effect, in all natural operations, is arbitrary, where we do not confult experience; fo must we also effect the supposed tye or connection between the cause and effect, which binds them together, and renders it impossible, that any other effect could result from the operation of that cause. Moreover, after we have experience of the operations of cause and effect, our conclusions from that experience are not founded on reasoning, or any procels of the understanding. For the author's illustration of this remark, and the evidence adduced in support of it, we must refer to his own train of arguments ubi infra. Experience, fays Dr. Brown, can inform us only of the paft. But the relation of cause and effect has reference to future and invariable antecedence and fequence, of which our experience can inform us. We believe it indeed, irrefiltibly : and the belief is not denied; it is only the attempt to found the belief on reason which this proposition opposes. He who afferts, that A will always be followed by B, afferts, more than he who afferts, that A has always been followed by B; and it is this addition which forms the very efsence of the relation of cause and effect. Neither of the propositions includes the other; and, as they have no agreement, reason, which is the sense of agreement, cannot be applied to them. Till it be shewn, that the future is involved in the pall, we mult allow the truth of Mr. Hume's fecond proposition, that even after experience, the relation of cause and effect cannot be discovered by reason. Mr. Hume advances, in the course of his reasoning on this subject, a third proposition, which is, that the relation of cause and effect is an object of belief alone; and this, it has been faid. must be admitted, if the two former propositions be re-ceived. This belief, not the result of reason, is derived from our nature, and, in its operation, is as certain and powerful as if it were an inference established by a reasoning process. As soon as we believe the relation of cause and effect, the idea of power arises; which idea confists not in the antecedence of one event to another, which has been uniform in all preceding cases, but in the uniform and invariable antecedence that shall take place in all future cases.

A cause, says Dr. Priestley, a late zealous advocate for the doctrine of necessity, cannot be defined to be any thing but "fuch previous circumflances as are constantly followed by a certain effect;" the constancy of the result making us conclude, that there must be a sufficient reason in the nature of things, why it should be produced in those cir-

cumitances.

Another ingenious writer (professor Dugald Stewart) who feems to have adopted Hume's general theory with regard to causation, as it respects physical causes, observes, as a fact pretty generally admitted among philosophers, that there is no inflance in which we are able to perceive a neceffary connexion between two fuccessive events; or to comprehend in what manner the one proceeds from the other. From experience, indeed, we learn that there are many events, which are constantly conjoined, so that the one invariably follows the other; but it is possible, for any thing we know to the contrary, that this connexion, though a constant one, as far as our observation has reached, may not be a necessary connexion; nay, it is possible, that there may be no necessary connexions among any of the phenomena we fee : and if there are any fuch connexions existing, we may rest affured that we shall never be able to discover them. This author remarks that the word cause is used, both by philosophers and the vulgar, in two fenfes that are widely different. When it is faid, that every change in nature indicates the operation of a

cause, the word eause expresses something which is supposed to be necessarily connected with the change; and without which it could not have happened. This may be called the metaphysical meaning of the word; and such causes may be called metaphyfical or efficient causes. In natural philosophy, however, when we Ipeak of one thing being the cause of another, all that we mean is, that the two are confiantly conthese conjunctions we learn from experience alone; and without an acquaintance with them, we could not accommodate our conduct to the established course of nature. The causes, which for the fake of diffinction, be called phyfical causes. This doctrine, fays this ingenious writer, concerning the object of natural philosophy, is not altogether agreeable to popular prejudices. It is a curious question, what gives rife to prejudices of this kind? In stating the argument for the exat pains to illustrate that law of our nature, which leads us to refer every change we perceive in the universe to the operation of an efficient cause. This reference is not the result of reasoning, but necessarily accompanies the perception, so as to render it impossible for us to see the change, without feeling a conviction of the operation of some cause by which it was produced; much in the fame manner in which we find it to be impossible to conceive a fensation, without being impressed with a belief of the exiltence of a fentient being. Hence it is, as profesfor Stewart conceives, that when we see two events conthantly conjoined, we are led to affociate the idea of caufation, or efficiency, with the former, and to refer it to that power or energy by which the change was produced; in confequence of which affociation, we are led to confider philoforhy as the knowledge of efficient causes; and lose fight of the operation of the mind, in producing the phenomena of nature. By an affociation fomewhat fimilar, we connect our fensations of colour with the primary qualities of bodies. In the same way we affociate with inanimate matter the ideas of power, force, energy, and causation; which are all attributes of mind, and can exist in a mind only. Our language also, with respect to cause and effect, is borrowed by analogy from material objects; and hence we transfer to certain events the fame language which we apply to connected objects. Thus, we speak of a connection between two events, and of a chain of causes and effects. This language is purely analogical, and our knowledge of physical events is restricted to the laws which regulate this fuccession; and yet it has missed the greater part of philosophers, and has had a surprising influence on the lystems, which they have formed in very different departments of science. The maxim that nothing can act, but where it is and when it is, has been always admitted with refpect to metaphyfical or efficient causes. Whatever objects, fays Mr. Hume, are confidered as causes or effects, are contiguous; and nothing can operate in a time or place which is ever so little removed from those of its existence; we may therefore, he adds, confider the relation of contiguity as effential to that of causation. But admitting this maxim in relation to causes which are efficient, and which as such are neceffarily connected with the effects, there is furely no good reason, protessor Stewart conceives, for extending it to phyfical causes, of which we know nothing, but that they are the constant forerunners and figns of certain natural events. According to this doctrine, indeed, it may be improper to retain the expressions, cause or estect, in natural philosophy; but as long as the prefent language upon the subject continues in use, the propriety of its application, in any particular inflance, does not depend on the contiguity of the two events in place or time, but folely on this queltion, whether the one event be the

conflant and invariable forerunner of the other, fo that it may be confidered as its infallable fign? Notwithtlanding, however, the evidence of this conclusion, pkilosophers have in general proceeded upon a contrary supposition; and have discovered an unwillingness, even in physics, to call one event the cause of another, if the smallest interval of space or time existed between them. In the case of motion, communicated by impulse, they have no ferraple to call the impulse the cause of the motion; but they will not admit that one body can be the cause of motion in another, placed at a distance from it, unless a connexion is carried on between them, by means of some intervening medium.

Mr. Hume's theory on the subject of causation, and the excited an apprehension that it sapped the foundation of those arguments and processes of reason, by which the existence Hence its truth has been disputed and denied; and without his premiles, but in the conclution which he draws from them, it has been reprefented as favourable to infidelity. been frequently ascribed to Mr. Hume as its author, both by his followers and his opponents, or that of rettricting the physical inquirer from tracing necessary connections or afcertaining the efficient causes of phenomens, is of a much earlier date, and has been maintained by many of the most enlightened and the least sceptical of our modern philosophers; nor plication which he made of his premifes for invalidating the argument for the existence of the Deity derived from his works. lustrated by Mr. Hume is afcribed to Socrates by Xenophon. The fophists in ancient Greece, like their fucceffors in modern times, appear to have entertained fome confused notions about a necessary connexion between cause and effect, implying the existence of an operating principle in the cause: they inquired, fays Xenophon, "TIN ANAFKAIN 1825 The fame excellent writer informs us in what light Socrates regarded those by whom such notions were adopted. " AAAA KAI ΤΟΥΣ ΦΡΟΝΤΙΖΟΝΤΑΣ ΤΑ

"If we except," fays Dr. Barrow (Mathematical Lectures read at Cambridge), "the mutual caufality and dependence of the terms of a mathematical demonstration, I do not think there is any other caufality in the nature of things, wherein a necessary consequence can be founded. Logicians do indeed boast of I do not know what kind of demonstrations from external cause, either efficient or final; but without being able to shew one genuine example of any such: nay, I imagine, it is impossible for them so to do. For there can be no such consexion of an external efficient cause with its effect," (or at least none such can be understood by us) "through which, strictly speaking, the effect is necessarily supposed by the supposition of the efficient cause, or any determinate cause by the supposition of the effect," He adds afterwards, "therefore there can be no argumentation from an efficient cause to the effect, or from an effect to the cause which is lawfully necessary."

"All things," fays Dr. Clarke (Works, vol. ii. p. 698. fol. ed.) "that are done in the world, are done either immediately by God himfelf, or by created intelligent beings; matter being evidently not at all capable of any laws or powers whatfoever, any more than it is capable of intelli-

gence; excepting only this one negative power, that every part of it will, of itfelf, always and necessary continue in that state, whether of rest or motion, wherein it at present is. So that all those things which we commonly say are the effects of the natural powers of matter and laws of motion, of gravitation, attraction, or the like, are indeed (if we will speak strictly and properly) the effects of God's acting upon matter continually, and every moment, either immediately by himfelf, or mediately by some created intelligent beings. Confequently there is no such thing as what men commonly call the course of nature, or the powers of nature. The course of nature, truly and properly speaking, is nothing else but the will of God producing certain effects in a continued, regular, constant, and uniform manuer."

Dr. Butler alfo, in his Discourse on the ignorance of Man (Sermons) has remarked, "that it is in general no more than effects that the most knowing are acquainted with; for as to causes they are as entirely in the dark as the most ignorant." " What are the laws," he continues, " by which matter acts on matter, but certain effects, which fome, having observed to be frequently repeated, have reduced to general rules?" "The laws of attraction and repullion," fays Dr. Berkeley (Siris, p. 108.) " are to be regarded as laws of motion, and these only as rules or methods observed in the productions of natural effects, the efficient and final causes whereof are not of mechanical confideration. Certainly, if the explaining a phenomenon be to affign its proper efficient and final cause, it should seem the mechanical philosophers never explained any thing; their province being only to difcover the laws of nature, that is, the general rules and methods of motion; and to account for particular phenomena, by reducing them under, or shewing their conformity to such general rules:"-With more to the fame purpole. Professor Stewart has also cited a very remarkable passage from Mr. Locke (Eff. b. ii. c. 23. § 28, 29.), which thews clearly, that this eminent philosopher considered the connection between impulse and motion as a conjunction which we learn from experience only, and not as a confequence deducible from the confideration of impulse, by any reasoning à priori. The passage is the more curious, because it is this particular application of Mr. Hume's doctrine, that has been generally supposed to furnish the strongest objection against it. Some of Mr. Hume's reasonings concerning the nature of the connections among physical events coincide perfectly with those of Malebranche on the same subject; though they were employed by this last writer to support a very different conclu-

The anthor of the "Procedure, Extent, and Limits of Human Understanding," (faid to be Dr. Peter Brown, bishop of Cork), lays it down as the first fundamental uncering rule in physics, that it is not within the compass of human understanding to assign a purely speculative reason, for any one phenomenon in nature. By a speculative reason, the writer means, assigning an essignment cause a priori, together with the manner of its operation, for any effect whatsoever purely natural. "We find, indeed," he adds, "by observation and experience, that such and such essection for the reason suby and the manner how the causes work those effects, then we are at a stand, and all our reasoning is precarious, or at best but probable conjecture."

At a little earlier period, Hobbes expressed himself (see his Tripos), with respect to physical connections, in terms so nearly approaching to Mr. Hume's, that it is difficult to suppose that they did not suggest to him the language which he has employed on that subject. "What we call experience," he remarks, "is nothing else but remembrance of what ante-

cedents have been followed by what confequents." " No man," he continues, " can have in his mind a conception of the future; for the future is not yet; but of our conceptions of the patt we make a future, or rather call patt future, relatively," &c. &c. Lord Bacon also hath plainly taken for granted the doctrine now under confideration, without formally flating it, in all his reasonings on the method of profecuting philosophical discoveries; for if we could perceive in any instance the manner in which a cause produces its effect, we should be able to deduce the effect from its cause by reasoning à priori; the impossibility of which he every where throughy inculcates. " Homo nature minister et interpres tantum facit et intelligit quantum de naturæ ordine re vel mente observaverit; nec amplius scit aut potest." However, lord Bacon's metaphysical notions on this fubject do not feem from other pallages in his writings to have been very accurate.

The confiltency of Mr. Hume's fundamental principle, independently of his application of it, with the molt devout impreffions concerning the existence and the power of God, is sufficiently evinced by the tellimonies of the excellent writers already cited. If it be alleged, that the passages above quoted are surnished by authors prior to Mr. Hume, and who were not fully aware of the consequences which he was afterwards to deduce from them; the following authorities are collected from philosophers and divines of a later date.

"What we observe by our external senses," fays Dr. Price (Review of the principal Questions and Difficulties in 'Morals), "is properly no more than that one thing follows another, or the conflant conjuntion of certain events, as of the melting of wax, with placing it in the slame of a condle; and, in general, of such and such alterations in the qualities of bodies, with such and such circumstances of their situation. That one thing is the cause of another, of produces it by its own essence and operation, we never see."

"With regard to the phenomena of nature," fays Dr. Reid (ubi intra), "the important end of knowing their caufes, befides gratifying our curiofity, is, that we may know when to expect them, or how to bring them about. This is often of real importance in life; and this purpofe is ferved by knowing what by the course of nature goes before them, and is connected with them; and this, therefore, we call the cause of such a phenomenon." See the sequel of this article.

"There is no necessary connection," fays Dr. Waring, Lucafian profesfor of mathematics in the university of Cambridge, whose zeal for the peculiar doctrines of Christianity has never been questioned, in his " Essay on the Principles of Human Knowledge," "known to us between caufe and effect. Can any person by reasoning, independent of experience, from the cause deduce the effect? No one ever has; and, confequently, to mankind there is no necessary connection known between cause and effect." "Is it probable," continues this author, "that any necessary connection is contained in their own nature?" "Newton's fuccefs," fays the late professor Robison, in his "Mechanical Philosophy," was owing to the modelty of his procedure. He peremptorily resided all disposition to speculate beyond the province of human intellect, confeious that all attainable science confilled in carefully ascertaining nature's own laws; and that every attempt to explain an ultimate law of nature, by affigning its caute, is abfurd in itself, against the acknowledged laws of judgment, and will most certainly lead to error. It is by following his example that we can hope for his fuccefs." For Dr. Gregory's fentiments on this subject, fee the fequel of this article.

The language of Mr. Hume, as professor Stewart observes, has even been adopted by philosophers, and by atheists as well as theifts. The latter have represented natural events as parts of a great chain, the highest link of which is fupported by the Deity. The former have pretended, that there is no abfurdity in supposing the number of links to be infinite. Mr. Hume, the professor adds, had the merit of fnewing clearly to philosophers, that our common language, with respect to cause and effect, is merely analogical; and that if there be any links among physical events, they must for ever remain invilible to us. If this part of his fyltem be admitted, and if, at the same time, we admit the authority of that principle of the mind, which leads us to refer every change to an efficient cause; Mr. Hume's doctrine scens to be more favourable to theifm than even the common notions upon this subject; as it keeps the Deity always in view, not only as the first, but as the constantly operating cause in nature, and as the great connecting principle among ail the various phenomena which we observe; this, accordingly, was the conclusion which Malebranche deduced from premises very nearly the fame with Mr. Flume's. That a necessary connection has been supposed to exist, among physical events by many philosophers, whom it would be unfair to charge with atheism, is a fact that must be allowed. It was the doctrine of the ancient fatalits, that all things above and below are linked together by an inevitable necessity; but they did not, therefore, deny the existence of God. "Cum fatum (fays Seneca) nibil aliud fit quam feries implexa caufarum, ille eft prima omnium causa ex qua ceteræ pendent."

"While we condemn, therefore, the conclusion of Mr. Hume (fo far as it has a tendency to weaken the evidence for the existence of the Deity) as fophilitical and falle, we are constrained," fays professor Stewart, "not by that justice which is due to his philosophical abilities, but by our idelity to the cause for which we profess to combat, not to involve both conclusion and premises in the same condemnation."

Having stated Mr. Hume's theory of causation, and prefented to the view of the reader fome of those arguments and anthorities that have been urged by its advocates, in order to vindicate it from those licentious confequences with which it has been charged; we shall now give as concise an account as possible of the fentiments of those who have differed from him with regard to this subject. To the class of such perfons we may refer Dr. Reid, whose opinions and reasoning claim peculiar attention, and merit the ibrictest examination. They will probably be no lefs fatisfactory to many of the readers of this article, than to the compiler of it. Every thing that begins to exilt, fays this excellent writer, mult have a cause of its existence, which had power to give it have some cause of that change. This principle appears very early in the mind of man; and it is fo univerfal and fo firmly rooted in human nature, that the most determined fcepticism cannot eradicate it. From this principle it follows, that every thing which undergoes any change, must either be the efficient cause of that change in itself, or it must be changed by some other being. In the first case it is said to have ardive forwer, and to all in producing that change. In the fecond case it is merely pastive, or is alled upon; and the active power is in that being only which produces the change. The name of a cause, and of an agent, is properly given to that being only, which, by its active power, produces some change in itself, or in some other being. The change, whether it be of thought, of will, or of motion, is the effect. Active power, therefore, is a quality in the cause, which enables it to produce the effect; and the exertion of that active power in producing the effect, is called action, agency, efficiency. In

order to the production of any effect, there must be in the cause not only power, but the exertion of that power: for power that is not exerted produces no effect. With regard to the opinion of Mr. Hume and his followers, who maintain, that a cause is only something prior to the effect, and constantly conjoined with it, Dr. Reid observes, that every man who understands the language knows, that neither priority, nor conflant conjunction, nor both together, imply efficiency. Every man free from prejudice must affent to what Cicero has faid: " Itaque non fic causa intelligi debet, ut quod cuique antecedat, id et causa sit, sed quod cuique efficienter antecedit." In common language we say, the fon rifes and fets, and comes to the meridian, the moon changes, the fea ebbs and flows, and the winds blow; and as languages were formed by perfons who believed thefe objects to have life and active power in themselves, it was proper and natural to express their motions and changes by active

Our knowledge of the real causes of the phenomena of nature is very imperfect; but though our acquaintance with our fenses; yet causation and active power are not objects of fenfe, nor is that always the caufe of a phenomenon which is prior to it, and conftantly conjoined with it; otherwife night would be the cause of day, and day the cause of the following night. It is to this day problematical, whether all the phenomena of the material fythem be produced by the immediate operation of the first cause, according to the laws which his wifdom determined, or whether subordinate causes are employed by him in the operations of nature; and if they be, what their nature, their number, and their different offices are? And whether, in all cases, they act by commisfion, or, in fome, according to their diferetion? In confequence of this imperfect knowledge of the real causes of the phenomena of nature, ingenious men who have been defirous of exploring and afcertaining them, have formed numberless conjectures and theories: and unwilling to confess their difappointment in the fearch of causes, they have vainly conceived every thing they stumbled upon to be a cause; and the proper notion of a cause is thus lost, by giving the name to numberless things which neither are nor can be causes. In a very ancient fystem, love and strife were made the causes of things: in the Pythagorean and Platonic fythem, matter, ideas, and an intelligent mind: by Ariftotle, matter, form, and privation; Des Cartes thought that matter, and a certain quantity of motion given at first by the Almighty, are world. Leibnitz conceived that the universe is made up of moneds, active and percipient, which, by their active power received at first, produce all the changes they undergo. In under the names of causes is of little moment and influence: although it may be very hurtful to found philosophy. A constant antecedent or concomitant of the phenomenon whole cause is fought, may answer the purpose of the inquirer, as well as if the real caufe were known. In compliance with cullom, fays Dr. Reid, or perhaps to gratify the avidity of knowing the causes of things, we call the laws of nature causes and active powers. Thus we speak of the powers of gravitation, of magnetism, and of electricity. But persons of jutter discernment perceive, that the laws of nature are not agents; they are not endowed with active power, and therefore cannot in the proper fense be causes. They are only the rules according to which the unknown cause acts; hence it happens that the word cause, and other words bearing relation to it, become so ambiguous as to have, in a manner, loft their proper and original meaning; and

yet we have no other words to express it. Every thing joined with the effect, and prior to it, is called its cause. An instrument, an occasion, a reason, a motive, an end, are called causes; and the related words, effect, agent, power, are extended in the same vague manner. Were it not, continues this ingenious writer, that the terms cause and agent have lost their proper meaning in the crowd of meanings that have been given them, we should immediately perceive a contradiction in the terms neer fary cause and necessary agent. If this necessity, thus combined with cause and agent, be attributed even to the Deity, it must follow, that there neither is, nor can be, a cause at all; that nothing acts, but every thing is afted upon; nothing moves, but every thing is moved; all is passion without action; all instrument without an agent; and that every thing that is, or was, or shall be, has that necessary existence in its feason, which we commonly confider as the prerogative of the first cause. If it be evident. fays Dr. Reid, that what begins to exist must have an efficient cause which had power to give or not to give it existence; and if it be true that effects well and wifely fitted for the best purposes, demonstrate intelligence, wisdom, and goodness, in the efficient cause, as well as power, the proof of a Deity from these principles is very easy and obvious to all men that can reason. If, on the other hand, our belief, that every thing that begins to exist has a cause, be got only by experience; and if, as Mr. Hume maintains, the only notion of a cause be something prior to the effect, which experience has shewn to be conitantly conjoined with fuch an effect, I fee not how from these principles, it is possible to prove the existence of an intelligent cause of the universe. Accordingly, Mr. Hume feems to reason justly from his definition of a cause, when, in the person of an Epicurean, he maintains, that with regard to a cause of the universe, we can conclude nothing; because it is a singular effect. We have no experience that fuch effects are always conjoined with fuch a caufe. Nay, the cause which we assign to this effect, is a cause which no man hath feen nor can fee, and therefore experience cannot inform us that it has ever been conjoined with any effect. Mr. Hume, according to Dr. Reid, seems to deduce a just inference from his definition of a caufe, when he alleges that any thing may be the cause of any thing; fince priority and constant conjunction are all that can be conceived in the notion of a cause.

The following confequences are flated by Dr. Reid, as deducible from Mr. Hume's definition of a cause. It follows, first, he fays, that night is the cause of day, and day the cause of night; for no two things have more constantly followed each other fince the beginning of the world. It follows also, fecondly, that, for what we know, any thing may be the cause of any thing, since nothing is effential to a cause but its being constantly followed by the effect. What is unintelligent may be the cause of what is intelligent; folly may be the cause of wisdom, and evil of good: and all reasoning from the nature of the effect to the nature of the cause, and all reasoning from final causes, must be given up as fallacious. A third consequence from this definition is, that we have no reason to conclude, that every event must have a cause; for innumerable events happen, when it cannot be shewn that there were certain previous circumstances that have constantly been followed by fuch an event. And though it were certain, that every event actually observed by us had a cause, it would not follow, that every event must have a cause; for it is contrary to the rules of logic to conclude, that because a thing always has been, therefore it must be; to reason from what is contingent to what is necessary. Fourthly, it

would follow, that we have no reason to conclude that there was any cause of the creation of this world; for there were no previous circumstances that had been constantly followed by fuch an effect. And, for the fame reason, it would follow from the definition that whatever was fingular in its nature, or the first thing of its kind, could have no cause. Having shewn what he conceives to be the absurd and dangerous consequences that follow from Mr. Hume's defmition of a cause, Dr. Reid proposes another not chargeable with fuch confequences "Why," fays he, " may not an efficient cause be defined to be a being that had power and will to produce the effect? The production of an effect requires active power, and active power, being a quality, must be in a being endowed with that power. Power without will produces no effect; but when these are conjoined, the effect must be produced. This, I think, is the proper meaning of the word cause, when it is used in metaphysics; and particularly when we affirm that every thing that begins to exist must have a cause; and when, by reasoning. we prove, that there must be an eternal first cause of all things. Was the world produced by previous circumstances which are continually followed by fuch an effect? Or, was it produced by a Being that had power to produce it, and willed its production?"

"In natural philosophy," says this ingenious writer, "the word eause is often used in a very different sense. When an event is produced according to a known law of nature, the law of nature is called the cause of that event. But a law of nature is not the efficient cause of any event; it is only the rule, according to which the efficient cause acts. A law is a thing conceived in the mind of a rational being, not a thing that has a real existence; and therefore, like a motive, it can neither act nor be acted upon, and consequently cannot be an efficient cause. If there be no being that acts ac-

cording to the law, it produces no effect."

It can hardly escape our observation, favs Dr. Gregory, (ubi infra), that the notion of a cause, as explained by Dr. Reid, is very different from that commonly adopted by philosophers, either metaphysicians or physical inquirers;-fo very different, indeed, that the axiom, " Every change or effect must have a cause," as understood by him, will scarcely be admitted even by physical inquirers; and will not only not be admitted by metaphyficians as a principle univerfally true, but will be regarded by many of them, especially by Dr. Priettley, and all the disciples of Mr. Hume, as univerfally falfe, and even impossible. Dr. Reid, like many preceding philosophers, had attended too much to one kind of cause, or principle of change, namely, what a man, or any other living being, is to his own voluntary actions, or to those changes which he produces directly in himself, and indirectly in other beings, by the occasional exertion of his own power. This kind of cause may be called, for distinction fake, exclusively an agent. That there are such agents, and that many events are to be referred to them, as either wholly or partly their causes or principles of change, is allowed as not only certain, but even self-evident. Nevertheless, Dr. Gregory will not allow, that all events, without exception, are to be referred to some fuch causes, and necessarily imply the operation of agents, and the exertion of power; because he neither perceives it as a selfevident necessary truth, nor has ever met with any evidence of it. To this author it appears, that Dr. Reid, and many philosophers, who have thought and argued nearly as he has done on this subject, have gone as far wrong on one fide as Mr. Hume, Dr. Priestley, or M. Leibnitz, or, in general, all affertors of the doctrine of necessity, have done on the other. These philosophers have attended too much

phyfical cause; as, e. g. what impulse is to motion, heat to expansion, fusion, and evaporation, the earth to the fail of a stone towards it, the fun and moon to the tides, &c. That there are fuch causes, or, in other words, that we couceive fome relation to tubfill between the various thing, and events respectively that have been mentioned, which relation we are accustomed to express by the terms cause and effect, is as certain as that there are agents for other events. However, it feems evident, that thefe two relations are fome-how different from one another; and that both of them are very different, and eafily diffinguishable, from various other relations of event. When heat is faid to be the cause of the melting of ice, a certain relation is expressed that between a man and any of his voluntary actions : different also from that between motive and action; different even from that between evidence and belief; different from that between the vital principle of a plant or animal, and its growth, its functions, and difeases; different from that between the various occasional or exciting causes, (such as air, water, light, heat, cold, contagion, poison, &c.) and the growth, the functions, and the difeafes of plants and animals; different even, in some measure, from that between impulse and motion; and different from that between any body and the fall, or tendency to fall, of another body towards it. All these relations, and such like, are casily distinguishable from one another; and cannot be confounded, by any thinking and difcerning person, with the simple relation of priority and fuccession among things and events; as, e. g. between the morning dawn and the rifing of the fun. No man furely ever regarded the dawn as the cause of the rifing of the fun, or night as the cause of day. But as the philosophy of Mr. Hume, adopted by other metaphylicians, and even his definitions and explanations of the relation between cause and effect, lead men to confound all these notions, it is expedient to keep in view the simple relation of priority and fuccession, even in our inquiries concerning causes; that we may then be the better enabled to perceive what more there is in the relation of every kind of cause and effect than merely of the sequence of the one to the other. Whilst philosophers have speculated concerning the nature and influence of causes, they have been prone to overlook fome of the kinds of causes that have been mentioned, and to confound others of them; to attend chiefly to phylical causes; to suppose that for every event, even for the voluntary action of a living person, there must be such a cause; to maintain that the relation of motive and action is effentially the fame with that between physical cause and effect, and thereby to exclude, not only the necessity, but almost the possibility, of the operation of an agent, or cause of that kind which Dr. Reid, in the passages above cited, and which many other philosophers have thought universally necessary for the production of change. Dr. Gregory diffents from the fythems both of Hume and Reid; from the latter, because he thinks there are many events which we have no reason whatever, either from the primary laws of human thought, or from particular observation, experiment, and induction, to refer to agents; and from the other, because there are many events, e. g. the voluntary actions of mankind, which, in his opinion, ought to be referred to agents as their proper and chief principles of change. When we refer the voluntary action of a person to the agent as the author of it, that is, as the cause, or principle of change, from which it proceeded, we cannot reafonably be charged with the abfurdity, that there may be an event or effect without a cause. As little can we be charged

to another kind of cause, called, by way of diffinction, with that absurdity, when we refer the melting of ice, and the boiling of water, to heat; and when we refer the falling of a flone to the ground, and the obbing and flowing of the fea, to the influence of the earth on the stone, and of own faculties, to believe, that among things inarimate, and confequently incapable of power or activity, in the literal and common fense of the terms, there are fuch relations that they may be mutually causes or principles of change to one another, without any exertion of power, or any operation of an agent frictly fo called. Such relations, for aught we know, may subfift among bodies remote from one another, as well as among those that are really or apparently in actual contact; and they may vary, both in kind and degree, according to the distances between the bodies. We know thefe relations, however, merely as matter of fact; but the refult, in point of event, in any given cafe of the application of fuch causes, will be the same, whether the relation among the bodies be necessary, or contingent and arbitrary; provided only that it be established and constant. cause and effect, comprehending the circumstance of their conflant conjunction, as it has been very properly called, which feems always to be implied in ftrict physical reasoning, as well as in the common notions, and actual conduct of mankind, are necessary, like those of quantity, which are the objects of mathematical reasoning; the opinion, that there must be an exertion, or power, or activity, to produce fuch events, would be not merely erroneous, but abfurd; for, on that supposition, no power or agency would be requifite to produce them, any more than to produce the relations of geometry; and no power in heaven or earth could prevent them from being what they are. If fuch relations, comprehending the circumstance of constant conjunction, fublist only by the wife but arbitrary appointment of the Supreme Being, who might, if he had thought fit, have made them different; still the necessity at least, if not the pollibility, of any exertion of power, or of any agency, would be completely excluded; while fome other relations of events, that do not comprehend the circumstance of the constant conjunction of the cause with its effect, but, on the contrary, imply their occasional and very frequent separation, as, e. g. the relation of motive and action, not only do not exclude, but abfolutely require and imply the operation of an agent, and the exertion of power. The question, it thould be remembered, is not whether body can act, either where it is, or where it is not; but fimply whether it be confistent with the laws of human thought to believe, that fuch relations may fubfift among bodies, either by necessity, or the nature of things, or by the arbitrary appointment of tually causes or principles of change to one another. Whatever may be thought of numberless other events, and of their causes, it must be admitted, says Dr. Gregory, that every voluntary action of a person does proceed from some exertion of active power, or some such cause as Dr. Reid supposes to be univertally necessary for every change. See on the subject of this article, besides the authors, whose works have already been cited, Hume's Esfays, &c. vol. ii. § 4. part i. § 7. part i. Stewart's Elements of the Philosophy of the Human Mind, ch. i. f 2. Notes C and D. A short Statement of some important Facts, relative to the late Election of a Mathematical Professor in the University of Edinburgh, &c. 1805. Brown's Observations on the Nature and Tendency of the Doctrine of

Mr. Hume, concerning the Relation of Caufe and Effect, caufe of light: a flone, that breaks the skull, is a physical Man, Eff. iv. Gregory's Philosophical and Literary Effays, vol. i. Introduction. See also LIBERTY, MOTIVE, NEGESSITY, and POWER.

CAUSE, First, is that which acts of itself, and from its own proper power or virtue. - In this fense, God is the only

Firft Caufe.

CAUSES, Second, are those which derive the power and

faculty of acting, from a first caufe.

Causes were distributed by Aristotle into four different kinds; viz. the efficient, the material, the final, and the formal. Efficient causes are the agents that produce certain effects. Material causes are the subjects on which the agent performs his operation, or those contingent natures which lie within the reach of the agent to influence. Final causes are the motives or purposes, which move to action, or the end for which any thing is done. See MOTIVE. The doctrine of final causes furnishes an obvious and unanfwerable argument in proof of the existence of a Deity, infinitely wife and benevolent. This argument is admirably illustrated by Dr. Palcy in his "Natural Theology," or " Evide ces of the Exiltence and Attributes of the Deity, collected from the Appearances of Nature." Svo. 1802. This excellent work deferves unprejudiced and attentive perufal; and thus peruled, cannot fail to produce conviction in every mind. See God and PROVIDENCE. Formal causes denote the changes refuting from the operation of the agent; or that which determines a thing to be what it is, and diffinguishes it from every thing elfe. See FORM. Intead of dividing causes into these four kinds, it would be more proper to leave out matter and form, as not being properly causes; and the relt might be diffributed into four kinds, viz. emanative, officient, in Tructive, and fuafive; and these include all the various ideas of politive proper causes in the most natural and cafy view and order. An emanative cause is when the effect flows from it without any action to produce it, supposing only that all obltructions be removed. Thus water flows from a spring, and heat from the fire. An efficient cause, which most properly deferves the name of a cause, produces the effect by some fort of active power or natural agency. Of efficient causes there are many subordinate divisious. An instructive cause is that which produces effect either by way of manifestation of truth, or direction in practice; and may be called manifestative or directive. A fuefive cause is. properly fomething from without, which being apprehended by the mind, excites or inclines a voluntary or free agent to act, and it operates either by intreaty or authority, by commands or counfels, by promifes or threats, by rewards or punithments, by fear or hope, or any other motives; all which are called moral agency or influence. The end or delign is one of the chief faziive causes, and is usually called the final cause; of which the schoolmen have given a variety of divisions. They have also given us several other diffinetions and denominations of causes, which it is hardly necesfary to enumerate. Accordingly causes are diffinguished into physical, or natural, and moral. The former is that which produces a fensible corporeal effect. See CAUSE, above. The latter is that which produces a real effect, but in things immaterial; thus repentance is the cause of for-

Others define a physical cause to be that which produces its effect by a physical virtue or natural influence; and a moral cause, that which determines the physical cause, though not necessarily, to produce the effect, or which works by persuation: in which sense, it is also called a dispositive, excitative, and imputative cause. Thus, the fun is a physical

2d edit. 1806. Reid's Effays on the Active Powers of cause of death; and thus the advice, intreaty, commands, or menaces, which determine us, though not necessarily, to do, or not to do, any thing, are moral causes. In this sense, a moral cause is only applicable to a free intelligent agent: and it is this notion of a moral and physical cause that is the most just, clear, and distinct.

> CAUSES, again, are confidered, either as univerfal, or particular; principal, or instrumental; total, or partial; univocal, equivocal, &c. An univerfal cause is that, which, by the extent of its power, may produce all effects. Thus the sun, foil, and air, are univerfal causes of plants, herbs, and flowers ; for by the same fort of influences each of them produces various and different effects. A particular cause is that which can only produce a fingle effect; or a certain kind of effects. Thus the particular feeds are the particular causes of each different herb and flower. To thefe, common and proper causes are nearly allied. A principal cause is that which gives motion to the inflrument, or which does not operate beyond its own natural efficacy. An instrumental cause is that used by the principal to produce its effect; or which is excited to produce an effect, beyond the meafure of its own perfection. A total cause is that which produces the whole effect. A partial cause is that which occurs with fome other in producing the effects. An equivocal cause is that which is of a different kind and denomination from its effect: as when a man writes a book, when a root produces a stalk and leaves, or when money buys land. An univocal cause is that which is of the same kind and denomination with its effect: as when a lion produces a young lion, or when a fountain fends forth a stream of water, or when money being lent, gains money by interest. See Watts's Brief Scheme of Ontology, in his Works, vol. v. ch.

> CAUSES, Occasional, are only the occasions, not the direct causes of their effects. The Cartesians resolve all physical

causes into occasional ones. See Occasion.

The foul, fay those philosphers, is not able to act on the body; nor the body reciprocally on the foul: to keep up an intercourse between them, God, on occasion of a motion of the body, impresses a sensation on the foul; and, on occasion of a fentiment of the foul, impresses a motion on the body : the motions, therefore, of the foul and body, are only occasional causes of what passes in the one or the other. Thus, fay they, the stroke, or percussion, is only the occasional cause of the motion produced in the body ftruck; it is God is the direct efficient cause. And thus the action of objects on our organs is not the efficient cause of our ideas and perceptions, but merely the occasional cause which determines God to act on the mind, according to the

CAUSE, in Medicine, is usually confidered in a fense somewhat complex, and different from the ordinary acceptation of the word. It fignifies not merely those agents, which, when applied externally or introduced internally, excite, in the body or in some of its organs, a state of disease; but it is also employed to express the previous condition of the body. which renders it liable to difeafe, as well as that which conflitutes the difeafe itself. Thus physicians have treated of the causes of diseases under the two heads of remote and proximate causes; the former of which they have again divided into prediffefing and exciting, or occasional, causes.

The predisposing cause, is that which renders the body liable to be attacked by difeafe, or to be acted upon by an exciting cause; for the operation of an exciting cause alone is generally not sufficient to produce disease. Thus several perfons may be exposed at the fame time to the fame external agents, e. g. to cold and moilture: in some these agents will excite difeafe, on others they will act with impunity. In the former persons some circumstances must have existed. which rendered them liable to receive those morbid impresfions; in the latter no fuch predifposition was present. Again, some of those, whom the exciting causes affected, may fuster one species of disease, and others a different species: thus one individual may be afflicted with rheumatism, another with catarrh, a third with dysentery, and so on; a fact implying the existence of some peculiar condition of the body, or of the organs respectively attacked, which is justly deemed a predisposing cause of the particular malady, which may have occurred. In some instances the predisposition is obvious and well understood: thus one attack of rheumatifm, pleurify, or any inflammatory diforder, generally renders the body more liable to fuffer a fecond: a peculiar formation of the cheft, combined with a fair and delicate skin, with dark eyes, lively spirits, &c. implies a tendency to be affected with pulmonary confumption: and a plethoric habit, large head, fhort neck, very florid complexion, &c. portend a probable apoplexy. In fuch circumstances the kinds of exciting causes, which ought to be peculiarly avoided, are manifest; and by a careful attention to this suggestion, the diseases, with which the individuals are menaced, may be altogether warded off.

In tome inflances this predifpefing condition of the body, after long continuance, becomes gradually a condition of actual diffede, without the concurrence of any external exerting caufe; or it becomes, in the language of fome writers, itfelf an exciting caufe of difeafe. In this light a general mobility or morbid irritability of the fyltem, excellive ple-

thora, &c. must be considered.

The exciting or occasional cause is that agent which produces disease in the body already predisposed to receive it. There are some exciting causes, however, so powerful, as to occasion the most severe maladies, in the most vigorous constitutions, from which every predisposition to disease seems to be absent. Such are the poisons of small pox and sphills, the extremes of heat and cold; and so forth. And again, an exciting cause which may not immediately induce disease, may, if frequently applied, undermine by degrees the strongest habit, and render it liable to various infirmities. Such are luxury, intemperance, exposure to inclemency of weather, &c.

The proximate cause is usually defined, that, "quee presens morbum facit, sublata tollit, mutata mutat." It is that condition or circumstance, from which the symptoms of a disease immediately originate, and on which they exclusively depend. The proximate cause of the generality of diseases is obscure; and this obscurity has led ingenious men to enter into a variety of speculations altogether fertile, and tending rather to millead than to inform the mind; and in some instances indeed

altogether unintelligible.

Causes and Effect, in Law. In most cases the law hath respect to the eause or beginning of a thing as the principal part, on which all other things are founded: and herein the next, and not the remote cause, is most looked upon, except it be in covinous and criminal things: and therefore that which is not good at first, will not be so afterward; for such as is the cause, such is the effect: e.g. if an infant or seme-covert make a will, and publish it, and afterwards die of full age, or sole, this will is of no force, on account of the original eause of insancy and coverture, &c. Finch 12. Where the cause ceases the effect or thing will cease. Co. Lit. 14.

CAUSEDO, CAPE, in Geography, lies on the fouth coast of the island of St. Domingo; 5 miles S.E. of St. Domingo.

Domingo.

C A U

VAY, or Causey, a maffive confirmation

CAUSEWAY, or Causey, a maffive confiruction of front, Itakes, and fafcines; or an elevation of fat, vifcous earth, well beaten; ferving either as a road, in wet marthy places; or as a mole, to retain the waters of a pond, or prevent a river from overflowing the lower ground.

The word comes from the French chauffee, unciently wrote chauffee; and that from the Latin calecata, or calcata; uccording to Somner, and Spelman, à calcando. Bergier rather takes the word to have had its rife à peditum calcuir, qui-

bus teruntur

CAUSEWAY, colcetum, or calcea, more usually denotes a common hard railed way, maintained and repaired with stones and rubbish.

CAUSEWAY, Devil's, a famous work of this kind which ranges through the county of Northumberland, commonly supposed to be Roman, though Mr. Horsley suspects it to be of later times. Horsley, Brit. Rom. lib. v. cap. 2. P. 449.

CAUSEWAY, Giants, is a denomination given to a huge pile of flony columns, in the diltrict of Coleraine, in Ireland.

See BASALT and GIANTS' Caufeway.

CAUSSADE, in Geography, a town of France, in the department of the Lot, and chief place of a canton, in the diltrict of Montauban; 12 miles N.E. of Montauban. The place contains 4142, and the canton 13,183 inhabitants: the territory includes 225 killometres and 11 communes.

CAUSSIDICUS. See ADVOCATE.

CAUSSIN, NICHOLAS, in Biography, a learned French Jesuit, was born at Troyes in 1580; and having entered into the fociety of Jesuits at the age of 23 years, taught rhetoric with great reputation at their college. He afterwards became a popular preacher and writer, and was chosen confessor to Lewis XIII. For this situation he does not feem to have possessed the necessary talents; but more attentive to his duty than to the means of maintaining the good opinion of an all-powerful minister, he opposed cardinal de Richelieu in urging the king to recal the queenmother, and not only loft his post but was exiled from the court to a town in Brittany. After the cardinal's death he returned to Paris, and died in the house of the society in 1651. Among his various works in French and Latin, the molt popular of the former was his " La Cour Sainte" in 5 vols. Svo., indicating piety rather than judgment, but much read, and translated into several languages. His principal learned work is " De Eloquentia facra et humana," 1610. 4to., which was feveral times reprinted. It exhibits numerous examples of different flyles in writing. He also published " Electorum Symbolorum et Parabolarum historicarum Syntagmata," 1618, 4to.; "Disputes fur les quatre Livres des Rois, touchant l'Education des Princes," fol. : "Tragediæ Sacræ," 1620; "Apologie pour les Religieux de la Compagnie de Jesus," 1644, Svo.: " La Vie neutre des Filles devotes," &c. 1644; "Symbolica Ægyptiorum Sapientia," 1647, 4to., and some other works of devotion and controverly. Nouv. Dict. Histor.
CAUSTIA, in Antiquity, a kind of woollen cap used

CAUSTIA, in Antiquity, a kind of woollen cap used by the Macedonians; which was so strong as sometimes to ferve instead of a helmet. Mem. Acad. Inscript, vol. ii.

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CAUSTIC, COMMON, in Chemistry, a fixed alkali deprived of acrial acid and most of its water. If the lixivium of the foat-boilers be evaporated to dryness in a filter or copper vessel, then suffer in a crucible, poured out into a bason, and when solid, cut into small pieces, it forms the common caustic; which must be kept in a bottle to prevent its deliquescing. When a piece of this alkali is applied to the skin, for the space of three quarters of an hour, it cor-

rodes it; forming without doubt a faponaccous compound with its fat parts. It was much used in making issues, before that practice was laid aside. See Caustic ALKALI, and

CAUSTIC, infra.

Caustic, in Surgery, from 2212, to burn, a fubliance, which, by its activity, will erode and confune the animal texture, wherever it is applied: the burning fenfation it produces, and the defructive effects which are occasioned by its application, exactly accord with its name. (See Catheresters and Escharotics.) In some cases of abscess and deep-seated inflammation, particularly in chronic affections, the use of caustics is very considerable. The reader will find a few observations on the comparative use of caustics in our article Abscess, under the head of "Various modes of opening abscesses, under the head of "Various modes of opening abscesses," We shall here subjoin some remarks on their composition, and the method of employing them.

Caulties are used either in a folid or fluid form; but those which are fluid, can feldom be applied with all the requisite advantages. The stronger concentrated mineral acids are most frequently chosen by surgeons, when they use fluid caustical applications; as they are less liable to spread than an alkaline fluid, such as the aqua kali puri of the London college,

or the common lixivium causticum.

The folution of caustic alkali or potass, has, however, been often used as a folvent of the stone in the urinary bladder, (fee Lithontriptic); for which purpose M. Foureroy recommends applying the remedy by injecting into the bladder a tepid folution of potass or foda, so weak as to be borne in the mouth. Before it is injected, the bladder should be completely evacuated of urine, and washed out with warm water. After the folution has been injected, and retained half an hour or more, it may be voided and allowed to settle in a proper vessel. If, on the application of a little muriatic acid to the sluid, a precipitate be formed, we shall have reason to conclude that the calculus contains uric acid, and that the alkali has acted on it.

The strongest caudic of a folid form, in general use among furgeons, is prepared as follows:—evaporate a folution of pure kali or potals in a clean iron vessel to a state of drynes; after which let the faline matter, in a melted state, be poured on a smooth iron plate, and divided into small pieces before it hardens, which must immediately be placed in a well stopped vial for use. This caustic is very apt to liquify on exposure to the air: it is therefore usually managed, by the admixture of quick-lime, to render it less liable to deliquescence; but this procedure also weakens the causticity of the remedy,

fo that it is not fo fit for furgical purpofes.

Some practitioners will even dilute the caustic still more, before they use it, by the mixture of foft foap, &c. which forms a patte; and they apply this in the following manner: put feveral folds or layers of common adhefive platter upon the part, through each of which cut a circular aperture for the reception of the paste. Then fill this hollow with the cauftical substance, and let it remain for the space of fix, feven, or eight hours, according to the effect defired; when it will be found to have penetrated sufficiently deep. Although this method has been fanctioned by the names of many eminent furgeons, it is very far from being the molt eligible; as the pure kali rubbed on the fkin about three or four minutes, will produce all the purposes withed for, and cannot extend itself or penetrate father than is proper. The pain caused by this short process, is not to be compared to that of applying a milder caustic several hours together.

When the caussie has produced its full essect, there will be a portion of dead skin or sless, called an eschar, which, by degrees, will separate and leave an opening. The part

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flould be pourliced until the efehar is caft off; but flould the feparation of the dead ficin be longer in taking place than the furgeon expects, he may puncture it through with a lancet, to facilitate the diffeharge of the confined matter.

When a superficial and more circumseribed effect is required, the lunar caustic will be sound presentle to the pure kali; as it is much less apt to disolve, and therefore is very easily managed even by an unskitul hand. The lunar caustic consists of a solution of pure silver in nitrous acid, formed into long solid pieces, about the size of a goose-quilt; which must be always mostlened a luttle, before we apply them to the skin. A scruple or half a dram of this substance, disolved in an ounce of water, makes a useful lotion for languid phagedeme fores; or it may be now and then injected into stitulous ulcers, until the surface begins to suppurate freely.

The milder caustic substances, are burnt alum, vitriolated zine, vitriolated copper, verdegris, &c. but they feldom produce much benefit without repeated application, as they are too weak to act upon a part which is not previously deprived

of its cuticle.

Arfenical causties have likewise been employed by surgeons, especially in cancerous cases; but their superiority to more fase applications is very questionable; and it is certain that bad consequences have sometimes arisen from the use of them, even in the hands of skilful practitioners. See Home and Justamond's Tracts on cancers.

CAUSTIC Curve. See CURVE.

CAUSTIC, by reflection. See Caustic Curve. CAUSTIC, by refraction. See Caustic Curve. CAUSTIC glasses. See BURNING glasses.

CAUSTIC, Lunar, in Chemistry, improperly called " lapis infernalis," confitts of the crystals of filver obtained by folution in nitrous acid, and afterwards fufed in a crucible. It is prepared by diffolving very pure filver to faturation in nitrous acid, and separating the crystals by evaporation and cooling. These are to be fused in an earthen crucible, sufficiently large to admit of the frothing and fwelling that happen at the commencement of the fulion. The heat must be gentle, because the crystals are very fusible, and the acid eafily decomposed and driven off. It requires, however, to be somewhat raised after the ebullition has ceased. As soon as the matter is in quiet fusion, it is to be poured into a mould, confifting of five or fix small cylindrical cavities, by which it acquires the form of small pencils, and may conveniently be held in a case instead of touching it with the fingers. The blackness of lunar caustic feems to arise from part of the acid being driven off, and a portion of the filver received. Its causticity or action on animal substances appears to depend on the throng disposition of the filver to recover its metallic state, and confequently is a true com-

CAUSTICITY denotes a quality belonging to feveral fubflances, by the actimony of which the parts of living animals may be corroded or deftroyed; accordingly, all fubflances which have fo firong a tendency to combine with the principles of organized bodies as to deftroy their texture, are faid to be caustic. The chief of these are the concentrated acids, pure alkalies, and the metallic falts. See Caustic, spra.

CAUSTICUM ANTIMONIALE, the name given in the late London Difpenfatory to what was before called lutter of

ANTIMONY.

CAUSUS, in Medicine, xañoros, from xaía, I burn, a term applied by Hippocrates and other Greek writers, to an acute fever, accompanied by great heat of the skin. It is

the fame with the felris ardens of the Latins. See Inflammatury Fever.

CÂUTERISATION, in Surgery, is the operation of burning any part of the body artificially by means of a hot

CAUTERY, 221722, is a furgical infirument made of iron, gold, or filver, which, after having been made red hot, creats its cauterifing power upon the part to which it is applied; and it must be of various dimensions according to the purposes for which it is to be used. It is also termed the

actual cautery.

The actual cautery was formerly much employed for flepping hemorrhages, by touching the wounded arteries with it. When this is ufed, we muft, in order to avoid irritating and burning the neighbouring parts, place an iron tube or cannula upon the orifice of the artery, furrounded with cold wet cloths, through which the red hot iron is to be introduced, and the artery touched for a moment with it. Should it be practicable, we ought previously to flop the hemorrhage by means of the tourniquet, and dry the wound well. But as the efchar produced by the cautery may easily separate, and the hemorrhage return, the patient should lie quiet and be constantly watched; and in order to prevent the separation of the eschar, it may be frequently moitlened with brandy, and the impetus of the blood towards the part climinshed by the application of the tourniquet, or by blood-letting: and also in removing the dressings proper caution ought to be observed with respect to the eschar.

In some cases the actual cautery is the only remedy that can be employed with effect; as when the bleeding restel deep situated, or when from any cause no other styptic remedy can be used; for example, in hæmorthages from under the tongue, from the sockets of the teeth, &c. The actual cautery is therefore a remedy which certainly deserves to be more frequently used than is generally sone, especially as the irritation and pain which it occasions are by no means so great as is generally supposed. See Hæmorkhage. The actual cautery is moreover used in caries and enlargements of the bones; in caries of the teeth; in excrescences, especially of the gums; and in wounds produced by the bites of mad dogs, or venomous animals. Consult on this subject the differentiation of Mr. Le Cat concerning the use of fire in chirurgical diseases, and that of Mr. Spiritus concerning fire considered as a chirurgical remedy, Götting, 1784.

To this head belongs also the cauterisation with moxa, cotton, gun-powder, burning-glasses, or live coals. The moxa is prepared from the plant termed Artemisia vulgaris. It must lie for a very long time, even for whole years, in the shade to dry, after which the leaves and superior extremities are pounded and rubbed between the hands till they form a sort of cotton. For the purpose of perfuming it, the Chinese sometimes mix musts or the assess of the wood of aloes with the artemisa. When this cotton has been purified from all coarse and foreign subtlances, it is relled between the hands till it acquires the form of a cone, pointed at the top and broad at the base, like a pyramid. This pyramid is faltened with faliva to the skin, and set on fire; and when it has quite burnt down, it leaves an eschar upon the skin.

The cylinders of cotton, or Mr. Pouteau's bougies, are prepared in the following manner. Take carded cotton, and form it, without twifting it close together, into cylinders four inches long, and one in diameter. The cylinder is next wrapped round with a piece of fire linen, four inches broad and three long, and the two ends are laid over each other

and fewed together, fo as to form a small plug. This is then cut through the middle with a pair of sciffars, so as to form two cylinders. The rest of the cetton, which projects either at the top or bottom, is to be cut off with the sciffars, close to the edge of the linen. In using these cylinders, the lower extremity is placed upon the strin, moistened a little with falliva, to make it adhere. The upper end is then kindled with a wax taper, and kept burning by means of a fan or bellows, till it has quite burnt down. As soon as the heat penetrates into the skin, the cotton is made to thick still falter to the part by means of the augmented perspiration.

The method proposed by Mr. Pascal is fill more convenient. The cotton having first been boiled in a strong solution of nitre, the cylinder after being once lighted, burns till it is quite confumed, so that there is no necessity for fanning or blowing the slame. If we confine the cylinder in a wide tube of strong past-board, we may hold it between our singers whilst it is burning, so as to prevent its falling down or in-

juring the neighbouring parts

Of fuch cylinders we may apply one, two, or more, according to circumitances, and yet the operation of the fire will never penetrate deeper than the ikin. When the operation is finished, the burnt part may be covered with ung. refin. flav. or bassis of pread upon a pledgit. When the heat does not penetrate quite through the ikin, and into the cellular substance, we frequently fail of our intention, on which account we must always see to it, that the cylinder burns down to its very last particle, as the end of the combustion is the most efficacious.

Cauteries have been employed with advantage in various difeafes, but they are chiefly useful in arthritic and rheumatic pains, in which cases the pyramids of moxa, and especially the cotton cylinders, are preferable to the actual cautery. But before we proceed to the use of these applications, we ought first to have tried every other proper remedy, and when these produce no benefit, we must employ the cautery. We ought always to place these substances exactly upon the part at which the pain is most violent. When the pain shifts, we must follow it with the cylinder wherever it seats itself. However, this method of cauterising is properly applicable only when the pain has actually seated itself in some particular part; for, as long as it is sugstive, we merely make it shift from its temporary seat to another, without radically removing it. Its most speedy and surprising effect is in the lumbago.

It is further useful also in cases of ulcers, and in lymphatic swellings of the joints. However, it is necessary that particular attention should be paid to the nature of the circumstances in applying it. When, for example, the white swelling is combined with a deep feated and violent pain, when there is cause to believe that the ligaments are attacked by an arthritic, rheumatic, or venereal acrimony, cauterifation might tend to increase the evil; which might be the case in a still greater degree if the bones were enlarged and carrious, or whenever the lymphatic tumour is the effect of some violent constitutional disease. It is most useful when the tumour is of a primary nature. But powerful as the effects of these cauterising cylinders are, there are some cases in which it is necessary to employ them repeatedly before the pain yields to their operation.

The method of burning with gun-powder is as follows: when (for example, after a perfon has been bit by a mad dog) the actual cautery cannot be employed, either on account of the irregular shape of the wound or the fear of the patient, gun-powder is sprinkled into the wound, and fet fire to, as

ften as may be necessary

The ancient furgeons with juffice placed great dependence upon cauteries; only they are in fome degree to be reprehended for the abufe they fometimes made of them; as are the moderns also, for their too great neglect of these very efficacious remedies.

Actual cauteries are diffinguished, according to their degrees of strength, from caussis; which are termed potential cauteries. The difference between the actual and the potential cautery confiss in the circumstance, that though caustics produce an eschar or crust, they do it in a much slower maner, and not till several hours have elapsed; whilst the actual cautery produces its effects instantaneously. The potential cautery is therefore applicable in none of those cases which require the actual cautery. See the article Carles, substance.

CAUTGUNGE, in Geography, a town of Hindoostan, in the country of Bahar, on the north fide of the Ganges,

opposite to Bar.

CAUTING Inon, among Farriers, an iron instrument, wherewith they cauterife and sear the parts of a horse which

require burning.

CAUTIO, in the Civil Law, denotes an affurance or fe-

curity given or taken for any thing trufted.

CAUTION, in Military Language, is an explanation given before the word of command, by which the attention of the foldiers is called to the regular and correct execution by all of them at the same time of the movement they are

about to be directed to perform.

CAUTIONE admittenda, in Common Law, a writ which lies against a bishop who holds an excommunicated person in prison for contempt, notwithstanding he offers sufficient caution or security for obeying the commands of the church for the future. Reg. Orig. 66. And if a man be excommunicated, and taken by a writ of "fignificavit," and after offers caution to the bishop to obey the church, and the bishop results it; the party may sue out this writ to the sheriff to go against the bishop and to warn him to take caution, &c. But if he has reason to doubt whether the sheriff will deliver him by that writ, the bishop may purchase another writ, directed to the sheriff, reciting the case, &c. When the bishop hash taken caution, he is to certify the same in the chancery, and shereupon the party shall have a writ unto the sheriff to deliver him. New. Nat. Brev. 142.

CAUTIONARY Towns, places of strength, which one prince or power puts into the possession of another as a fecurity either for the payment of a debt, or performance of Some other matter Hipulated between them. Thus, when a profusion of expence was incurred by the elevation of the duke of Buckingham in the reign of James I. which was too great for his moderate revenues, the cautionary towns were delivered up to the Dutch, A.D. 1616. In the preceding reign, queen Elizabeth, when the lent the revolted Hollanders large fums of money, required of them a proper deposit, as security for payment. The Dutch, in compliance with this demand, put her into possession of the three important fortreffes of Flushing, Brille, and Ramekins. But James, in his prefent exigence, agreed to evacuate these fortress, upon being paid only a third part of the money which was due; this measure occasioned a very general discontent.

CAUTIONRY, or Fins-Jussion, in Scots Law, denotes the obligation by which one person becomes engaged as security for another, that he shall either pay a sum or perform a deed. A cautioner for a sum of money may be bound, either simply as cautioner for the principal debtor, or conjointly and severally for and with him. The first has, by euthom, the "ben-scient ordinis," or of discussion; by which received is obliged to discuss the proper debtor, before he can intil for payment against the cautioner. Where a per-

fon is bound as full debtor with and for the principal, or conjointly and feverally with him, the two obligants are bound equally in the fame obligation, each "in folidum;" and, confequently, the cautioner, though he is but an acceffary, may be fued for the whole, without either difcuffing or even citing the principal debtor. Cautioners for performance of facts by another, or for the faithful discharge of an office (e. g. for factors, tutors, &c.) cannot, by the nature of their engagement, be bound conjointly and feverally with the principal obligant, because the fact to which the principal is bound cannot be performed by any other. In fuch engagements, therefore, the failure must be previously constituted against the proper debtor, before action can be brought against the cautioner for making up the loss of the party fuffering. The cautioner, who binds himfelf at the defire of the principal debtor, has an 46 actio mandati," or of relief against him, for recovering the principal and interest paid by himfelf to the creditor, and for necessary damages; which action lies "de jure," though the creditor should not assign to him on payment. As relief against the debtor is implied in fidejuffory obligations, the cautioner, where fuch relief is cut off, is no longer bound; hence the defence of prescription frees the cautioner, as well as the principal debtor. Nevertheless, where the cautionry is interposed to an obligation merely natural, the relief is refricted to the fums that have really turned to the debtor's profit. Moreover, a cautioner, who pays without citing the debtor, lofes his relief, fo far as the debtor had a relevant defence against the debt, in whole or in part. Relief is not competent to the cautioner, till be either pays the debt or is diffressed for it, except, 1st, where the debtor is expressly bound to deliver to the cautioner his obligation cancelled, against a day certain, and has failed; or 2dly, where the debtor is " vergens ad inopiam;" in which cafe, the cautioner may, by proper diligence, fecure the debtor's funds for his own relief, even before payment or diffrefs. A right of relief is competent " de jure," to the cautioner, who pays against his co-cautioners, unless where the cautioner appears to have renounced it. In confequence of this implied relief, a creditor, if he shall grant a discharge to any one of the cautioners, mult, in demanding the debt from the others, deduct that part as to which he has cut off their relief by that discharge. Where the principal debtor, in a bond in which a cautioner is bound, grants bond of corroboration with a new cautioner, both cautioners, as they intervene for the fame debt, and at the defire of the same debtor, have a mutual relief against each other; but where the cautioner in the first bond figns as a principal obligant in the corroboration, the cautioner in the new bond, it would feem, would be entitled to a total relief against the first cautioner. Upon this branch of the dectrine of cautionry the decisions of the court of fession are not agreed. Cautionry is also "judicial," as in a fuspension. It is sufficient to loose the cautioner, that when he became bound, the suspender had good reason to suspend; e.g. if the charger had at that period no title, or had not then performed his part, though thele grounds of suspension should be afterwards taken off. In all maritime causes, where the parties are frequently foreigners, the defender must give caution " judicio fisti et jucatum folvi;" fuch cautioner gets free by the death of the defender before fentence; but he continues bound though the cause should be carried from the admiral to the court of fellion. This fort of caution is only to be exacted in causes strictly maritime.

CAUTO, in Botany, a name given by the people of Guinea, to a firub common in that part of the world; a decoction of which they use as a cure for the running of the reins, or a clap. Phil. Trans. N° 232.

CAUTO, in Geography, a river of the island of Cuba, which runs into the fea, 20 miles N.W. of Bayamo.

CAUTURIER, in Anatomy, a name given by the French writers to a muscle of the leg; called by the old writers, primus fledentium tibian; and by the latter writers, Cowper, Albinus, &c. fartorius; by Riolan, futorius.

CAUVERY, in Geography. See CAVERY.

CAUX; a country of France, in Normandy, fo called before the revolution, about 50 leagues in circumference, lying between the Ocean and the Seine, Vexin, Normandy, Picardy, and the country of Bray. The land is fertile in grain, hemp, fruits, &c. The coast abounds with fish, and the forests with game. Caudeber is the capital.

CAVY, in Zoology. See CAVIA.

CAVY, mu/k, of Pennant's quadrupeds, is the Mus pilorides of Pallas, and other late writers. See Mus pilorides.

CAWN, Cape, of Pennant, is Hyrax capenfis; which fee. CAWNPOUR, in Geography, a town of Hindooftan, in the Soubah of Oude; 37 miles S.W. of Lucknow, and 98

N. W. of Allahabad.

CAWOOD, a town in the well riding of Yorkshire, England, seated on the banks of the navigable river Ouze, over which there is a ferry from this town into the east riding. Here was formerly a calle, some ruins of which still remain. This was given by Athelstan to the archbishops of York, and was the birth-place of bishop Mountain, who is buried in the church at this place. The calls suffered materially in the civil wars. Here are a weekly market on Wednesdays, and two fairs yearly. The town contains 247 houses, and 1025 inhabitants, the greater number of whom is employed in agriculture. Cawood is stuated 10 miles S. of the city of York, and 187 N. from London.

CAWSTON, a fmall market town of Norfolk, England, is held of the Duchy of Lancaster in free foecage. It is fituated on the river Bure, and has a fmall market on Wednesdays, and three annual fairs, one of which is well supplied with sheep. Cawston is cleven miles N.W. of Norwich, and 112 miles N.E. from London. Here are 176

houses and 846 inhabitants.

CAXA, in Commerce, a little coin made of lead, mixed with feoria of copper; flruck in China, but current chiefly at Bantam, in the rest of the island of Java, and in some of

the neighbouring islands.

It is somewhat smaller than the French double, and has a fquare hole through the middle; by means whereof, feveral of them are hung on the fame string : this string, which they call fanta, usually contains two hundred caxas, equivalent to nine French deniers, or fomewhat less than three farthings flerling. Five fantas tied together, i. e. a thousand caxas, make a fapacou .- Nothing can exceed the brittleness of the caxa; a string never falls to the ground without breaking at least ten or twelve pieces. Leaving them at night steeped in falt-water, they cling fo firm to one another, that they we not to be separated without breaking one half of them. The Malays call them cas; and the Javele pitis. caxas are of two kinds; great and fmall: the fmall are those we have been speaking of; three hundred thousand whereof are equal to fifty-fix livres five fols, French money. The large are old caxas; fix thousand whereof are equal to the piece of eight, or four shillings and six pence sterling. enfies of Japan.

of gold and filver in the province of Quito in South America, which are contained and confined, as it were, betwixt two natural walls; in contradifiction to those in which the metal is found dispersed and mingled with earths of different species. In these mines, as in the others, the filver and gold

are intimately united with other bodies; and, therefore, it is necessary to separate the grains from the earth by running conduits of water. After having undergone the operation of the quickfilver, which their quality renders indispensable, the substance is washed in order to separate the remaining filth. After the last operation the amalgama is pure, consisting entirely of quickfilver, and gold or filver, according to the species which has been worked.

CAXAMARCA, in Geography, a jurifdiction of South America, in the country of Peru, and diocefe of Truxillo, lying to the castward of Truxillo, and extending along a valt interval between the two Cordilleras of the Andes. This jurisdiction is fertile in all kinds of corn, fruit, and esculent vegetables, and also in cattle, sheep, and especially valleys, who, after fattening them with maize, fend them to the markets in the large towns. The farmers of the valley of Chinca, and others, in particular, carry on a confiderable trade in these creatures at Lima, Truxillo, and other flourishing places. The Indians throughout this jurifdiction weave cotton for ship-fails, bed-curtains, quilts, and other uses, which are fent into the other provinces. Here are also fome filver mines, but of little confequence. The principal town is of the fame name, and was formerly a royal city, where the emperor Atahualpa was put to death, after having been defeated and imprisoned by Pizarro: about 70 miles from the Pacific ocean. S.lat. 8°. W. long. 76° 10'.

CAXAMARQUILLA, or CONAMARQUILLA, called also Patax, a juridiction of South America, in the diocese of Truxillo. It less among the mountains at a small distance S.W. from Caxamarca, and from its different situations has a variety of products; but it is particularly remarkable for gold mines. The chief commerce confists in exchanging that metal for current money, especially silver coin, which is the more element here on account of its scarcity.

CAXATAMBO, a jurifdiction of South America, in the circuit of Lima, commencing 35 leagues N. of Lima, and extending about 20 leagues, and partly among the mountains, fo that the temperature of the air is various; but the whole territory is very fertile in grain. It has also fome filter mines, which are wrought; and the Indians have manufactures of bays, which contitute part of the trade of this jurif-diction.

CAXCAXTOTOTI, of Ray, in Ornithology. See

STURNUS MEXICANUS, Gmel.

CAXINES, Cape, or Ra Accon-natter, in Geography, a cape on the north coast of Africa, in the Mediterranean, forming the west point of the bay of Algiers. N. lat. 37° 1. l. lat. 3 = ...

CAXOU, in Metallurgy, a word used to express a chest of ores of silver, or any other metal, that has been burnt,

ground, and washed, and is ready to be refined.

CAXTON, WILLIAM, in Biography, deferves to be recorded as the first person, who, according to some writers, introduced the art of printing into England, or who, according to others, improved and perfected it by the use of suffice types. He was born about the latter end of king Henry the IVth's reign, who died in the year 1412, in the Weald of Kent; and, after having been well instructed by his mother in reading and writing, he was apprenticed to Mr. Large, an eminent mercer in London, lord-mayer of the city, in 1439, with whom he resided till his death. In the year of his master's death, 1441, he was fent abroad by the mercers' company, as their agent and safter in the Low Countries, where he continued in the management of their concerns for about 23 years. His conduct in this department of public trust had been so satisfactory to his employers, and so highly reputable to himself, that he was joined

in a very honourable commission, granted by king Edward IV. in 1464, for the purpole of continuing and confirming the commercial treaty fublishing between his majesty and Philip duke of Burgundy, or, if necessary, of negociating and establishing a new treaty. Afterwards he appears to have held some office in the houshold of lady Margaret of York, the fifter of king Edward, who, in 1468, was married to the duke's fon, Charles, then duke of Burgundy. By his long relidence in these countries, as he was of an inquisitive and studious disposition, he became acquainted with the new invention of printing, which was then practifed in Holland and Flanders; and he feems to have been actuated by the laudable ambition not only of acquiring the art, but of introducing it into his own country. At the infligation of the duchels of Burgundy, by whom he was probably employed in some literary department; having attained by his diligent application a competent knowledge of the Latin and French languages, he translated from the French a work, which he entitled " The Recuyell of the Hiftorys of Troye, &c." the first book supposed to have been ever printed in the English tongue. Having laboured for three years in the translation of this work, which he begun at Bruges, in 1468, and finished at Cologne, in 1471, he undertook the talk of printing it in this city, having, as he himfelf fays, " practyfed and lerned at my grete charge and dispence, to ordyne this sayde book in prynte." Its date is 1471. After having published "The Book of Troy," he proceeded in printing others; and, at length, having provided himself with presses, types, and all other printing materials, he came over to England, in 1472; and, in a printing-room at the entrance of Wellminster Abbey, whence a printing room is to this day called a "chapel," he produced, in 1474, the first book that was ever printed in this country, which was the translation of a French work, and entitled "The Game and Play of the Cheffe, &c." For other claims to the introduction and practice of printing in Enggland; fee the article PRINTING. The next works, printed by Caxton, in the order of time, were " The History of Jason," supposed, though without a date, to have been printed in 1475; " The Dicts and Sayings of the Philo-Sophers," printed at Westminster in 1477; "The Moral Proverbes of Chrystyne of Pyse," printed in the following year : " The Cordyal," printed in the fame year ; and after printing began to make its first appearance at Oxford in 1479, three books, entitled the "Image of the World," "Ovid's Metamorphofes," and the "Chronicles," with a " Description of England," all printed in 1480. Such was his indefatigable industry, even in the decline of life, that in the space of 20 years he produced between 50 and 60 specimens of his skill and labour, most of them being translations, by himself, from the French, and judiciously selected with a view to the promotion of a talte for literature, and of good morals. Caxton died in 1401, and was builed in St. Margaret's church, Weltminster. Although Caxton had no great pretentions to literature, nor to the reputation of an original writer, and though he does not appear to have made any improvement in the typographical art, he is entitled to respect and gratitude for the share he had in introducing and establishing an invention of the highest importance in his own country, and in facilitating and extending the practice of it. As a printer, and also as a translator, he had undoubtedly great merit; as he contributed in a very confiderable degree, not only to the perfection of the art of printing, but to the diffusion of useful knowledge. The specimens of his talents and performances as a poet are found in the rhyming introductions and epilogues, with which he frequently decorates his books, and in a poem of

confiderable length, entitled the "Work of Sapience." This comprehends not only an allegorical fiction concerning the two courts of the cattle of Sapience, in which there is no imagination, but a fyltem of natural philosophy, grammar, logic, rhetoric, geometry, altronomy, theology, and other topics of the fashionable literature. Although Caxton appears, by the prologue, to be the author, yet Mr. Warton, (Hilt. of Poetry, vol. ii. p. 194.) thinks it not improbable, that he might on this occasion employ some professed verifier, at least as an affilitant, to prepare a new book of original poetry for his prefs. The writer's design is to describe the effects of wildom from the beginning of the world; and the work is a history of knowledge or learning. Biog. Brit.

CATON, in Geography, a small market town of Cambridgeshire, in England, has no other claim to publicity than from having been the birth-place of that respectable old historian; Matthew Paris, and the supposed birth-place of William Caxton, who introduced the art of printing into England. This ancient printer, we are informed by himfelf, was a native of Keat. In his "Recuyell of the Hystoryes of Troye," he thus informs us. "In France was I never, and was born and learned myne English in Kente in the Weeld, where English is spoken broad and rude." This town is seated on a Roman road, and at present derives its principal support from being situated on a modern public road. The houses are small and mean, and the inhabitants mostly occupied in husbandry. It has a small market on Tuesdays, and two fairs annually.

CAY, a town of China of the fecond rank, in the province of Pe-tche-li; 125 miles S.S.W. of Peking. N. lat.

38' 3'. E. long. 115' 20'. CAY. See CAYS.

CAY, or CAI, in Zoology, the Brasilian name of a very small monkey that inhabits South America, the prevailing colour of which is deep or coal black. Ray observes, that it lives only in thick woods, and is usually found fitting on the boughs of some of the trees which bear pods, the fruit of which it feeds upon. The species thus described is called by Busson tamarin, and is the Linnaan simia midas—Linn. Mus. Ad. Fr.

CAYA, in Geography, a river of Spain, which runs into the Guadiana, near Badajoz.—Alfo, a river of Spain, in Catalonia, which runs into the Mediterranean, near Ta-

marit

CAYAHOGA, or CAYUGA, a river of North America, in the state of Ohio, which discharges itself, by a mouth 88 yards wide, into the lake Erie at the fouth bank, 40 miles eastward of the mouth of Huron; having an Indian town of the same name on its banks, 30 miles S. of lake Eric. N. lat. 41° 20'. W. long. 81° 20'. It is navigable for boats 60 miles to the portage, which is 71 miles to the head-waters of the Tufcarawa branch of the Mufkingum; and it is also navigable for sloops for sifteen miles without any falls or rapids; but at the mouth there is a bar like that of Grand river. In the vicinity of this river are fine uplands, extensive meadows, oak and mulberry trees fit for ship-building, and walnut, chefnut, and poplar trees adapted to domellie uses. Near the mouth of this river are the celebrated rocks which project over the lake. They are feveral miles in length, and rife 40 or 50 feet perpendicular out of the water. Some parts of them confilt of feveral strata of different colours, lying in a horizontal direction, and so exactly parallel that they refemble the work of art. The view from the land is grand; but the water presents the most magnificent prospect of this sublime work of nature; it is attended, however, with great danger,

for, if the leaft florm arises, the force of the furf is such, limits, at the expence of the Portuguese, to the estuary of that no veffel can escape being dashed against the rocks. The heathen Indians, when they pass this impending danger, offer a facrifice of tobacco to the water. Part of the boundary line between the United States of America and the Indians, begins at the mouth of Cayahoga, and runs up along the fame to the portage between that and the Tufcarawa branch of the Muskingum.

The Cayuga Indians, confilling of 500 persons, 200 of whom are warriors, 40 being relident in the United States, and the rest in Canada, receive of the state of New York an annuity of 2300 dollars, besides 50 dollars granted to one of their chiefs, as a confideration for lands fold by them to the state, and 500 dollars from the United States,

agreeably to the treaty of 1794.

CAYAMBE, a village of South America, in the province of Quito, and jurisdiction of Otabalo, seated in the middle of a spacious plain, about 12 leagues N. of Quito. In this place M. Couplet, one of the French mathematicians deputed to measure the length of an arc of the meridian, died on the 17th of September, 1736, after an illness

CAYAMBURO, a mountain of South America, in the province of Quito, feated at the extremity of the plain of Cayambe, about 11 leagues N.E. from Quito. It is one of the largest mountains of the Cordilleras in this part of the country, being nearly equal in height to that of Chimborazo, that of the latter above the ocean being 19.595 English feet, and that of the former 19,391 feet. Its altitude is so great that it may be seen from the city of Quito. Its fummits are covered with fnow and ice: and its vicinity renders the whole plain of Cayambe cold, which is increased by the violence and continuance of the winds. It exhibits no appearance of having ever been a volcano, nor is there any tradition to this purpofe. Several rivers iffue from it, of which those from the well and north run either into the river of Emeralds or that of Mira, but all fall into the South Sea; while those from the east discharge themfelves into the river of the Amazons.

CAYANG, in Botany, a leguminous plant, cultivated in the Mogul dominions for food. It is a kind of coarse pulse; of which the Europeans use great quantities on ship-board in the East Indies. It is a species of the cytifus, called by

the Indians there kiffery. Poll. D.ct. Com.

CAYAO, or CALAO, in Ornithology, a name by which the Linnæan buceros bicornis, or Pulippine hornbill, is deferibed in the Transactions of the Royal Society, v. 23. p. 1394. CAYBOBO, in Geography, a town of the island of

Ceram, in the East Indian Sca.

CAYBOROUGH, a river of America, being one of those rivers, which fall into the channel of Arrowary, or north-well branch of the river Amazons; but, though ravigable, it is ufelefs for want of towns and inhabitants to trade.

CAYELAC, a fweet fcented wood which grows in Siam; the Siamefe and Chancle burn it in their temples. It is one of the commodities exported from Siam for

China.

CAYENNE, or French Guiana, in Geography, a province of South America, frequestry, but erroncously, called the island of Cayeane, which orms only an inconfiderable part of it, is bounded N. and E. by the Atlastic Ocean, Brite.) Guiana, or Surinan. It extends from the mouth of a finall river called Amano, W. to another called Aracara, E., though an attempt was lately made to extend the

the Maranon; its whole extent not exceeding 350 British miles in length by 240 in breadth. The French formed their first settlement in Guiana about the year 1635; and having abandoned it foon after, they were fucceeded by the year 1064, and retained it ever fince. The coast is low and marshy, and subject to inundations from the number of rivers, which rush down the mountains with great impetuofity. The foil of this colony is in many parts uncommonly fertile; and the productions are on the whole of an excellent quality, and it is eafy to gain a fubfiftence. The Cayenne pepper is a noted produce of this country, and the inhabitants using it to excess, a confiderable quantity is always imported from Peru. The other products of the colony are fugar, cocoa, coffee, and indigo, which, with maize, cassia, and vanilla, form the chief articles of its commerce. The interior parts, though much neglected, and remaining obstructed by thick forests and underwood, feed, neverthelefs, a great number of horses, sheep, goats, and cattle, which roam at pleafure: the beef and mutton are reckoned excellent. The climate is much more falubrious than that of any of the Antilles; but as the lituation of the town is ill chofen, in a fwampy ifle, its diladvantages have been laxly afcribed to the whole territory. The opinion that has been entertained of the unhealthfulness of this climate partly took its rife from the unfortunate expedition to Kourou, 12 leagues below Cayenne, which between 30 and 40 years ago was undertaken by command of the late duke of Choifeul, then prime minister of France; who fent 10,000 perfons, very much upprovided with the most necessary articles, and in the most rainy scason of the year, to people the immense deferts of French Guiana. This multitude of new colonifts, after encountering in their voyage, and on their arrival, numberless inconveniences and hardships, presently vanished, falling victims, as it was faid, to the infalubrious climate. Hence an erroneous opinion prevailed in France, which ruined the colony of Cayenne, by preventing the government from paying the least attention to that country, and discouraging a number of Europeans and inhabitants of the West Indian islands from fettling in Guiana. In this colony there are, properly, only two different feafons, the dry and the rainy featon. The former generally continues from the beginning of June until the end of September, during which time the heat is commonly very oppressive: the air is almost always ferene, and scarcely a few drops of falls of rain begin in the month of October, and are very frequent in December, January, February, and March, at which time they begin gradually to decrease until the dry feafon fets in. During the rainy feafon, that is, for feven plain of cold; aid, upon the whole, the flate of health is as good there as in Europe. However, at the time when flagmant waters are dried up and corrupted by the heat, fevers prevail for about two months, which, though not contagious, prove very defirmelive. The inhabitants of quifites of a good table, but they generally prefer falt meat and fifth to fresh provisions. Being also much addicted to the use of every kind of food that is highly seasoned, fer the cattiva, which is a large round cake, about three lines thick, made of coarse flour of manioe and flightly baked on a tin plate, to the best and finest forts of bread.

CAY

Besides the other articles of subsistence common to Guiana and other colonies, they have a diffe called "calatoll," which is prepared of the fruit of a plant denominated "Combua," which is in frequent use. At every meal a negro prefents to the guelts a glafs of ratifia, as foon as the first course is removed. This liquor is as transparent at Cayenne as the purelt fpring-water; it is very wholesome, and acquires a , more pleafant flavour the older it grows; especially fince the colonifts have applied themselves to distil it over newly gathered cinnamon. The drefs of the male fex confifts in white pantaloons and a linen jacket, and the women fpend most of their time in a hammock, a piece of furniture much valued in Guiana, and ferving both for ornament and convenience. All hammocks are made of cotton; they are in general from fix to feven feet in length, and nearly as broad; they are fastened on both ends by a number of small cotton strings; which join, at each end, a large rope of the fame stuff. The whole burden is supported by these ropes, which are fastened to the walls of the room by means of large hooks. The hammocks are commonly suspended in the corners of the room, where they hang, like fwings, in the form of a garland. Very fine hammocks are made at Cayenne: but the most beautiful are imported from Peru in Brasil, situated on the right banks of the river Amazon. The latter are made of variegated cotton, after various defigns, ornamented with borders, taffels, and fringes, and coft about 50 dollars.

CAYENNE, the capital of the above colony, which is the feat of government, and of the courts of justice and the military. It is feated close to the fea, on the right banks, and near the mouth of a river of the same name, which is there about a league in width. The town is fmall; the houses are badly constructed of wood; and it is surrounded by a fwampy moat, and wretched walls, which form a fort of irregular hexagon. The fort, which commands the town, is constructed of earth, and tolerably strong towards the fea, especially for this reason, that, from the want of depth of water, hips of a middle fize only can approach it within gun-shot. The palace of the government, and the ancient mansion of the Jesuits, are the only buildings which deferve particular notice. They form two large façades, fronting the place of parade, which prefents a pleafing prospect. It is bordered with two rows of orange trees of the largest fize, which exhale an exquisite fragrance, and are crowded with colibris skipping from branch to branch. The population of the town of Cayenne, having of late years increased, and its circuit not admitting of a proportionate enlargement, a new town has been built on the neighbouring favanna, separated from the former merely by a ditch. This new town, which is already more confiderable than the ancient city of Cavenne, and is daily increasing, is constructed on a regular plan: the streets are wide, admitting the free access and circulation of air, and contain some elegant houses, the beautiful appearance of which becomes more Ariking from the obvious marks of poverty and wretchedness exhibited by every thing about them. Cayenne, the metropois of the whole colony, is also the capital of the island of the same name. Cayenne is celebrated on account of the experiment made by M. Richer, by order of the Academy of Sciences at Paris, in 1672, upon the pendulum; for an account of which, fee PENDULUM. N. lat. 4° 56'. W. long. 52° 15'.

CAYENGE, or CAYANO, a small island on the coast of Guiana, formed northwards by the sea, and in other directions by the rivers Ouya, Cayenne, and Orayu. It is disjoined from the continent only by a kind of coast. This island, which is but five or six leagues in length, and three

leagues in breadth, is the more distinguished on account of its elevated and mountainous ground; as almost all the other parts of the coast of Guiana are low, and covered with fwamp-pines, a species of large trees, which grow in the fea, and form forests at a considerable distance from the shore. All the productions of the continent of Guiana are also supplied by the island, with this difference only, that the latter is as it were exhaulted, and does not indemnify the planter for his trouble and expence; while, on the contrary, moreremote lands are fruitful in a very altonishing degree. Nevertheless, the produce of the soil, which is a kind of black fand covering a loamy clay and fit for making bricks, is not obtained without labour and expence; and the culture of it has been neglected. The number of inhabitants amounts, exclusively of the garrison, to about 1000 or 1200 whites, most of whom refide in the town of Cayenne; and confist of the feeble remains of Choifeul's unfortunate expedition to Kourou, of poor emigrants from Canada, and some other persons of the lowest class, who are chained down, as it were, to the glebe of the colony, because their means will not allow them to emigrate to other parts. They cultivate merely as much land as is requifite for their fubfiltence; and as they have in vain folicited the support of government, they are incapable of extending their culture. This small number of whites, dispirited by the total neglect which they experienced, and apprized of the infufficiency of their means. for any important enterprise, have not prefumed to indulge the favourite idea of planters, that of amailing a fortune, and of passing their latter days in Europe. Being necessitated to procure from Europe wine, flour, clothing, andfome other things, they raifed exactly as many commodities as amounted to the value of those articles, for which they exchanged their produce. They exported, therefore, little or nothing for the benefit of the parent country; and as the latter was obliged to keep agents in Guiana, it began even to confider this colony, which might have become a fource of great opulence, in the light of a burthenfome poffession. Several of the inhabitants, thinly scattered over vait deferts, and scparated by impervious brakes and brambles, and at the fame time furrounded by negroes, whothreatened to endanger their fafety and peace, have relinquished the cultivation of the soil, and confined themselves to the rearing of cattle, which could be kept without careand expence in the immense savanuas or natural meadows of: the country.

CAYENNE river, which gives name to the island and country, rifes in the mountains near the lake of Parima, runs through the territory of the Galibis, a nation of Caribbee Indians, and after a course of 100 leagues, discharges itself into the North Atlantic Ocean by a mouth about a league wide near the town of Cayenne.

CAYENNE bay, a bay on the fouth-well coast of the island of St. Vincent; two miles north-well of Kingstonbay.

CAYES, les, a fea-port town on the fouth coast of the island of St. Domingo, 13 leagues W. by S. from St. Louis. It is furrounded by a plain, 6 leagues long and 4½ broad; its harbour is very inferior, and the air is unwhole-fome; but the foil is very fertile. N. lat. 18° 13′. W. long. 7,3° 45′.

CAYEUX, a town of France in the department of the

CAYEUX, a town of France in the department of the Somme, and diffrict of Abbeville; 3½ leagues N. of Mont-didier.

CAYHOCA, or Kerooca, a town of Spanish America, in the province of Tabasco; 30 miles W. of Tabasco.

CAYLAR, LE. See CAILAR.

CAYLLOMA, or Calloma, a jurifilition of South America, in the country of Peru, and diocele of Arequipa, at the diffunce of about 30 leagues call from the city of Arequipa, famous for a mountain of the fame name, and the filver mines it contains. The produce of these mines has been very considerable; and in the principal vallage of the fame name there are a governor and officer appointed for receiving the king's fifths, and vending the quickfilver used in separating the metal from the ore. The cold in the greatest part of this district is so intense, that the inhabitants are obliged to have recounse to the neighbouring provinces for the fruits of the earth. In some parts there are wild affes.

CAYLUS, ANN-CLAUDE-PHILIP DE TUBIERE, DE GRIMOARD, DE PESTELS, DE LEVY, count of, in Biography, an illustrious amateur of the arts, was descended from one of the most noble families of France, and born at Paris in 1692. Having entered at an early age into the military fervice, he diftinguished himself in Calabria in 1711, and at the fiege of Fribourg in 1713. But the peace of Raftadt terminated his military career; and from this time he devoted himself to those antiquarian researches, to which his love of the arts powerfully prompted him. In 1715 he joined the train of the French ambaffador to the Porte, and vifited the ruins of Ephefus, Colophon, and other places in Afia Minor and Greece. Availing himfelf by his garb and efcort of those measures for his security, which prudence suggeited, he viewed fcenes that had been rarely contemplated by Europeans, and returned to France, in 1717, with a rich collection of drawings and descriptions. He afterwards vifited London and other countries of Europe. Having concluded his foreign rambles and refearches, he devoted himself to the incessant study of the elegant arts in all their branches. He was a practitioner in mulic, drawing, painting, and engraving; and the labours of the pencil and graver were aided by his pen in the illustration of classical antiquities. By his encouragement the public obtained a magnificent work, describing the sculptured gems in the king's cabinet, with the figures by Bourhardon, and the explananations by Mariette. In 1731, he was admitted a member of the Academy of Painting and Sculpture; and in return that had belonged to it; and he collected in three works all the new subjects for painting, which had occurred to him in his perufal of the writers of antiquity. He also founded an annual prize for the best drawing or model after nature of a head, expressing some particular passion; and he also, at his own expence, caused to be engraved the beautiful coloured drawings of Pietro Santo Bartoli, made at Rome after ancient paintings. In 1742, he was appointed one of the honorary members of the Academy of Inscriptions and Belles Lettres: and thus diffinguished he was led to profecute diligent inquiries into the Egyptian mode of embalming, the preparation of the papyrus, the transportation of cnormous blocks of stone from one extremity of Egypt to the other, and feveral other curious fubjects of ancient art. He also elucidated many difficult passages in the elder Pliny, relative to the arts, and by the affiltance of a chemist revived the fecret of tinging marble and of ENCAUSTIC painting, which fee. His academical differtations amounted to more than 40 in number; and he instituted a prize for a disputation, explaining the customs of antiquity from monuments, with a view to the improvement of artifts in the knowledge of costume. By his various labours he acquired a reputation which extended throughout Europe, and which induced the principal learned academies to affociate him with their members. He was justly deemed the Mæcenas

of talents and literature; and by his own economical mode of living, he was enabled to indulge his tafte both as a collector and a patron. His moral character was amiable: cheerful, good-humoured, polite, firictly juit, an enemy to flattery, and indifferent to honour, he was a true practical philofopher. His health was preferved to an advanced period, and he died at Paris, after a fhort corfinement, in 1767, aged 73 years. His principal work is a "Collection of Egyptian, Etrufean, Greek, Roman, and Gaulifh Antiquities," 7 vols. 4to. of which the laft appeared in 1767, with an eloge of the author by Mr. le Beau. Of his other works are, "The Hiftory of the Theban Hercules, taken from various Authors," 8vo. 1758; "A Difcourfe on Ancient Pictures;" and feveral romances and fairy tales, the productions of his hours of relaxation. Nouv. Dist. Hift. Gen. Biog.

CAYLUX, in Geography, a town of France, in the department of the Lot, and chief place of a canton in the diffrict of Montauban; 7 leagues N.E. of Montauban. The place contains 5131, and the canton 10,473, inhabitants; the territory comprehends 195 kiliometres and 9 com-

nunes.

CAYMAN, in Zoolegy, the common name of the alligator in America. Bontius, in his History of Java, calls it

Crocedylus cayman. See LACERTA aligator.

CAYMANS, in Geography, three small islands of the Weth Indies, in the bay of Honduras, 55 leagues N.N.W. of the island of Jamaica, called Great Cayman, Little Cayman, and Cayman Brock. The former is the most southerly, about 1½ mile long, and a mile broad, and inhabited by about 160 persons, descendants of the old Buccancers. It has no harbour for ships of burden, and only a tolerable anchoring place on the S.W. The climate and soil are very salubrious; and the people, who are vigorous, live to a great age. The produce is more than sufficient for the use of the inhabitants. Their chief employment is that of piloting selfels to the adjacent islands, and sishing for turtle; with which they supply Port Royal and other places in great quantities. It is situated in N. lat. 19° 20′. W. long. 81° 40′. The other two islands are uninhabited.

CAYMANUM Larts, in Natural History, the name of a stone found in the beds of rivers in many parts of America, and of a yellowish colour, veined with red and white. The Indians have an idle tradition, that it is originally found in the stomach of a crocodile, which in their language they call the caymenes; and thence authors have named it lastic caymanum. The natives of America pretend that it has great virtues in medicine, and particularly that it cures quartans by being applied to the wrist; and, to enhance its value, they pretend to take it from the crocodile.

CAYMITES, in Geography, three islands near the coast of St. Domingo, in the West Indies, the largest being about 12 miles in circumference; 36 miles W. from cape Donna National St. 12 miles in circumference 26 miles W. from cape Donna National St. 27 miles W. from cape Donna National St. 26 miles W. from cape Donna National St. 27 miles W. from cape Donna Nationa

CAYNE, a river of Wales, which runs into the Severn, 4 miles W. from Newtown in Montgomers/hire.

CAYO, EL, a town of the island of Cuba; 60 miles E.

of Spirito Santo.

CAYONNE, a river of the island of St. Christopher, in the West Indies; which falls into the sea from the W.S.W. near Little Bay, half a mile S.E. of Madan's point.

CAYOPOLLIN, of Buffon, and Fernand. Nov. Hifp. in Zoology, a quadruped of the didelphis genus, deferibed by Pennant under the name of the Mexican opoflum. Schreber calls it didelphis cayopoilin, which see.

CAYRES, in Geography, a town of France, in the department of the Upper Loire, and chief place of a canton in the diffrict of Le Puy; S miles S.S.W. of Le Puy. The place contains 678 and the canton 3556 inhabitants; the territory includes 130 kiliometres and 6 communes.

CAYS, a general denomination applied in the West Indies to fmall islands or rocks, or other banks above water. The English seamen improperly give them the name of

Kays.

CAYSTER, in Ancient Geography, now Minderscare, and called also by the Turks Coutchouk-mindre, that is, the Little Mæander, or the Black Mæander, a river of Asia Minor, which had its two fources N. and S. of the mount Tmolus, and having bathed Lydia, and traversed the plain between the mountains Gallefius and Coriffus, it discharged itself into the Ægean sea near Ephesus. This river was celebrated by the poets for the swans that frequented its banks, and the lakes formed by it on the plain. To this purpose Virgil says:-

" Jam varias pelagi volucres, et quæ Aliæ circum, Dulcibus in itagnis rimantur prata Caystri.'

It is also said to have almost as many windings as the Mæander itself. From this resemblance several of our modern travellers have been led to mistake the one for the other.

CAYSTRIUS CAMPUS, or CAYSTRUM, a plain of Afia Minor, in Ionia, between mount Gallelius to the north and mount Coriffus to the fouth, on which was feated the city of Ephelus. The Cayster traversed it from the east to the west. Pliny fays that this plain was formed by the fuccessive depositions of the river.

CAYSTROPEDIUM, a very populous city of Asia, in Phrygia; where Cyrus remained five days and was joined by

Epyaxa, wife of Syennesis, king of Cilicia.

CAYUGA, in Geography, a beautiful lake in Onondaga county and flate of New York, in America, from 35 to 40 miles long, about 2 miles wide, in fome places 3, abounding with falmon, bass, catsish, eels, &c. It lies between Seneca and Owafco lakes, and at the north end empties into Scayace river, which is the fouth-eaftern part of Seneca river, whose waters run to lake Ontario. The refervation lands of the Cayuga Indians lie on both fides of the lake at its northern end.

CAZAL, a town of Arabia, 80 miles N.E. of Medina.

CAZALLA. See CAÇALLA.

CAZALS, a town of France, in the department of the Lot, and chief place of a canton in the diffrict of Cahors; 3 leagues S.W. of Gourdon. The place contains 1046, and the canton 7947 inhabitants; the territory comprehends 1.421 kiliometres and 7 communes.

CAZARES, a town of Mexico. See Angelo.

CAZAUBON, a town of France, in the department of the Gers, and chief place of a canton in the district of Con-. dom; 6 leagues W. of Condom. The place contains 2275, and the canton 12,174 inhabitants; the territory includes 287 kiliometres and 18 communes.

CAZ-DAGLI, or CAZ-DANGLI, a district of Asia Minor, lying between Anatolia and Caramania, which the Turks believe to have been the country from which the English first drew their origin, and on this account, it is faid, that they never fail to claim kindred with the English wherever they meet, especially if they stand in need of their

CAZECA, in Ancient Geography, a maritime town of the Tauric Cherfonesus, between Panticapaa and Theodosia, according to Arrian.

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CAZEMATE, in Fortification. See CASEMATE.

CAZENOVIA, in Geography, a new and thriving township of America, in Herkemer county and state of New York, 40 miles westward of Whitestown. By the state census

of 1796, 274 of its inhabitants are electors.

CAZERES, a town of France, in the department of the Upper Garonne, and chief place of a canton in the district of Muret; z leagues S.W. of Rieux. The place contains 2023, and the canton 10,978 inhabitants; the territory comprehends 2221 kiliometres and 20 communes.

CAZERNS, in Fortification. See CASERNS.

CAZES, PETER-JAMES, in Biography, an eminent French painter, was born at Paris in 1670, and having difcovered an early inclination for defign, he was placed under the instruction first of Ferou, and afterwards of Houasse fenior. The manner of Houasse being too mechanical for his tafte, he received lessons of Boullogne the elder, and became his best scholar, so that he obtained several academical prizes. In 1703, he became a member of the Royal Academy of painting, and from this time began to diftinguish himself. His first performances were fabulous subjects in the gallery of the marquis de Clerambaut; but his reputation was established by a large picture difplayed at the church of Notre Dâme on every first of May, representing the Woman with an Issue of Blood. He then opened a school, which was much frequented. Being of mild and polished manners, and of an enlarged understanding, he acquired the friendship of feveral persons of taste. By the Academy his merit was for much noticed, that he was advanced through the gradations of adjunct, professor, governor, and director, to that of chancellor. His particular walk of painting was that of history; and his compositions are grand and well-studied, marked by elevated conceptions, large and flowing draperies, correct drawing, and a good ftyle of colouring. In his church pictures there is much dignity, and grace in his fabulous fubjects; and he equally excelled in great and fmall works. He is principally deficient in expression, and in some of his later pieces, especially, the coldness of age is perceptible. He loft his faculties fome time before his death, which happened in 1754. His works are numerous in Paris, and its vicinity, and they are also found at Abbeville, Amiens, and other places. His eafel works are met with in feveral cabi-The king of Pruffia has two excellent ones, which for their beautiful finish are compared to the works of Corregio. Argenville. Gen. Biog.

CAZES de Mondenard, in Geography, a town of France, in the department of the Lot and diltrict of Montauban; 3

miles S.E. of Lauzerte.

CAZIC, or CAZIQUE, a general title given by the Spaniards to the petty kings, princes, and chiefs of the feveral countries of America, excepting those of Peru, who are ftyled curatas. The French call them cafiques, a denomination which they also give to the chiefs of the Tartarian hords.

The cazics in some places do the office of physicians, and in others of priefts, as well as captains. The dignity of cazic among the Chiites, a people of South America, does not defeend to children, but must be acquired by valour and merit. One of the prerogatives annexed to it is, that the cazic may have three wives, while the other people are only allowed one. Mexico comprehended a great number of provinces and iffinds, which were governed by lords called an ziques, dependent on and tributary to the emperor of Mexico: thirty of these caziques or vasfals are said to have been so powerful, that they could each of them bring an army of an hundred thousand men into the field.

CAZIMI, among the Arabian Astronomers, denotes the disc of the sun. A planet is said to be in cazimi, when it is not distant from the center of the fun more than 10', the femidiameter of the fun's dife.

CAZOULS, in Geography, a town of France, in the department of the Herault, and diffrict of Beziers; 5 miles

CAZZOLA, a small island in the Adriatic, near the coast of Dalmatia. N. lat. 45° 8'. E. long. 16° 44'.

CAZZONS, in Rural Economy, a term provincially applied to fignify the dried dung of cattle, which is employed as fuel. It is a fort of fuel frequently made use of in some parts of Yorkshire, as about Holderness.

CEA, in Geography, a town of Portugal, in the province of Beira, 7 leagues S.S.E. of Vifeu.

CEADAS, or CEADAS, in Ancient Geography, a name given by Paufanias and Strabo to a place of Peloponnesus, in the vicinity of Sparta, in which was a deep cavern, into which they precipitated those who were condemned to

death for very atrocious crimes.

CEANIDES, or CEANTIDES, in Natural History, a name given by many of the ancients to the stone more generally known under the name of enchymonites. It was the fame with our sparry incrustations on the walls and roofs of fubterranean caverns: and, from the opinion of the times, that these stones brought forth young ones, which was founded on their finding little ones daily produced among them, it became a cultom to give this internally to women in labour, as a thing that would, by a fort of fympathy, hasten the time.

CEANMHARRA, in Geography, a hill in the Scots island of Tiree, remarkable for numerous caves, to which fea-fowl, eagles, and ravens refort; some of the caves are

more than 50 yards deep. CEANOTHUS, in Botany, κεανωθος, Gr. a name given by Theophrastus to a prickly plant, supposed by Columna to be ferratula arventis of Linnæus, but by Adanson to be a species of cirsium.) Linn. gen. 267. Schreb. 361. Willd. 412. Lam. Ill. 358. Gært. 615. Juff. p. 380. Vent. vol. iii. p. 472. Class and order, pentandria monogynia. Nat. Ord. Dumosa; Linn. Rhamni; Just. Rhamnoidea; Vent.

Gen. Ch. Cal. Perianth one-leafed, top-shaped, permanent, five-cleft; fegments acute, nearly closed. Cor. Petals five, equal, clawed, awl-shaped, inferted into the calyx between its divisions. Stam. Filaments five, awl-shaped, erect, opposite to the petals, the length of the corolla; anthers roundish. Pift. Germ superior, trigonous; style cylindrical, femitrifid, the length of the stamens; stigmas obtuse. Peric. Capfule (dry berry; Linn.) fobtufe, three-grained or threecelled. Seeds folitary, egg-shaped.

Esf. Ch. Calyx five-cleft. Petals five, clawed, cowled, opposite to the stamens. Capfules three-grained, three-

ceded.

Sp. 1. C. americanus, Linn. Sp. 1. Mart. 1. Lam. 1. Willd. 1. Lam. Ill. pl. 129. fig. 1. Gært. tab. 106. fig. 4. (Celastrus; Gron. Virg. 23. Evonymus; Com. Hort. tab. 86. Pluk. alm. tab. 28. fig. 6.) New Jersey tea. "Leaves egg-shaped, acute, serrated, three-nerved at the base; panicles axillary, on long peduncles." A fhrub, three or four feet high. Stems several, slender; branches cylindrical, fmooth, reddish. Leaves alternate, deciduous, on short petioles. Flowers small, white, very numerous. Capfules about the fize of a pepper-corn. A native of New Jersey, Virginia, Carolina, and other parts of North America. An infusion of the dried leaves is used by the common people instead of tea; particularly in the fouthern states, where,

from its Indian name, it is commonly called pongpong tea. It flowers from July to October, and from the profusion of its bloffoms is a very ornamental shrub. 2. C. macrocarpus, Willd 2. Cav. ic. 3. p. 38. tab. 276. "Leaves cordateroundish, obtuse. three-nerved; corymbs axillary." Fruit nodding, large. Sufficiently diffinct from the preceding, both in its inflorescence, and its leaves. A native of New Spain. 3. C. microphyllus, Lam. Illust. 2681. " Leaves oblongeiliptical, distantly toothed, finall; panicle terminal, compoled of alternate peduneled cymes." Stems about nine inches high, flender, much-branched. Found by André Michaux in Florida. 4. C. afiatieus, Linn. Sp. Pl. 2. Mart. 2. Lam. Enc. 2. Illust. 2682. Pl. 129. fig. 2. Willd. 3. (Rhamnus afiaticus; Poiret in Encyc. Art. Nerprun. Gloffularia; Burm. zeyl. iii. tab. 48. Katapa; Rheed. Mal. 5. tab. 47. Carpodetus ferratus; Schreb. 369. Willd. 410. Mart. Forft. prod. 111. gen. p. 33. tab. 17.) "Leaves egg-shaped, somewhat serrated, three-nerved at the base; peduncles axillary, branched, many-flowered, shorter than the leaves." Lam. A shrub of a moderate size. Branches stiff, cylindrical, perfectly fmooth. Leaves alternate, obscurely nerved, veined, fmooth. Flowers in axillary racemes; molt of them abortive. A native of the East Indies, and the isle of France. 5. C. reelinatus, Mart. 4. Lam. III. 2683. L'Herit. Sert. Ang. p. 6. (Rhamnus ellipticus; Willd. 23. Hort. Kew. R. venosus; Poir. Encyc. 25. R. inermis; Swartz. prod. 50. Fl. ind. 1. p. 497. R. arborescens; Brown Jam. 172. tab. 29. fig. 2.) "Leaves egg-shaped. quite entire; branches dependent; cymes axillary, shorter than the leaves." Lam. A shrub. The young branches, petioles, peduncles, and calyxes cloathed with light yellowish down. Leaves alternate, acute; a little villous underneath when young; fmooth and bright green above. Flowers in fmall, axillary corymbs; peduncles branched at the fummit into fhort, thick pedicels, petals fhorter than the divisions of the calyx, almost linear. A native of Jamaica and St. Domingo. 6. C. colubrinus, Lam. Illust. 2684. (Rhamnus colubrinus; Linn. Sp. Pl. 8. Mart. 16. Poiret 15. Willd. 16. Jacq. Amer. 74. n. 2. Hort. 3. tab. 50. R. arboreus; Brown Jam. 2. p. 176. Arbor baccifera; Com. Hort. I. p. 175. tab. 90.) "Leaves elliptical, quite entire; petioles, peduncles, and calyxes cloathed with a ferruginous down." Lam. A tree, twenty feet high in mountain woods; only feven or eight in coppices on the coaft. Branches spreading horizontally. Leaves alternate, acute, fmooth and shining above. Flowers greenish, in short axillary racemes. A native of the West Indies, called by the French bois couleuvre, or fnake-wood. In Cuba, according to Jacquin, the down is filvery, but in the other islands it is always ferruginous. 7. C. eubensis, Lam. Ill. 2685. (Rhamnus cubensis; Linn. Sp. Pl. 10. Mart. 15. Poir. 14. Willd. 15. Jacq. Hort. 3. tab. 49.) "Leaves egg-shaped, obtuse, quite entire, wrinkled, tomentous on both sides; cymes axillary." A small upright tree seven feet high, in habit approaching to viburnum lantana. Leaves alternate, petioled. Petals, examined under a magnifier, ciliated. A native of Cuba. 8. C. africanus, Linn. Sp. Pl. 3. Mart. 3. Lam. Encyc. 3. Illult. 2686. Willd. 4. (Celastrus; Hort. Clif. 73. Alaternus; Pluk. tab. 126. fig. 1. Alaternoides; Comm. præl. 61. tab. 11. Ricinoides; Seb. Thef. 1. p. 35. tab. 22. fig. 6.) " Leaves lanceolate, obtuse, ferrated; itipules roundish." Lam. A shrub from fix to nine feet high, evergreen. Branches smooth, reddish brown. Leaves alternate, fmooth, shining, dark green above, on very short petioles; stipules embracing the stem. Flowers small, in axillary and terminal racemes. Fruit about the fize of a large

large pea, globular, furrounded on its lower part by the calyx, which, having lost its divisions, resembles a little cup. A native of Africa. 9. C. circumfcissis, Mart. 5. Gært. tab. 106. fig. 4. (Rhamnus circumscissus; Linn. jun. Sup. p. 152. Poir. in Encyc. 10. Willd. 32. Lycium; Pluk. Amalth. tab. 426. fig. 3.) "Prickly; leaves nearly opposite, in two rows; prickles folitary, recurved opposite to the leaves." A shrub. Branches simple, opposite, widely spreading, angular, with an even surface. Prickles solitary, opposite, fixed, horizontal, recurved, folid. Leaves petioled, inverfely heart-shaped, obscurely toothed; stipules two, very minute, caducous. Flowers fmall, lateral, in axillary corymbs; pedicels four or five, very fhort, thick, placed near the fummit of the peduncle; calyx campanulate, with five small tharp teeth, which fall off as the fruit advances, and leave the body of the permanent calyx apparently cut round; petals of a beautiful white colour, nearly heart-shaped, ciliated, involving the authers; filaments a little shorter than the calyx; anthers upright, oblong, flyle fhort, permanent; fligma, emarginate. Fruit three-celled; Linn.jun. two-celled, two-feeded in the specimens sent to La Marck by Sonnerat. A native of the East Indies and Isle de France. We have followed Gærtner and professor Martyn in referring this plant to the prefent genus, on account of its having a dry fruit opening with preflure by two or three regular valves, although La Marck has left it under Rhamnus. 10. C. copfularis, Mart. 6. Lam. Ill. Fortt. Flor. Auft. p. 18. n. 212. " Leaves ovate-cordate, acuminate, ferrated; capfules three-valved." Forst. A native of Otaheite.

Propagation and Culture. The first species was cultivated

in England, by bishop Compton, at the beginning of the latt century. It was foon after loft, but, in Mr. Miller's time, was re-imported from America, and is become not uncommon in nurseries. It may be raised either from seeds or by lavers of the young branches; but the first method is to be preferred. The feeds should be fown in autumn in small pots, which must be kept during the winter in an old hotbed, and well sheltered from frost, but occasionally exposed to fresh air in mild weather. In March the pots should be plunged into a moderate hot-bed, and when the plants have gained a little strength, they should be exposed in a sheltered fituation till autumn, but must be placed under a hotbed frame to fcreen them from the frolt of the enfuing winter, with a free allowance of open air in mild weather. In the following spring, they should be transplanted before they begin to shoot, some into separate pots, and others into the nursery bed in a warm fituation, where they may remain for a year or two, and then be removed to the places where they are defigned to remain. They require a dry foil and a sheltered situation; in stiff cold land they put out late in the fpring, and their young shoots are consequently fo full of fap in the autumn, that they are commonly hurt by the first frosts, and die nearly down to the ground. When propagated by layers, the young shoots should be laid down in autumn, and the furface of the ground covered with decayed tan taken from an old hot-bed, to fecure them from froll, and to prevent the winds from drying the mould too much in the ipring. In a light foil they will put out roots in about a year; but as the shoots are tender, they are apt to rot if they be more than very moderately watered.

The fourth species may be propagated either by layers or cuttings, but requires the protection of the bark-stove.

The feeds of the fixth species should be sown on a hot-bed in the spring; and when the plants are fit to remove, they should be placed separately in small pots, filled with light fandy earth, and treated like other tender exotic plants.

The eighth species is best propagated by cuttings, which

should be planted in spring, in pots filled with good kitchengarden earth, and plunged into a very moderate hot-bed. In about two months, if only moderately watered, they will have taken root, and may be treated like the other species.

CEAUX, in Geography, a town of France, in the department of the Vienne and district of Loudun; 2 leagues E. of

CEBA, Ansoldo, in Biography, an Italian poet, and a copious writer both in verse and prose, was born at Genoa in 1565, and died in 1623. In verse he wrote two heroic poems, " L'Esther" and " Il Furio Camillo;" and he laid down the rules of epic poetry in a dialogue on the fubject more happily than he exemplified them. His "Efther" contained many fabulous additions to the Scripture history, which caused it to be inserted in the prohibited lift. He chiefly excelled as a dramatic poet; and two of his tragedies, the "Gemelle Capoane" and the "Alcippo" have been inferted by the marquis Maffei in the Theatro Italiano. Ceba also wrote a Roman history in Italian, a collection of academical exercifes, orations, &c. Tirabofchi. Gen. Biog.

CEBA, in Ancient Geography, a town of Liguria, S.E. of Augusta Vagiennorum. The cheese made near this city is

commended by Pliny.

CEBARADEFENSIS, an episcopal see of Africa, in the Byzacene territory.

CEBARSUSSI, another see in the same territory.

CEBASSAT, in Geography, a town of France, in the department of the Puy-de-Dome, and diffrict of Clermont Ferrand; 3 miles N. of Clermont.

CEBATHA, in Botany, Forsk. Ægyp. p. 171. See MENISPERMUM edule.

CEBEL, in Music, an ancient English air, found among the compositions of the English masters of the violin who lived in the time of Charles II., in duple time of four bars or measures repeated at the will of the composer; the strains being alternately in the grave, and the acute feries of notes in the mufical scale.

CEBENNA, corruptly GEBENNA, the Cevennes, mountains of the Gauls, occupied by the Gabali and Ruteni. The Averni were fituated to the north of these mountains, in relation to the Romans, by which they were fortified as by a wall, " ut muro fe munitos existimabant," says Cæsar;

however, he penetrated their district.

CEBES, in Biography, a philosopher of Thebes, and a disciple of Socrates, is supposed to be the author of a beautiful allegorical piece, entitled "Pinax," or the "Tablet," representing a picture of human life. In its moral spirit and character, this piece is truly Socratic; but contains some fentiments which feem to have been borrowed from the Pythagorean school. Professor Meiners in a "Memoir," published in the 5th volume of the "Transactions of the Royal Society of Gottingen," urges several objections against the authenticity of the table of Cebes; and though they are not new, they are acute and judicious. It favours more, he fays, of the Stoical than of the Socratic school. He considers it, indeed, as a noble composition; pure in ftyle, as well as in precept; anterior also to the decline of Grecian eloquence, and infinitely superior to all the other productions that have been falfely attributed to the early writers of the Socratic fehool; nevertheless, he is induced, by various confiderations, to pronounce politively, that it was composed long after the time of Cebes. In the first place, the author of this "Table" considers poetry, rhetoric, music, dialectics, and all the branches of mathematical science, as a fallacious philosophy, which has no tendency to render mankind wifer and better; an opinion, which Aaz

which does not feem to be confiftent with the tenets of the Socratic school. Secondly, he mentions the Peripatetic feet, which arose in Greece long after the time of Cebes; and, thirdly, he uses several expressions, which, as Meiners thinks, were not in use among the early Socratic writers. The learned Brucker, in his account of Cebes, (Hift. Crit. Philof. t. i. p. 578. ed. 2. 1767.) has made feveral observations, which, if they do not entirely remove these objections, diminish, at least considerably, their force. Some interpolations have been supposed by the learned to have got into the text, perhaps from marginal notes in the MS.; and the passage from which professor Meiners deduces his first and most important objection, has, with no small appearance of evidence, been confidered by Fabricius as corrupt and paffage is fo closely connected with what precedes and what follows, that the fuspicion of any addition or interpolation is entirely groundlefs. Be that as it may, all the learned ancients, with one voice, attribute this philosophical table to Cebes, and, most certainly, both with respect to beauty of composition and excellence of matter, it is worthy of the most sourithing period of Athenian philosophy and literature. The editions of this table in various languages have been innumerable. The first complete edition of it was published from a MS, in the king of France's hbrary by 1. Gronovius, in 1687, Svo. It is now usually printed Bib. Græc. t. i. p. 831.

CEBESSUS, in Ancient Geography, a town of Afia, in

Lycia.

CEBESTUS, a town of Afia Minor, in Lycia, accord-

ing to Quintus Curtius.

CEBRENA, a town of Afia Minor, in the Troade, and in the country named *Gibreniu*, a level country below, and parallel to, Dardania. It is mentioned by Strabo, Thucydides, Pliny, and Scylax.

CEBRINUS, a river of Afia Minor, in Cebrenia, men-

tioned by Herodian.

CEBRUS, a place of Lower Mona, according to the Itinerary of Antonine. It was fituated to the north-welt, on the right bank of the Danube, below Rithiaria, at the mouth of a river of the fame name.

CEBU, in Geography, an illand of the East-Indian Ocean

See Zebu

Cebu, Sebou, or Subro, a river of Africa, in the empire of Morocco, which runs from mount Atlas, through the provinces of Fez and Afgar, and in its courfe cuts its way through two fleep rocks of prodigious height near the mountain of Beni-yazga, and falls into that fea near Mamor, a city deftroyed by Almanzor, about 20 miles N. of Sallee. The mountaineers convey themfelves from one fide of this dreadful chafm to the other, by feating themfelves in a ftrong baffect, that runs by a pulley along a flout cable, which is faftened at both ends to two beams fixed in the rock, and is drawn by the people on the opposite fide; fo that if the baffect or any of the tackle chance to break, as it has fometimes done, by the weight of the passengers, they fall into the river from a height of above 1500 fathoms. This river is reckoned the largest in Mauritania, and abounds with excellent fish, which has been farmed by the emperor at above 20,000 ducats.

CECCO, D'Ascoll, whose proper name was Francesso de Gli Stabill, in Biography, was born at Afcoli, about the year 1257; and acquired eminence, according to the age in which he lived, in poetry, theology, medicine, and mathematics. By his mechanical skill, he proposed to

through an interval of fix leagues. He feems to have had for some time an intimacy with Dante, which was interand it is probable that by the severity of his criticisms and by other parts of his conduct he made himfelf many enemies at Florence. He was invited to Avignon by pope John XXII. in order to be his first physician; though his medical reputation probably depended chiefly on his profeffed skill in altrology. In 1322, he was appointed professor of astrology and philosophy at Bologna, and there published his "Commentaries on the Sphere of John and the inquifition paffed a fentence enjoining penance, and became astrologer and physician to Charles, duke of Calabria, who governed that city. Here again the inquisition took cognizance either of his pretended prophecies or heretical opinions concerning the influence of the flars on the human character and conduct; and the power of his enemies prevailed against him to such a degree, particularly that of Dino del Garbo, a famous physician, who had attacked his commentaries, and who was probably jealous of his influence at court, that he was capitally condemned and brought to the stake at Florence in 1327. Dino himself died a few days after, distressed by the reflection that he had been instrumental in promoting this cruel event. Cecco was vain, fraudulent, and superstitious, and licentious in his practice. Belides the commentaries which occasioned his condemnation, he wrote a poem in Sefla rima, entitled "L'Acerba," which was a medley of phytics, morals, theology, and judicial aftrology, without much poetical merit; and yet the temporary reputation of the author caused it to pass through 19 editions: and the last year of its publication was 1546. Tiraboschi. Moreri. Gen. Biog. CECIL, WILLIAM, lord Eurleigh, an eminent statef-

man, was fon of fir Richard Cecil, malter of the robes to Henry VIII. and was born at Bourn in Lincolnshire in 1520. From St. John's college, Cambridge, where he completed his education, he was removed to Gray's-Inn, for the fludy of the law. In consequence of a dispute with two Irish priefts concerning the power of the pope, which he conducted with credit, he was introduced to the king; who brevium"; and he was then encouraged to push his fortune at court. His first wife was the filter of fir John Cheke, who recommended him to the favour of the earl of Hertford, afterwards to powerful in the reign of Edward VI. under the title of the duke of Somerlet. Soon after the commencement of that reign, having loft his lady, he married the daughter of fir Anthony Cook, director of the king's studies; and thus supported, he rose in 1547 to the post of master of requests, and in 1548, to that of Secretary. Some court intrigue occasioned his loss of this place, and his being committed, with some others of the duke of Somerfet's friends, to the Tower; whence, however, he was foon liberated. In 1551, he was reinstated in his office, with an increase of favour, knighted, and sworn a member of the privy council. So wary was his conduct amidst the collifion of parties, that he flood fecure when his patron, the duke of Somerfet, fell; and fuch was his personal influence with the young king, that the haughty duke of Northumberland treated him with respect. Upon the death of Edward he purfued the fame cautious conduct, and thus fecured for encountering the difficulties and performing the fervices, a favourable reception from queen Mary; but refuting to change his religion, he forfeited his office. In 1555, he attended Cardinal Pole and other commissioners to the continent in order to treat of a peace with France. On his return, he was deputed to parliament by the county of Lincoln, and diffinguished himself by his opposition to a bill brought in for confileating the estates of fugitives on account of religion. His prudent counfels were also of fingular service to the princess Elizabeth in her critical fituation; and they were duly acknowledged on her accession in 1558, when, in the arrangement of her first ministry, he was appointed privy counfellor and secretary of state. The fettlement of relicounfellor and fecretary of thate. The fettlement of religion was one of the first acts of the new reign, in which Cecil took the lead, and in which he manifested great prudence and moderation; and in the recovery of the coin from its debased state he also successfully engaged. With regard to foreign affairs, it was his great object to guard against the dangers impending from the catholic powers; and with this view he thought it of great importance effectually to guard the reformed religion in Scotland. As he was one of the commissioners who accomplished the convention of Leith and the treaty of Edinburgh, which were eminently advantageous to the English interest, he was advanced, in recompence of this service, to the post of master of the wards in 1561. His fystem of politics, which was prudential and cautious, corresponded, in a considerable degree, with the inclinations of his miltrefs; and he thus maintained a regular and permanent influence through the whole of his ministry. For his wildom and activity in suppressing the northern rebellion, he was raifed by Elizabeth to the peerage in 1571, by the ftyle of Baron of Burleigh, and in the following year he was made knight of the garter and lord high treasurer. His theady and zealous opposition to the machinations of the popish party, drew upon him the rancorous hatred of the Jeluits, and emissaries of Spain; and their rancour was further inflamed by the part he took in the unhappy fate of Mary, queen of Scots; whom he is charged with having driven from the throne, and kept as a prisoner in England, and whom he confidered as the inveterate foe of Elizabeth, fo that he never ceased urging her trial and condemnation. Burleigh shared with other actors in the catastrophe of her execution the feigned refentment of Elizabeth, and it was with fome difficulty that he recovered his former credit. At the time of the threatened Spanish invasion, he drew up the plans of defence, and his eldelt fon ferved on board Lord Howard's flect. Soon after this period he funk into a state of melancholy, in confequence of the death of his wife, to whom he was affectionately attached, and wished to with-draw from public business. However, he was persuaded to retain his employments, and he was diligent to the last in fulfilling the various duties of his flation, fo that he was regarded as at the head of Elizabeth's counsellors. One of the last fervices in which he engaged was an effort to bring about a peace with Spain; but being vehemently opposed in his proposed scheme of pacification by the earl of Essex, he contented himself with pointing out to his lordship in a prayer-book the following words, "Men of blood shall not live out half their days." Having attained an honourable old age, Lord Burleigh died in 1598, after having completed his 77th year. Cccil may be juttly reckoned the animating foul of queen Elizabeth's ministry, and to his counfels may be attributed, in a very great degree, the fingular prosperity of that period in the history of our country. Possessing no diffinguished genius, he had other qualities, such as the knowledge of mankind, the wildom of experience, invincible resolution and indefatigable application, which qualified him

which the critical circumstances of the times presented. Particular emergencies demanded corresponding measures of policy; and it must be allowed, that they offer an apology for some of those adopted by lord Burkeigh, who always approved himself a faithful servant of his royal mittress. In his character as a courtier he combined that degree of probity which conciliated effeem; and he feems to have poffeffed that learning, piety, and decorum, which in that age usually accompanied elevated flations. His manner of living was fplendid and yet economical; and though he raifed a confiderable fortune, it was by no means greater than the various posts which he occupied might justify. His whole life was that of a buly statesman; and therefore he had not much leifure for literary avocations. However, he is faid to have been the author of a few Latin verses, and of moral and historical tracts. Several of his letters on business are still ex-

tant. Biog. Brit.

CECIL, ROBERT, earl of Salisbury, was the second son of the former, and born about the year 1550. As his conftitution was feeble and his form distorted, he received the first rudiments of learning at home, under his learned mother and an excellent tutor, and finished his education at St. John's college, in the univerfity of Cambridge. By his father, however, he was instructed in the arts of an accomplifted courtier and statesman. He began his political career as affishant to the earl of Derby, embassador at the court of France, and in 1596, was appointed by queen Elizabeth fecond fecretary of state with Sir Francis Walfingham; and when that minister died, he became principal fecretary, which post he occupied as long as he lived. He acquired also other offices of profit and honour, for which he seems to have manifested a greater degree of avidity than his father. His advancement, indeed, was strenuously opposed by the earl of Essex; and for this reason he was a principal instrument in the diffrace and unfortunate end of that eminent nobleman. By the regular correspondence which he attentively maintained with foreign courts, he was enabled to counteract and defeat many conspiracies against his sovereign and his country. Whillt he contributed to support the declining years of Elizabeth by his vigour and prudence, he was not regardless of the favour of her successor. Accordingly he held a fecret correspondence with him, and adopted the necessary measures for his quiet inheritance of the crown at the queen's demile; and for these services he was continued as prime minister at the accession of James; who advanced him to the peerage; creating him baron of Essenden in 1603, viscount Cranbourn in 1604, and earl of Salisbury in 1605. In this last year he was appointed chancellor of the university of Cambridge, and admitted to the order of the garter. His politics were altogether adverse to the Spanish interest, which was powerful at court; he sleadily opposed the popish party, and placed himself at the head of the protestant cause, infomuch that he was reproached with the appellation of puritan. He was indispensably necessary to James; and therefore, though the king did not love him, he was chosen, in 1608, as the fittest person to succeed the lord high treasurer, the earl of Dorset, at his death. The king's profusion rendered his post very delicate and trying; and in order to supply the royal coffer, he is faid to have had recourse to various methods that have been deemed arbitrary and oppressive. The good of the nation was, however, the object at which he aimed; and he jully merited the praise of the ablest minister in that reign. By his application to business he injured his health; and as he had a weakly con-flitution, his life terminated by a decline, in 1612. He died at Marlborough in his return from Eath, and was

buried at his magnificent feat at Hatheld in Hertfordshire; which manor he had obtained from the crown, in exchange

for his feat of Theobalds near Chefhunt.

Lord Salifbury is characterifed as a man of more fubtle and acute genius than his father; and he was thus led, as fome have faid, to purfue a more crooked and treacherous fystem of policy, so that those who were concerned with him in public affairs could repose no confidence in him. The death of Sir Walter Raleigh is in a great degree charged upon him; and he is also reproached with having adopted arbitrary maxims of government, in order to ingratiate himfelf with his weak mafter. He was also selfish and avaricious in making lucrative bargains with the crown, and thus aggrandizing his own fortune. His natural temper was mild, gentle, and courteous; and though in the height of power, he met death with philosophical tranquillity. " Ease and pleasure," said he in his last illness, "quake to hear of death; but my life, full of cares and miseries, desireth to be dissolv-As a writer, he was the author of a work against the papifts, of feveral letters, dispatches, and parliamentary fpeeches, and of fome notes in Dr. Dee's discourse on the reformation of the calendar. Biog. Brit.

CECIL, in Geography, a county of America, in the state of Maryland, fituate on the shore of Chefapeak-bay, and containing, by the estimate of the population in 1782, 7749 inhabitants.—Also, a township of Washington county in the

ftate of Pennfylvania.

CECILIA, SAINT, in Biography. Mufical historians have found it very difficult in the lives and legends of faints, to authenticate the claim which this holy personage has to fuch divine honours and annual celebrations from the wicked fons of Apollo, the divinity whom the had abandoned.

It was natural to expect to find in the "Legenda Aurea" of Jacobus Januensis, and in Chaucer's account of this saint in his fecond "Nonnestale," that fome mention would have been made of her mufical powers and promife of protection to the art; but neither in Chaucer, nor in any of the histories or legendary accounts of this faint, which we have been able to confult, does any thing appear that can authorife the religious veneration which the votaries of music have so long paid to her; nor is it easy to discover whence it has arisen. cer's account is almost literally translated from the life of St. Cecilia, in the "Legenda Aurca" of Jacobus Januenfis. Bede, in his Ecclesiastical History (lib. v. cap. 2.), mentions her church at Rome, as the place where Vilbrord was ordained pope in 696; and in his Martyrology, he tells us, that her intended spouse, Valerian, and his brother Tiburtius, suffered martyrdom in the time of the emperor Alexander Severus. Mabillon (De Liturgia Gallicana, p. 175.) has proved, that the festival of this faint was celebrated in France before the time of Charlemagne, by a Gallician Missal, which he has published, and which must have been in use before the Gregorian chant was received in that country. (Cardinal Bona, De divina Pfalmod." fays, that the MS. of this mass, which was in possession of the late Christina, queen of Sweden, had belonged to the learned Petavius, and was written in the 9th century, as was discovered by the learned from the square form of the letters, and the capitals.) Fortunatus of Poitiers (lib. vii. cap. 4.), the most ancient author who speaks of her, fays, that she died, or rather suffered martyrdom in Sicily, Fortunatus wrote at the end of the 6th century; but even this was at too remote a period from that in which tradition tells us the faint lived, as Alexander Severus reigned from 194 to 211.

There was a great festival at Rome in 1599, during the pontificate of Clement VIII. for the finding the body of

himself a witness of this transaction, has left an ample account of it. (Voyez la Vie de Saints, tom. 31. 3 edit. fol.

p. 369, Par. 1715.)

The earliest notice of her as the titular faint and protectress of music feems to have been in the works of the great painters of the Italian school; some representing her in performing on the harp, and others on the organ. Raphael, in his celebrated portrait of the faint, has placed in her hands a column of organ pipes, or rather the front of a portable inftrument called the Regals, which in Roman catholic times used to be carried by one person and played by another in processions. But when her birth-day first began to be celebrated by affemblies of muficians, we have been able to discover no instance earlier than the latter end of the 17th century, when there was a rage among the votaries of mulic for celebrating the birth day of this fairt, not only in London, but in all the confiderable cities and provincial towns in the kingdom where music was cultivated.

We meet with no fuch conftant annual celebrations of this faint on the 22d of November in other countries. In the Drammaturgia of Leo Allatius, indeed, 13 dramas, tragedies, and oratorios are recorded, of which this female faint is the

The first composition expressly produced for a mulic meeting in England on St. Cecilia's day, was called " a mufical entertainment performed November 22d, 1683, on St. Cecilia's day, printed in fcore by John Playford, with a dedication to the gentlemen of the mulical fociety, and particularly the stewards, written by Henry Purcell, composer of the music."

But whoever wishes to trace the celebration of this pious patroness of music in our country from this period, will find an ample account detailed in the life of Dryden, by the diligent and accurate Mr. Malone, who has not only gone over the fame ground as the mufical historians, but taken a much wider range in fearch of materials for the life of this faint, and the honourable titles conferred upon her by the fons of

Apollo.

The history of this nominal patroness of music is involved in fome obscurity, it not very clearly appearing how the became entitled to this honour. She is supposed to have been born in the reign of the emperor M. Aurelius Autoninus, and to have suffered martyrdom in that of Septimius Severus, in the beginning of the third century; and, according to the legend, the was a noble Roman lady of diftinguished piety, who from her infancy had been bred in the Christian faith; notwithstanding which, she was married by her parents to a young Pagan nobleman, named Valerianus, who, on claiming the rights of a husband, was told by her, that she was visited nightly by an angel, who was enamoured of her, and would destroy him if he prefumed to approach her. He replied, that he would defitt, if he were permitted to behold his rival, and he should prove an angel; but if he were a mere mortal, as he feared, he would put them both to death; to which Cecilia answered, that he should be indulged in what he delired, provided he became a convert to Christianity. To this requilition Valerianus agreed; and after having been baptifed by bishop Urban (afterwards pope Urban I.), repaired to his wife's chamber, where he found her at prayer, with the angel by her fide, in the form of a beautiful youth, cloathed with celestial brightness. The angel had in his hand two crowns, or wreaths, the one of lilies, the other of roles, which he had brought from Paradife; one of them he presented to Cecilia, and the other to her husband, informing him at the fame time, that as a reward for his piety, whatever he affeed should be granted him. Valerianus replied, that he had a St. Cecilia among other relies. Cardinal Baronius, who was brother named Tiburtius, whom he wished to be made partaker of the same grace which he had received. The angel having granted his requelt, told him that they both should be crowned with martyrdom; and then vanished. They accordingly were put to death for their faith; but Cecilia was informed, that the should be spared, if she would offer facrifice to Jupiter. Not choosing to preserve her life on such conditions, the fuffered martyrdom, by being thut up in a dry bath, beneath which a large fire was made for the purpose of flowly confuming her. (According to other accounts, she was thrown into scalding water. Fortunatus of Poitiers, who lived in the fixth century, fays, the fuffered martyrdom in Sicily.) Finding, however, that the fire had no effect, her tormentors put her to death. Malone's Life of Dryden, vol. i. pt. 1ft.

p. 255. "If (fays Mr. Malone, as Dryden and others feem to have thought, she had been the inventress of the organ (ubi supra, p. 257) an inftrument so happily adapted to religious worthip, that circumstance might have entitled her to a place, though not to fo extraordinary an elevation, among the im-

provers of the mufical art.

All this adoration of the faint feems "to have arisen from a tradition that she was a skilful musician, and that the angel who vifited her was drawn from the manfions of the bleffed by the charms of her melody; a circumstance to which Dryden has alluded in the conclusion of his ode."

Mr. Malone has been at the trouble of tracing all the great Cecilian festivals held in London, from the year 1683 to about the year 1740. And Mr. M. in his very agreeable book has given a chronological lift of all the odes written expressly for the celebration of this faint, specifying by whom they were written, and by whom fet to mulic.

CECILIA, in Ancient Geography, a town of Syria, near the Euphrates, according to Ptolemy; probably the fame

with Ceciliana.

CECILIA Gemellina, 2 town placed by Ptolemy in Lusitania; perhaps the same with Cociliana, or Castra Cacilia. CECILIANA, a town of Alia in Syria, feated on the western bank of the Euphrates, S.E. of Hierapolis.

CECILIONICUM, a place of Spain, marked in the Itinerary of Antonine, between Capara and Ad Lippos.

CECINA FLUVIUS, a river of Italy in Etruria, which ran from the east to the west and discharged itself in the

CECROPIA, in Botany, Linn. gen. 1099. Schreb. 1492. Juff. p. 402. Vent. vol. iii. p. 542. Coulequin, Lam. Bosc. Class and order, dixcia diandria. Nat. Ord. Scabrida, Linn.

Urtica, Juff.

Gen. Ch. Male. Calyx common. Spathe egg-shaped, bursting, caducous; containing many fasciculated, cylindrical aments, imbricated with numerous flowers. Cal. proper. Scales top-shaped, compressed-quadrangular, obtuse, with a double personation at the tip. Cor. none. Stam. Filaments two, capillary, very short, from the personations of the scales; anthers oblong, quadrangular. Female. Cal. common. Spathe oblong, obtuse with a point, bursting longitudinally, deciduous; containing four cylindrical, imbricated aments. Cal. proper funnel-shaped, oblong, erect, bifid at the tip; fegments roundish, obtuse, concave, erect, fmall. Cor. none. Stam. none; but there are two very fmall, caducous bodies on the divisions of the calyx, which have the appearance of barren anthers. Pift. Germs numerous, imbricated, compressed, quadrangular, obtuse; styles folitary, very short; stigmas somewhat capitate, lacerated. Peric. Berry the form of the germ, one-celled, one-feeded. Seeds oblong, compressed.

Est. Ch. Male. Spathe caducous. Ament imbricated with

top-shaped, compressed quadrangular scales. Cor. none. Female. Germs imbricated. Style one. Stigma lacerated. Berry one-feeded.

Sp. C. peltata, trumpet-tree, or fnake-wood. Linn. Sp. Pl. Læst. it. 272. Jacq. Obs. 2, tab. 46. fig. 4. Amer. pict. 126. tab. 262. fig. 66. (Ambaiba; Marcg. bras. 91. Pil. bras. 147. Yaruma Oviedi; Sloan jam. tab. 88. fig. 3. tab 89. Ficus surinamensis; Pluk. alm. tab. 243. fig. 5. Coilotapalus; Brown jam. n. 1.) A tree, about thirty feet high. Trunk a foot in diameter, hollow, stopped from space to fpace with membranous fepta, which form flight annular marks on the furface, branched only at the fumnit. Leaves in clusters at the ends of the branches, large, peltate, green and scabrous above, downy-white underneath, deeply divided into nine or ten oblong lobes, on long petioles. Berries in flavour fomewhat refembling the common rafpberry. The wood when dry eafily takes fire by attrition; and is employed by the native Indians for kindling their fires in the woods. The bark is strong and fibrous, and used for cordage. The fmaller branches, when cleared of their membranous divisions, are employed for wind instruments. Both trunk and branches yield a great quantity of fixed falt with which the French despumate and granulate their sugars. A native of the West Indies, Guiana, and other parts of South America. It may be propagated by feeds brought from its native country in fand, and requires the fame treatment as other tropical plants.

CECROPIA, in Ancient Geography, one of the first names given to the citadel of Athens, and also to the whole city.

See ATHENS.

CECROPIA, a burgh of Greece in Attica, between Mount Œgaleus and the village of Achernes, according to Thucydides. A tribe of the same name belonged to it.

CECROPIUS Mons, a name given by Seneca the tragedian to a mountain of Greece, in Attica, in the vicinity of Athens; probably the eminence on which was erected the Acropolis, which afterwards bore the name of Ce-

CECROPS, in Biography, the first king of Athens, whose history ascends into the fabulous times, is faid to have been an Egyptian by birth, and to have brought a colony from the city of Sais in Egypt, whom he conducted after a tedious voyage to the shores of Attica, and settled on the rock, that became afterwards the fite of the city of Athens. The period to which this point is referred is, according to the Eusebian chronicle, about 1556 years B.C. On this fpot Cecrops built a fortrefs, called Cecropia; and having taken possession of a country inhabited by a barbarous people, divided it into districts, introduced laws, agriculture, and the arts, focial polity, and religion; and, on this account, deferved to be reckoned the founder of the Athenian state. Such was the beneficial effect of the regulations which he established, that Attica was soon peopled by 20,000 inhabitants, who were divided into four tribes. From respect to his memory, the Athenians assumed the appellation of "Cecropidæ," which they retained to the time of Erectheus. Cecrops died after a reign of 50 years. He had efpouled Agraulis, the daughter of Acteus, one of the principal inhabitants of Attica, by whom he had a fon, who died before him, and three daughters to whom the Athenians afterwards decreed divine honours. His tomb was long preserved in the temple of Minerva; and his memory was perpetuated in the confellation of Aquarius, which was confecrated to him. After Cecrops, reigned 17 princes, during an interval of about 565 years, the seventh of whom was called Cecrops, and the latt Codrus. Travels of Anacharsis, vol. i. See ATTICA.

CECRY-

CECRYPHALEA, in Ancient Geography, a promontory of Peloponnesus, near which the Athenians gained a Siculus and Thucydides. This has been supposed to be the the island and promontory of this name was called " Cecryphalom mare."

DRELA.

CEDAR. bellard. See BUBROMA Guacuma. CEDAR, Bermudian. See Juniperus Bermudiana.

CEDAR, Carolina. See JUNIPERUS. . . CEDAR of Lebanon. See PINUS Cedrus.

CEDAR, Lycian. See JUNIPERUS Lycia.

CEDAR, Phanisian. Sur JUNIPERUS Phanicea. CEDAR, red, or VIRGINIAN. See JUNIPERUS Virgini-

CEDAR, white. See Cupressus Throides.

CEDAR, or KEDAR, in Ancient Geography, a portion of tents. See the Song of Solomon, ch. i. ver. 5.

CEDAR, in Geography, an illand of America, on the coast of Virginia. N. lat. 37° 37′. W. long. 76° 40′.
CEDAR, a river of Canada which runs into the lake Michigas. N. lat. 47° 30′. W. long. 86° 50′.
CEDAR, a lake of North America, N. lat. 52° 30′. W.

long. 100° 5'. The entrance into this lake is through a fmall channel on the left, formed by an island. Banks of rocks appear at intervals, in the approach to it on either fide: the rest of the country is low. This is the case along the fouth bank of the lake and the islands, while the north is level throughout. This lake runs first west four miles, then as much more W.S.W., across a deep bay on the right, then fix miles to the Point de Lievre, and across another bay again on the right: then N.W. 8 miles across a flill deeper bay on the right; and 7 miles parallel with the north coast, N.N.W. through islands, 5 miles more to Fort Bourbon, fituated on a fmall island, dividing this from Mud lake. The Cedar lake is from 4 to 12 miles wide, exclulive of the bays. Its banks are covered with wood and abound in game, and its waters produce plenty of fish, parbably, in a course of time, by the deposition of earth and fand, convert the whole of the cedar lake into a foreit. Mackenzie's Voyages, Introd. p. 68.

CEDAR lick, a falt spring in the state of Tenessee, America, 19 miles from Nashville, 4 from Big Spring, and 6

from Little Spring.

CEDAR Point, a port of entry in Charles county, Maryland, on the east fide of Patowmac river, about 12 miles below Port Tobacco, and 96 S. by W. of Baltimore. Its exports are chiefly tobacco and Indian corn, and in 1704 amounted in value to 18,593 dollars .- Alfo, a cape on the west side of Delaware bay, in St. Mary's County, Mary-

CEDAR-cups, a fort of wooden ware brought from the West Indies. They are made out of the wood of the baftard cedar, and appear of a very close and firm grain; but they are really fo porous, that when any liquor is poured

CEDEBRA'TIS, in Ancient Geography, a town of Afia

Minor in Lycia.

CEDEYRA, in Geography, a town of Spain, in the province of Galicia; 5 leagues north of Ferrol.

CEDIAS, in Ancient Geography, an episcopal town of

Africa.

CEDILLA, in the Spanish and French languages, denotes a fort of small c, to the bottom of which is affixed a kind of virgula, as c, to denote that it is to be pronounced like s. The cedilla is called by some of our printers a ceceril. It is used before the vowels a, o, and u; as in bracos, choça, commença, leçon, and deça, &c. in the Spanith, it is fometimes used at the beginning of a word; as in camerra,

CEDOGNA, in Geography, a town of Naples, in the gan of Conza, at the foot of the Apennines, in a decayed

CEDREÆ, in Ancient Geography, a town of Asia Mi-

nor, in Caria. Steph. Byz.

CEDREI, CEDREANS, or CEDARENIANS, a people of Arabia Deferta, in the vicinity of the Nabathæans, mentioned by Pliny. They dwelt in tents, and commonly occupied the fouthern part of Arabia Deferta, north of Ara-

CEDRELA, in Botany, (formed from Cedrus, and fo called from its aromatic refin) Linn, gen. 277. Schreb. 383. Willd, 436. Lam. Ill. 378. Juff. p. 266. Vent. vol. iii. p. 165. Gart. 592. tab. 95. fig. 2. Class and order, pentandria monogynia. Nat. Ord. Melia, Just. Meliacea,

fmall, five-toothed, withering. Cor. pentapetalous, funnelerect, adnate to the receptacle about a third of their length. Stam. filaments five, awl-shaped, seated on the receptacle; shorter than the petals, adnate to the receptacle, Lam. short, distinct, Just. united into a tube, half their length, Vent .: anthers oblong, bent outwards at the tip. Pifl. Receptacle proper, five-corwhich rifes within the flower, Lam, placed at the top of a flipes which has the stamens inferted into its upper part and the petals into its lower, Juff. supported by the tube drical, the length of the stamens; sligma capitate, depressed. Peric. capsule woody, roundish, five-celled, fivevalved; valves deciduous. Schreb. Lam. (dehifcent from the tip, fixed at the base, not caducous, Gært.) Seeds numerous, fleshy, imbricated downwards, terminated by a membranous wing. (Compressed; upper ones elliptical; middle ones oblong-ovate; lower ones ovate-lanceolate; all of a ferruginous-cinnamon colour, with a nucleus at the top, and a membranous wing beneath, Gært.) Receptacle central, very large, woody, pentagonal, five-angular.

Est. Ch. Calyx withering. Corolla five-petalled, funnelshaped, adnate to the receptacle a third of its length. Capfule woody, five-celled, five-valved. Seeds imbricated downwards, with a membranous wing. Nearly allied to Swie-

Sp. C. odorata, Linn. Sp. Pl. Brown. Jam. tab. 10. fig. 1. Lani. Ill. Pl. 137. (Cedrus barbadenfium, Pluk. alm. tab. 157. fig. 1. Pruno forte affinis, Sloan. Jam. 182. hift. tab. 220, fig. 2. Acajou aplanches, Nicols. St. Dom. p. 135.) "Flow-A straight tree seventy or eighty feet high. Wood foft, light, reddish, of a pleasant smell; bark smooth and ash-coloured when young, rough as it advances in age; having, when fresh, an unpleasant taste and very offentive fmell refembling that of afafoctida. Leaves fometimes near three feet long, winged with fixteen or eighteen pairs of leaflets without an odd one, with a fmell like that of the bark. Flowers whitish slesh-colour, small, very numerous, in much-branched racemes or panicles: branchlets alter-

mate, rather remote, each bearing two or three flowers. On account of its agreeable odour, the wood is commonly known in the British West India islands under the name of cedar. It is much used there for canoes and periaguas, some of which have been hollowed out of its trunk not less than forty feet long and fix broad; the foftness and lightness of its wood render it peculiarly proper for this purpole. It is also cut into thingles for the roofs of houses, which are found very durable; and is a valuable material for chefts of drawers and other articles of household furniture, because its odour is offensive to insects. A native of South America and the West Indies. Loureiro has another species which he calls C. Rosmarinus, a native of Cochin-China and the neighbourhood of Macao, but Willdenow is of opinion that it ought rather to be referred to the genus Itea. A thrub, about four feet high. Leaves linear. Peduncles axillary, one-flowered. Seeds not winged. It yields a fine effential oil, and a fpirit not inferior to that which is drawn from rofemary.

CEDRELA, Brown, Jam. 158. See SWILTENIA mahagoni. CEDRELA, in Gardening, comprehends a plant of the exotic tree kind, viz. the Barbadoes bastard cedar (C. odorata), which, in its native fituation, rifes with a ftraight stem to the height of feventy feet or more, but is small in this climate. While young, the bark is smooth, and of an ash colour; but, as it advances in age, becomes rough, and of a darker colour: toward the top it shoots out many side branches, which are garnished with winged leaves, composed of fixteen or eighteen pair of leaflets, sometimes near three feet long, and of a pale colour, emitting a rank odour in the fummer feason: the fruit is oval, about the fize of a partridge's egg, fmooth, and of a very dark colour. It is a native of the West Indies.

Method of Culture. This is effected in this plant by fowing the feeds obtained from abroad in the autumn or fpring months, in small pots filled with a light earth, plunging them in a hot-bed. When the plants are of fufficient growth they should be removed with care into other small pots feparately, and be placed in the bark-bed, having afterwards the management of other woody flove plants.

CEDRENUS, GEORGE, in Biography, a Greek monk, who flourithed in the latter part of the 11th century, and wrote annals, or an epitome of general history, from the beginning of the world to the reign of Isaac Commenus, in 1057. This work is compiled, without much judgment and critical skill, from different authors. It was translated into Latin by Xylander, and printed at Basil in 1506; and an edition appeared at Paris in 1647, with the notes of father Goar, and the gloffary of Fabrot.

CEDRES, in Ancient Geography, a mountain of the ifle of Crete, near mount Ida, according to Theophrastus.

CEDRIA, a refinous liquor iffuing from the great cedartree, or cedar of Lebanon. The word is also written ce-

drium, xedgiov, and cedrinum, xedgicov.

Cedria, when good, yields a strong smell, is transparent, of a thick, fatty confidence, fo that in pouring it out, it does not fall too fait or freely, but equally drop by drop. It is possessed of two opposite qualities, viz. to preserve dead bodies, by its drying and confuming superfluous moifture, without damaging the folid parts; and to putrefy the foft and tender parts of living bodies without exciting any pain. The cedria is properly the tear of the cedar. Some call it the gum, others the pitch of the cedar. The same denomination is also given to the cedreleon, or oil of the cedar, which differs little from the refin, except that it is of a thinner consiltence.

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in embalming was forced out of it by fire, and called in Syria cedrium. His words are, " Cujus tanta vis cft, ut in Ægypto corpora hominum defunctorum eo perfusa ferventur." Dioscorides calls it the life of the dead, very Gari.

CEDRINUM (17mm), cedar wine; of which there retic, and gently allringent; but the laurinum, or bay-tree

wine, is remarkably heating.

CEDRIPPO, in Ancient Geography, a place of Spain, in

CEDRIS, a river of Sardinia, which flowed towards the

CEDRON, or Kepron, atown of Palestine, on the borders

of the Philiftines, in the way to Azotus. It was rebuilt by Cedebeus, according to the book of the Maccabees.

CEDRON, KEDRON, or KIDRON, a brook or torrent of Palestine, in a valley on the cast side of Jerusalem, betwist it and mount Olivet, which discharged itself into the Asphaltite lake. Our bleffed Lord paffed over this brook into the garden where he was betrayed, (John, xviii. 1.) David also, when he fled from Absalom, croffed this brook, (2 Sam. xv. 23.) See also Jer. xxxi. 40. Jerom calls it a torrent or valley, and Josephus denominates it a deep valley. Into this valley was conveyed the blood poured out at the foot of the altar, which, as the blood made the river look black, derived its name from this circumstance, the word " Kiddar," denoting blackness. Others deduce its name from the cedar-trees planted on each fide, whence, fay they, it is still named in the plural, as by the LXX, (Jer. xxxi. 40.), των κεδρων, from these cedar-trees. CEDRONELLA, in Botany, Comm. Hort. See Dra-

COCEPHALUM canarienfe.

CEDROPOLIS, in Ancient Geography, a country of Thrace, where, according to Aristotle, they trained hawks

CEDROSIA. See GEDROSIA.

CEDROTA, in Betany, Schreb. 660. Wild. 756. (Aniba. Aubl. 126. Juff. 478. Lam. Encyc. Bosc. Nouv. Dict.) Class and order, octandria monogynia.

Gen. Ch. Cal. perianth one-leafed; deeply divided into fix ovate, obtule, concave fegments. Cor. none. Stam. filaments eight, thort, inferted into the receptacle; anthers roundith, two-celled. Pifl. germ fuperior, roundish, furrounded by a gland; ftyle fhort; fligma obtufe. Peric.

Est. Ch. Calyx fix-cleft; fegments concave. Corolla

none. Germ furrounded by a gland.

Sp. C. guianensti, Mart. Willd. (Aniba guianensis, Aubl. Gui. tab. 126. Lam. Illust. Pl. 298.) A tree, forty feet high, two feet thick. Wood yellowish, aromatic, heavy when green, becoming light when dry; bark thick, unequal, wrinkled, full of clefts. Branches near the top of the trunk, numerous. Leaves about feven inches long, two broad, either opposite, or in whorls of three or more together, oval-acuminate, entire, thin, fmooth, on fhort petioles. Flowers small, green, loofely racemed, on a long, weak, axillary peduncle; pedicels flender, generally bearing three feffile flowers. A native of the forests of Guiana. The inhabitants call it cedar-wood, and use it for making their pirogues. It is faid also to be fit for masts.

CEDRUS. See CEDRELA, JUNIPERUS, PINUS, and

SWIETENIA.

CEDRUS, or CEBRUS, in Ancient Geography, a fmall river of Mysia, according to Dion Cassius.

a thinner confiltence.

CEESTER, in Geography, a town of Germany, in the Pliny, fpeaking of the cedar, fays, that the tar of it used duchy of Holltein; 12 miles W. of Pinnenberg.

CEESTER-

CEESTER-Muhe, a town of Germany, in the duchy of Holftein; 13 miles W. of Pinnenberg.

CEFALENSIS, in Ancient Geography, an episcopal see

of Africa, in the Proconfular province.

CEFALU, in Geography, a sea-port town of Sicily, in the valley of Demona, on the north coast of the island, the see of a bishop, suffragan of Messina. The harbour will not contain more than 30 or 40 veffels. The number of inhabitants is about 5000; 14 miles E. of Termini. N. lat. 38° 5'. E. long. 14° 5

CEGINUS, in Astronomy, a fixed star of the third magnitude, in the left shoulder of Bootes, marked y by

Baver.

ĆEGLIA, in Geography, a town of Naples, in the province of Bari; 5 miles S.S.E. of Bari.

CEGOLITÉS, in Natural Hijlory, a name by which fome authors have called the lapis JUDAICUS, or TECOLI of the ancients.

CEHOILOTL of Ray, in Ornithology, the Mexican pigeon, described by Gmelin under the title of columba mexi-

cana, which fee.

CEIBA, in Botany, Plum. tab. 32. Gært. 377. See

CEILA, or Keilah, in Ancient Geography, a city of Palestine, in the tribe of Judah. Joshua, xv. 44. It was attacked by the Philistines in the time of Saul; but rescued by David. Eufebius places it 17 miles from Eleutheropolis, on the fide of Hebron. Sozomen fays, that the tomb of the prophet Habakkuk was shewn in this place.

CEILANESE Gods. See Budun and SAKRADE-

CEILING, in Architedure, the upper part or interior

covering of any room or apartment.

Ceilings are in general composed of a coating of laths and plaster, or stucco applied on the underside of a vault or timber framing: accordingly they are either flat or coved in various manners; they are also either plain or ornamented. The usual method of ornamenting ceilings is to dispose them into compartments or pannels forming various geometrical figures, either let into the ceiling, or being flush with its furface, and furrounded with one or feveral mouldings. The compartments frequently receive ornaments of various kinds; foliage, figures, or grotefques, and executed in relief with flucco or plaster, or painted in colours, or chiaro oscuro. Thus the ceilings have frequently constituted the greatest ornament of palaces, and other splendid buildings, and have employed the talents of the greatest artists.

In England, the custom of ornamenting ceilings has greatly declined, and indeed is fearcely at all practifed in private buildings. The use of an inferior covering to the flooring-timbers of a house is considerable, as it preserves a greater equality of temperature in the apartments, and prevents the transmission of found from one flory to another. These advantages are so well understood in this country, that we fee none but the oldest and meanest habitations unprovided with platter ceilings.

CEILING, in Sea Language, denotes the infide planks of a

CEIMELIA, from xuuzi, to be laid up, in Antiquity, denotes choice, or precious pieces of furniture or ornaments, referved or laid up for extraordinary occasions and

In which fenfe, facred garments, veffels, and the like, are reputed of the ceimelia of a church. Medals, antique flones, figures, manufcripts, records, &c. are the ceimelia of

CEIMELIARGHIUM, the repository or place where ceimelia are preferved.

CEIMELIOPHYLAX, from assumber and Cularies, I Leep, the keeper or curator of a collection of ceimelia; fome-

The ceimeliarcha, or ceimeliophylax, was an officer in the ancient churches or monafteries, answering to what was otherwife denominated chartophylax, and cuftos archivorum.

CEINTURE, MILITAIRE, a military cincture, girdle, belt, or fash. This term, however, has been generally employed to denote a broad leathern belt, which was worn round the waift, and was ornamented with gold and filver plates. The chevaliers put on it even jewels and precious must have fatigued them, and particularly their fides, and it must have required good haunches to support them, when furnished with all their military appendages and trifles; for there were attached to this ceinture the two fwords for combut, the great effocade, or rapier, and the braquemard, or firong fhort cutting fword; as also the shield or buckler when the cavaliers were not in the act or attitude of fighting.

The marshal de Bourgogne, in 1241, left by his will to the church of St. Vincent de Chalons two ceintures, one of gold and the other of filver, to be wrought up into facred vales. These forts of ceintures, which ceased to be in use after armour of hammered or beaten iron made its appearance, constituted part of the cavalier's armament of

The armament d'honneur, or armament of honour, confifted of those pieces of a warrior's armour, to the loss of which shame or difgrace was attached. A cavalier who lost through cowardice or misconduct in battle his sword or his buckler, was difgraced or dishonoured. Difgrace was equally

attached to his loting his military cincture.

The conqueror in despoiling his adversary of his ceinture thereby manifested a complete victory over him. It was the mark or token of liberty as long as it was carried by one under arms, to which state of liberty that of servitude or flavery succeeded, on his losing it. He who defpoiled another of it had power or authority to bind him

Honour was so much attached to the military ceinture, that the grand feigniors took much delight in enriching theirs, and among the other ceremonies observed at the degradation of a chevalier, that of depriving him of the cincture

Cinctures were in use before the time of Charlemagne. A young chevalier, on first taking that ornament, received it from the hands of an old one. The ceremony observed on fuch an occasion was a fort of introduction to the profession of arms. When ceintures came to be laid aside, they were fucceeded by fearfs, bands, and bandoleers.

CEINTURE, in Ornithology, the French name of the yellow lark, Alauda flava. Ceinture de prêtre ou alouette de Sibérie, Buffon. The plumage of this bird is rufous, varied with fuscous grey above; beneath whitish; front, chin, and throat yellow; tail-feathers black, edged with grey; the exterior ones edged with white. Length five inches and

CEINTURE d'argent, in Ichthyology, the name given by French authors to the fish called by Linnæus Trichiurus

lepturus, which fee.

CEINTURON, a waist-belt generally of leather, which fucceeded the baudrier, or shoulder belt, and was smaller and lighter than it. The ceinturon and baudrier have, indeed, at times, replaced each other. The shoulder-belt is most common, and certainly gives the foldier a more military and graceful appearance than the wailt-belt. CEIRA,

CEIRA, in Ancient Geography, a cavern in the country of the Getze, in the vicinity of the Danube. Dion Cassius fays, that Crassus stopped the avenues of this cavern in order to compel the inhabitants of the country who had taken refuge in it, to furrender.

CEIRA, in Geography, a town of Portugal, in the pro-

vince of Beira; one league S.E. of Coimbra.

CEIRA, a river of Portugal, which runs into the Mon-

dego, about a league S.E. of Coimbra.

CEIXUPIERA, in Ichthyology. The fish described by Marcgrave under this name cannot eafily be afcertained from the account left us by that writer. He fays it is a native of the American feas, and is effected a fine and delicate fish, though of an enormous fize. Its grows to nine or ten feet long, and to the thickness of a man's body; but is chiefly eaten while young. The body is oblong; and the head flatted. The mouth is small for the fize of the fish, and it has no teeth in the jaws, but the whole mouth is thickly fet with small tubercles. Its back and fides are black, and the belly of a fine bright white. Its fins are all black except the belly ones, which are white with a rim of black at their edge.

CEIZERIAT, in Geography, a town of France, in the department of the Ain, and chief place of a canton in the diffrict of Bourg. The piace contains 1106, and the canton 8865 inhabitants: the territory comprehends 140 kilio-

metres, and 14 communes.

CELADON, in Ancient Geography, a small river of Peloponnesus, in Arcadia; which had its source in Mount Lyceus, and discharged itself into the Alpheus, according

CELADONE, a town of Greece, in the Locride .-Also, the name of a small river of Spain, called also Celadus

or Celandus.

CELADUSA, one of the names of the small island of Rhenea, fituated in the vicinity of that of Delos.

CELADUSSÆ, an island of the Adriatic Sea, mentioned by Mela and Pliny.

CELÆNÆ, a large town of Asia, in Phrygia, where Cyrus had a palace and a park filled with wild beafts. The river Meander traverfed this town, and also the Marfyas. Xerxes retired to Celænæ after his defeat, and built the castle and fortress. Xenophon mentions this city. Cyrus the younger fojourned here 30 days, and was joined by Clearchus, when exiled from Lacedamon .- Also, a place of Greece, on the confines of Attica and Bootia. Suidas.

CEL. ENUS, a mountain of Asia, placed by Ptolemy in

Galatia. It was also called Celanus tumulus.

CELÆTHI, a people of Greece, in Thesprotia, in the neighbourhood of Thessaly. Steph. Byz.

CELÆTHRA, an ancient town of Greece, in Bœotia, in the vicinity of the town of Arne, Steph. Byz.

CELAMA, a village of Africa, in Mauritania Casfarientis. It lay in the interior of the country, S.W. of the grand promontory, and S.E. of Artifiga.

CELANDINE, in Botany. See CHELIDONIUM majus.

CELANDINE, lesser. See RANUNCULUS sicaria.
CELANDINE tree. See Bocconia.
CELANO, in Geography, a town of Naples, in the province of Abruzzo Uitra, feated near the north shore of a lake of the fame name, and the head of the earldom that comprehended at one time the greatest part of the country of the Marfi. This was the ancient name of the people that inhabited the environs of the lake, allowed by the Romans to be the most intrepid foldiers of their legions, when in friendship, and the most formidable of their enemies, when at variance. It was a common faying, that Rome could neither triumph over the Marli, nor without them. In the 662d year of Rome, B. C. 92, they put themselves at the head of the Social war, one of the most obstinate and dangerous oppositions ever made to the progress of the Roman power, which was terminated by a grant of the privileges for which they contended. Their name flill fubfifts in that of the diocese, for the prelate is styled bishop of the Marli. In ancient times, the lake was called Fucinus, and was under the protection of a god of the fame appellation, whose temple flood on its banks. According to the tellimony of ancient authors, it was subject to extraordinary increase and decrease. The actual circumference is 47 miles, (more than 30 miles, fays fir William Hamilton, ubi infra); the breadth, in the widest part, 10, in the narrowell, 4; its depth, on an average, 12 fect. But these measures have been subject to great variations. Two miles up the plain, behind Avezzano, the fragments of boats, fhells, and other marks of its ancient extent, have been casually discovered; and, on the contrary, there are people who remember when it did not flow nearer than within two miles of Avezzano. An immense tract of land is lost at every increase of its level; and if any means could be devifed for draining it, or, at least, reducing its fize, the value of the ground recovered for cultivation would be more than an equivalent for any expence incurred in the works. Round this lake rifes a circle of grand mountains covered with fnow, some of which are the highest in Italy, if we except the Alps: the most elevated is the Rocca di Cambio. At the foot of these are many villages, and rich, wellcultivated farms. In fummer this country must be a delightful residence, for the environs of the lake are well enclosed, and the fides of the hills covered with fine woods; its waters abound with fish of various kinds, though not of the best quality, and hither, at the stated seasons, repair innumerable flights of wild fowl. In the shallow water on the borders of the lake, fir W. Hamilton faw thousands of water-fuakes, purfuing and preying upon a little fish like our thornbacks, but much better armed, though their de-fensive weapons seemed to avail them but little against such ravenous soes. The necessaries of life are good, plentiful, and cheap. About 11 mile from the town is the emissary or opening made by order of Claudius Cæfar for the difcharge of the waters into the Liris, now the Garigliano, which runs in a deep valley on the other fide of the hills. In a line from it, now choaked up, up the flope, are fix perpendicular wells, and two oblique grooves to the canal, which was driven through the hill into the opposite valley, and there had a vent at Capiftrelli, two miles from the lake. As the fwelling of this lake was attended with incredible damage, the Marsi had often petitioned the senate to drain it; Julius Cæfar would have attempted it, if his life had been prolonged. His fucceffor declined the project, till, at length, Claudius, who delighted in expensive, difficult enterprifes, undertook it. During the space of eleven years he employed 30,000 men in digging a passage through the mountain, and when every thing was ready for letting off the water, he exhibited a superb naval spectacle on the lake, confifting of an engagement between condemned criminals, who, in separate sleets, acted the parts of Rhodians and Sicilians, and who destroyed one another for the amusement of the court, and of a multitude of spectators that covered the hills. When the emissary was opened, at the close of this favage diversion, the emperor himself, with difficulty efcaped being hurried away and drowned by the fudden rushing of the waters towards this vent. However, through either the ignorance or negligence of the engineers, the work did not answer expectation, and Claudius did not live long Bb 2 enough

CEL

enough to complete it. Sir W. Hamilton went with A fhrub, native of the Cape of Good Hope. 2. C. bultorches into the emissary of Claudius as far as he could. It is a covered under-ground canal, three miles long, and great part of it cut through a hard rock; the other parts supported by mafonry, with wells funk to give air and light. In its prefent state, though filled up with rubbish and earth in many parts, and of course useless, it is a magnificent monument of antiquity. Nero abandoned the scheme projected and partly executed by Claudius, through envy. Adrian is faid to have let off the waters of the Fucinus; but none now escape except through hidden channels formed by nature, but liable to frequent obstructions. As three considerable streams run into the lake, the least obstacle to a difcharge must raise the level. Swinburne's Travels, vol. iv. p. 374. Phil. Tranf. vol. lxxxvi. p. 368. CELANO, a river of Italy, which runs into the gulf of

Tarento, 3 miles from Rossano.

CELANTES, in Logic, a denomination given by the Peripatetics to the Galenical fyllogism; otherwise called

wherein the major and conclution are univerfal negative propositions, and the minor an universal assirmative. E. gr. None whose understanding is limited can be omni-

Every man's understanding is limited. LA

CELASTRUS, in Botany, (xnhasifes, Theophraft.) Linn. gen. 270. Schreb. 372. Willd. 423. Lam. Illuf. 361. Juff. 378. Vent. vol. iii. 465. Gært. 593. (Evonymoides; Ifnard. A. G. 1716.) Staff tree. Class and order, pentandria monogynia. Nat. Ord. Dumofa, Linn. Rhamni, Just.

Gen. Ch. Cal. very finall, one-leafed, flat, femifive-cleft; lobes obtufe. Cor. Petals five, egg-shaped, spreading, seffile. Stam. Filaments five, awl-shaped, the length of the corolla, alternate with the petals; anthers very small. Pifl. Germ fuperior, very fmall, partly immerfed in a broad, flat receptacle; ftyle short; stigma trisid. Peric. Capsule inverfely egg-fhaped, obtufe, trigonous, three-celled, threevalved; partitions in the middle of the valves. Seeds few, egg-shaped, smooth, partly involved in a coloured fourcleft arillus.

Eff. Ch. Calyx five-lobed. Petals five, fpreading. Germ immerfed in the receptacle. Capfule trigonous, three-valved.

Seeds calyptrated.

Obf. Gærtner afferts that there is no folid generic diftinction between this genus and evonymus, a difference in the number of cells and valves being, in his judgment, of no confequence, except to the mere carpologist.

* Without thorns.

+ Leaves entire. Sp. 1. C. lucidus, Lino. Mant. p. 49. Syft. Nat. 6. Mart. 14. Willd. 1. l'Herit. Sp. nov. Fasc. 3. 49. tab. 25. (C. concavus; Lam. Illust. 2695. Cassine concava; Encyc. 5. Pl. 130. fig. 2. Evonymus; Pluk, alm. tab. 280. fig. 4.) Shining staff-tree or fmall Hottentot cherry. "Leaves oval, acute, thining, margined; peduncles axillary." Willd. "Leaves fomewhat roundith-egg-shaped, rigid, veined, concave above; capfules retule, blunt." Lam. A fhrub five or fix feet high. Stem a little twifted, with a blackith bark. Branches stiff, rather long, generally simple, leafy and green. Leaves alternate, numerous, rather fmall, almost fessile, finooth. Flowers small, white, solitary, or three together, on fhort fimple peduncles. A native of the Cape of Good Hope, flowering from April to September. 2, C. micro-phyllus, Linn. Sup. p. 154. Mart. 7. Willd. 2. Thunb. prod. 42. " Leaves egg-shaped, obtuse; panicles terminal."

latus, Linn. Sp. Pl. 1. Mart. 1. Lam. Encyc. 1. Ill. 2691-Willd. 3. (Evonymoides; Isnard Act. 1716. Evonymus; Pluk, alm. 139. tab. 28. fig. 5.) "Leaves egg-shaped, acute; panicle terminal," Willd. "Little racemes terminal." Lam. A shrub, eight or ten feet high. Stems generally and two broad, alternate, petioled. Flowers white. Fruit fearlet, with numerous fmall protuberances. Seeds hard, covered with a thin red pulp. A native of Virginia and other parts of North America, flowering in July. 4. C. oleoides, Lam. Ill. 2696. (Cassine oleoides; Encyc. Celaitrus laurinus; Willd. 4. Thunb. prod. 42?) " Leaves ovatelanceolate, margined; corymbs peduncled, axillary." Lam. "Leaves ovate-oblong, entire; panicles axillary." Thunb. ish. Leaves alternate, petioled, pointed at both ends, inches long. A native of Africa, communicated to La Marck by Sonnerat. 5. C. corniculatur, Mart. 18. l'Herit. fert. ang. 6. Breyn. ic. tab. 22. fig. 3. (C. roftratus; Willd. 5. Thunb. prod. 42? C. tricuspidatus; Lam. Illust. 2694.? Evonymus, Burm. Afr. tab. 97. fig. 1. quoted both by perennial; capfules three-horned." l'Herit. "Leaves oblong-oval, unequal, quite entire; corymbs dichotomous, axillary; fruit thorny." Willd. "Leaves oblong-oval, flining, quite entire, reflexed at the edges; capfules triprod. 42. " Leaves lanceolate; branches filiform; pedun-

7. C. feandens, Linn. Sp. Pl. 2. Mart. 2. Lam. Encyc. 2. Ill. 2692. Willd. 9. Gært. tab. 95. fig. 4. Thunb. Tranf. Linn. "Leaves oblong, acuminate, ferrated; racemes terminal; frem twining." Willd. A fhrub, twelve or fourteen feet high or more. Stems feveral, twining about other shrubs, or trees, or one another; they twine fo closely about trees as destroy them. Leaves alternate, petioled, smooth. Flowers small, whitish green. A native of Canada and Japan. Willdenow doubts whether the feandens of Linnxus and the punctatus of Thenberg be the fame plant, in opposition to the decision of Thunberg himself. La Marck in his Illustrations keeps them diffinet, with the following specific characters. C. feandens, "Stem twining; leaves egg-shaped, acuminate, finely ferrated." C. pundatus, "Branches climbing, 10. "Leaves egg-shaped, acuminate, obtuse, serrated; panicle clongated, terminal." Branches brown, fpotted, cylindrical. Leaves two inches long, one broad, alternate, fmooth. Paniele three inches long. Flowers small. A native of the East Indies, described by Willdenow from a dried specimen. 9. C. procumbens, Linn. jun. Supp. 153. Mart. 4. Willd. 11. Thunb. 42. "Stem procumbent; leaves egg-shaped, ferrated; slowers axillary, generally solitary." A native of the Cape of Good Hope. 10. C. acuminatus, Linn. jun. Supp. 154. Mart. 6. Willd. 12. Thumb. prod. 42. (C. populifolius ; Lam. Ill. 2698?) " Stem erect, limber; leaves egg-thaped, acuminate, ferrated; peduncles axillary, one-flowered." Linn. jun. "Leaves eggshaped, acuminate, ferrated; umbels axillary, nearly settile, few-flowered." Lam. A native of the Cape of Good Hope. 11. C. eaffinoides, Mart. 19. Lam. III. 2697. Willd. 13. L'Herit.

l'Herit, fert, ang. tab. 10. " Leaves egg-shaped, acute, remotely toothed, perennial; flowers axillary." A native of the Canary islands, flowering in August and September, introduced into England by Masson in 1779. 12. C. striatus, Mart. 10. Lam. Ill. 2702. Willd. 14. Thunb. jap. 08. " Branchlets erect, striated; leaves egg-shaped, acuminate, serrated; peduncles scattered, one-flowered." Leaves opposite, smooth, spreading, on short petioles. A native of Japan. 13. C. cernuus, Willd. 15. Thunb. prod. 42. "Leaves egg-shaped, obtule, serrated; peduncles axillary, one-flowered, nodding." A native of the Cape of Good Hope. 14. C. undatus, Willd. 16. Thunb. prod. 42. " Leaves obovate, fomewhat wedge-shaped, wave-toothed; Howers axillary, feffile." A native of the Cape of Good Hope. 15. C. edulir, Lam. Illuf. 2704. Wild. 17. Vahl. Symb. 1. p. 21. (Catha edulis; Lam. Encyc. Forsk. Ægyp. 63.) "Leaves opposite and alternate, elliptical, ferrated; cymes axillary, dichotomous." A tree. Leaves fmooth, fhining, on fhort petioles. Flowers white. A native of Arabia. The natives chew the green leaves, which they esteem a prefervative against the plague. 16. C. crenatus, Mart. 17. Willd. 18. Forft. prod. 113. " Leaves egg-shaped, crenulate; cymes axillary." A native of the Marquefas islands in the South Sea. 17. C. dilatatus, Mart. 9. Willd. 19. Thunb. Linn. Tranf. vol. ii. p. 332. (Evonymoides; Thunb. jap. 354. n. 26.) " Leaves inverfely eggfhaped, acuminate, ferrated at the tip; flowers terminal." A native of Japan. 18. C. myrtifolius, Linn. Sp. Pl. 3. Mart. 3. Lam. Encyc. 3. Illust. 2693. Willd. 20. (Myrtifolia arbor; Sloan Jam. 2. p. 79. tab. 193. fig. 1.) "Leaves egg-shaped, slightly serrated; slowers in racemes; stem erect." A tree from eighteen to twenty feet high. Wood white, very hard. Leaves alternate, petioled, rounded at the base, acute at the summit, smooth on both sides. Flowers white, small. A native of Virginia and Jamaica. 19. C. tetragonus, Willd. 22. Thunb. prod. 42. " Leaves egg-shaped, serrated; branches tetragonous." A native of the Cape of Good Hope. 20. C. articulatus, Mart. 8. Willd. 23. Thunb. jap. 97. (C. orbiculatus; Lam. Ill. 2700.) " Leaves rounded, acuminate, ferrated; peduncles axillary, often trifid, fometimes bifid." A thrub. Branches polygonous, fmooth, ferruginous, fpotted with white. Leaves an inch and half long, smooth, nerved, spreading; petioles channelled, one third of the length of the leaves. A native of Japan. 21. C. alatus, Mart. 11. Lam. 2703. Willd. 24. Thunb. jap. 98. " Leaves opposite, acuminate, flightly ferrated, on fhort petioles; branches winged." A native of Japan. 22. C. trigynus, Lam. Ill. 2699. (Sonneratia; Commerf.) "Leaves oblong-egg-shaped, obtufely ferrated; umbels axillary, loofe, peduncled; ftyle fearcely any." A shrub. Flowers very small; stigmas three, or three on very short ityles. A native of the isle of France.

> ** Thorny. + Leaves entire.

23. C. linearis, Linn. Supp. 153. Mart. 15. Willd. 25. Thunb. prod. 42. "Spines leafy; leaves linear." A native of the Cape of Good Hope. 24. C. integrifolius. Linn. Supp. 153. Mart. 16. Willd. 26. Thunb. Prod. 42. " Spines leafy; leaves egg-shaped, obtuse; cymes lateral." A native of the Cape of Good Hope. 25. C. emarginatus, Willd. 27. "Spines leafy; leaves inverfely egg-shaped, emarginate; umbels peduncled." Branches cylindrical. Spines an inch long, rigid, thick, alternate; the younger ones bearing leaves and flowers. Leaves glaucous, fmooth, obtuse, on short petioles. Flowers in umbels, at the axils of the leaves, and the tip of the spines; peduncles capillary,

long when compared with the flowers. A native of the East Indies, described by Willdenow from a dried speci-

++ Leaves ferrated or toothed. 28. C. Luxifolius, Linn. Sp. Pl. 4. Mart. 12. Lam. Encyc. 4. Illuf. 2705. (Lycium, Pluk. alm. tab. 202. fig. 3.) "Spines leafy; branches angular; leaves inverfely egg-fhaped, obtufe, fomewhat toothed; cymes lateral." A shrub, three or four feet high. Stem much branched. Spines alternate, straight, strong, some naked, often leafy. Leaves dark green. Peduncles axillary, supporting a loose cyme or umbel of about five flowers. B. with many-flowered cymes, Lam. Illuí. (C. multiflorus, Lam. Encyc.) A native of Africa. 29. C. Pyracanthus, Linn. Sp. Pl. 5. Mart. 13. Lam Eneyc. 7. Illui. 2706. Willd. 30. Gert. tab. 95. fig. 4. (Lycium, Comm. Hort. tab. 84.) "Spines naked; leaves oblong-egg-shaped; teeth few, very short, rather fpiny; cymes d'chotomous." A loofe, irregular fhrub, two or three feet high. Branches fomewhat cylindrical, brown or dark green, leafy, most of them without spines. Leaves narrowed towards the base, a little pointed at the tip, fometimes obtuse with a small spiny point. Flowers numerous, expanded; cymes loofe, lateral, and terminal;. terminal ones a little panicled. Fruit large, about the fize of a cherry, egg-shaped with three obtuse angles, pendant. A native of Africa. 30. C. flyillacanthus, Mart. 20. Willd. 28. L'Herit. Sert. ang. 6. (C. Senegalenfis, Lam. Eucyc. 6. Illutt. 2707.) "Spines leafy; branches cylindrical; leaves glaucous, unequally toothed; cymes lateral, fewflowered." A buffw fhrub, two or three feet high. Toung branches reddiff. Spines an inch long or more, alternate, strong, generally leafy. Leaves on short petioles. Flowers very fmall. A native of Senegal. 31. C. rotundifolius, Wild. 31. Thunb. prod. 42. "Leaves petioledgroundish, toothed." A native of the Cape of Good Hope. 32. C. parviflorus, Lam. Illust. 2708. Willd. 32. Vahl. Symb. 1. p. 21. (Catha fpinofa, Forsk. Arab. 64.) "Spines naked; leaves egg-shaped, scolloped; peduncles filiform, longer than the leaves." Leaves alternate, smooth. Flowers small, white; peduncles axillary; capsules with two cells. A native of Arabia Felix.

CELASTRUS undulatus, L'Herit. Mart. Willd.

SENACIA undulata.

CELASTRUS odogonus. See SENACIA odogona. CELASTRUS maytenus, Willd. See SENACIA maytena. CELASTRUS Burm. Cluf. See CASSINE capenfis. CELASTRUS Hort. Clif. See CEANOTHUS americanus and

africanus and Evonymus americanus.

CELASTRUS, in Gardening, comprises some plants of the evergreen, and deciduous shrubby kinds, as the studded or evergreen Virginia staff-tree (C. bullatus); the climbingitaff-tree, or baitard euonymus (C. fcandens); the pyracantha-leaved staff-tree, or Æthiopian box-thorn (C. pyracanthus); and the box-leaved staff-tree (C. buxifolius); of which the first in its native situation rifes to the height of eighteen feet, but in this climate few of these shrubs are much more than half that height. It generally puts out two or three stems from the root, which divide upward into feveral branches being covered with a brown bark: the flowers come out in loofe spikes at the end of the branches, and are white: the capfule is of a fearlet colour, fet full of fmall protuberances. It flowers in July, but feldom produces good feed here.

In the fecond fort feveral woody stalks are fent out which are inflexible, and twill themselves round trees and shrubs, or round each other to the height of twelve and fourteen feet or more, girding trees to closely as in a few.

years to destroy them. The leaves are about three inches long, of a lively green above, but paler on the under fide; the flowers, produced in small branches towards the end of the branches, are of an herbaceous colour, and succeeded by roundish three-cornered capsules, which are red when ripe, fpreading open and disclosing their feeds in the same manner as the spindle-tree. It slowers in the beginning of June,

and ripens feeds in the autumnal feafon.

The third rifes with an irregular stalk three or four feet high, fending out feveral fide branches covered with brown half an inch broad, fome pointed and others obtufe; they are Hiff, of a lucid green, coming out irregularly from the branches in loofe tufts, many from one point, on long pedancles, and of an herbaceous white colour: the fruit is of a fine red colour, opening into three cells, containing an oblong hard feed. It flowers the greatest part of the fummer. last rifes with a flender woody stalk to the height of ten or twelve feet, is full of joints, armed with long fpines, upon which grow many small leaves; the branches are slender, armed also with spines at every joint; but the whole plant is fo weak as to require support: the leaves come out in clusters without order, are shaped somewhat like those of the box-tree, but longer, and of a loofer texture; the flowers are on peduncled cymes from the axils, and the fruit globular. It flowers in May and June, and fometimes a

Method of Culture. The two first forts are capable of being raised cither by feeds or layers, but the latter is the more ready method. And in the first mode, the feeds should be fown upon light fresh earth, either in beds or pots, as soon as they are procured from abroad, keeping them perfectly free from weeds till the plants are of fussicient growth to be planted out in nursery beds, watering them occasionally when the weather is dry. They are mostly fit for this in about two years. But in the latter method, layers from the young shoots should be laid down in the autumn, slitting them at a joint on the under sides. They are mostly fussiciently rooted to be taken off and planted out in the nursery rows by the succeeding autumn. The latter of these sorts succeeds best on rather a moilt loamy

foil.

In the last two forts the culture may be in the same methods; but they should be in pots in order to their being placed under the protection of frames or other contrivances, when the weather is severe. After they have had a twelve-months' growth, they may be removed into other pots separately. And cuttings made from the young shoots in all the sorts may likewise be stricken in the early spring months in pots exposed to a hot-bed heat. These may be planted out in the following autumn, either in pots separately, on where they are to remain according to their kinds. But these forts should not be treated too tenderly, as they are apt to be rendered weak in their branches and less verdant.

The first two forts are of a hardy nature, being well adapted to the borders and clumps of pleasure-grounds in mixture with other shrubs of the more tall growths. The first should, however, have a warm aspect and rather dry foil. The latter succeeds in wilderness quarters, under the shade of tall trees where it winds itself about them to a great height, producing a fine effect in the autumn by the sine colour of its fruit.

The other two forts are more tender, requiring to be kept in pats, as has been feen, to have the protection of the green-house in winter, where they afficid variety in assembling blage with other plants of the more hardy nature.

CELATE, in Military Antiquity, from the Latin word celatus, fignifying concealed. It is of the fame import as denote a helm, casque, or helmet for covering not only the head, but also the whole face, having an opening only oppofite to the eyes, which were fecured by crofs bars or latticework of iron, forming a fort of vifier. It has ferved for feveral centuries as an ornament on arms armorial, and is still preferred in heraldry as a distinguishing mark of nobility. It was worn not only by the chevaliers or knights when they went to war, but also at tilts and tournaments. Various appellations have been given to this piece of armour, fuch as Under Francis I. it was diffinguished by the name of armet. At tournaments it was affigued as the prize to him, who behaved best on the part of all those who presented themfelves at the barrier of a tournament, and held it against all those that might enter the lifts, as the first piece of defensive armour: in the fame manner as the fword was given to him, who diftinguithed himfelf most on the side of the affailants, as the first arm of offence. Formerly they used to holla, call, or cry out an heaume, as they now do aux armes.

CÉLAVO, in Geography, a town of the department of Liamone (siland of Corfica) and chief place of a canton in the district of Ajaccio. The canton contains 4060 inha-

bitants.

CELAURIA, in Ancient Geography, a small island of Greece, on the coast of the Peloponnesus. It belonged to the Troexenians, and was situated before the port called "Pogon" by Strabo. In this island was a magnificent temple of Neptune; and the tomb of Demosthenes, who died here, is not one of the least of its ornaments. His memory was long held in great veneration on this island, and in the time of Pausanias, strangers, as well as the inhabitants of the island, rendered distinguished honour to this illustrious defender of the liberty of Greece.

CELBRIDGE, in Geography, a small town of the County of Kildare, Ireland, pleasantly situated on the river Liffey, where the cotton manufacture has been carried over extensively; and also a manufacture of chip hats, which was for some years much encouraged. It is 10 miles well from

Jublii

CELCENSES, in Ancient Geography, a people of Spain, who inhabited the town of Celfa, feated on the banks of the Ebrus, according to Pliny.

CELE, in a general fense, denotes any tumour, but more particularly that proceeding from a rupture or hernia.

CELEZE, in Ancient Geography, a town of Sicyonia, S. of Phlius. Here were celebrated in every fourth year the mysteries of Ceres, who had a new priest at every return of the seltival, so that the priesthood lasted only four years. In a temple of this city was suspended from the roof a car, which was said to be that of Pelops.

CELEBANDICUM JUGUM, a promontory of Spain,

in the Mediterranean fea.

CELEBATE, or CELIBACY, the state of a person who lives out of marriage.

Scaliger derives the word from the Greek x2077, bed, and \$15000 linquo, I leave; others fay, it is formed from call

beatitudo, q. d the bleffedness of heaven.

Among the Spartans, though very weighty reasons might authorize them not to marry, jet in old age they could not expect to be treated with the lame retired as the other citizens. As a proof of this X-nopleon (Hist. Gree. 1, 3, p. 4),0, as also Plat in Lycurg. T. 1, p. 45) relates an accorder of Derevillas, who had commanded unnes with so much glory. That general came one day into the assumption.

bly,

bly, when a young man faid to him: "I shall not rife to you, because you will leave no children who may one day rife to me." Those who lived in celibacy were also subject to other humiliations. They were not allowed to be present at the exercises in which the girls engaged half-naked: the magistrates might also, in the midst of winter, command them to strip off their cloaths, and go round the forum, singing farcastic verses on themselves, in which they acknowledged that their disobedience to the laws merited the chastisement they suffered.

The ancient Romans used all means imaginable to discourage celibacy. Nothing was more usual than for the censors to impose a fine on old bachelors. Dionysius Halicarnasseus mentions an ancient constitution, whereby all persons of full age were obliged to marry. But the first law of that kind of which we have any certainty, is that enacted under Augustus, A. U. 762, called " Lex Julia de maritandis ordinibus." It was afterwards denominated "Papia-Poppæa;" and more usually "Julia-Papia," because of some new fanction and amendments made to it under the confuls Papius and Poppæus. By this law, divers prerogatives were given to persons who had many children; penalties imposed on those who lived a single life, as that they should be incapable of fucceeding to an inheritance, except of their nearest relations, unless they married within 100 days after the death of the testator; and that they should not receive an entire legacy. What they were thus deprived of in certain cases fell as an escheat (caducum) to the exchequer or

prince's private purse.

The celebate of the clergy, which is still rigorously kept up among the Romanists, is of a pretty ancient standing. It was first proposed by the council of Nice, but without passing; it was, however, in some measure, admitted by the western councils of Elvira, Arles, Tours, &c. and enjoined by the thirty-third canon of the council of Elvira, held about the year 300, though it does not appear that it was either generally or rigorously observed. In the year 340 it was decreed in the council of Arles, that no man incumbered with a wife, should be admitted into holy orders, unless he promifed, with his wife's approbation and confent, to abstain for ever from the conjugal duty. From these citations it appears, that those writers are miltaken who affirm, that celibacy was first imposed upon the clergy by Syricius: and that it was not required of the ministers of the gospel by any council, but by the popes, in opposition to all councils and fynods. Such among the priefts as piqued themselves on the faculty of continence, took the hint; infomuch that, towards the close of the fourth century, there were few but made profession of a voluntary celebate. Syricius issued a decree in 385, obliging all priests and deacons to observe celibacy: and it was foon after enjoined by the fynods of each particular nation, and observed in most of the western churches. In 441, the council of Orange ordered those to be deposed who did not abstain from their wives; and Leo the Great, in a letter written about the year 442, extended the law of celibacy, which was confined by the decree of this council to deacons, and by the letter of Syricius to deacons and prefbyters, to fub-deacons likewife: but it was Gregory the Great, in 591, who first brought eccletiaftics to admit the celebate as a law. In the council of Trent, it was proposed to set the clergy at liberty again from the yoke of celebate; and this was even made an article of the Interim of Charles V .; but the pope could not be induced to acquiefce.

In Britain the celibary of the clergy does not feem to have commenced till the arrival of Autin in the 6th century. About the middle of the tenth century, in the reign of

Edred, who furrendered himfelf to the guidance of Dunstan, commonly called St. Dunstan, abbot of Glattonbury, a new order of monks, called Benedictines, had fprung up in Italy, and was introduced into this country by Dunstan. These monks made a merit of the most inviolable chastity; and their principles and practices were greedily embraced and promoted by the policy of the court of Rome.

The Roman pontiff, who was every day making great advances towards an abfolute fovereignty over the ecclefiaftics, perceived, that the celibacy of the clergy alone could break off entirely their connection with the civil power, and depriving them of every other object of condition, engage them to promote, with unccasing industry, the grandeur of their own order. He was fenfible, that fo long as the monks were indulged in marriage, and were permitted to rear families, they never could be subjected to strict discipline, or reduced to that flavery under their fuperiors, which was requisite for procuring to the mandates issued from Rome a ready and zealous obedience. Celibacy, therefore, began to be extolled, as the indispensable duty of priests; and the pope undertook to make all the clergy throughout the western world renounce at once the privilege of marriage. The undertaking was difficult, as he had the strongest propenfities of human nature to encounter: and it is therefore no wonder that this malter-stroke of policy should have met with violent contradiction, and that the interests of the hierarchy and the inclinations of the priefts, being now placed in this fingular opposition, should, notwithstanding the continued efforts of Rome, have retarded the execution of that bold scheme during the course of near three centuries. In the year 1107, during the reign of Henry I., a synod was held by the infligation of pope Pascal II. and archbishop Anselm, at Westminster, which enjoined the celibacy of priests; and which enacted, that even laymen should not marry within the feventh degree of affinity. By this contrivance the pope augmented the profits which accrued to him from granting dispensations, as well as those from divorces. Another fynod was convened at London in 1129, under the pontificate of Honorius, at which prefided William archbishop of Canterbury, with the character of the pope's legate, and where all the bishops of the kingdom were present. This council was affembled chiefly for the purpose of enforcing the observance of the canons issued by other councils concerning the celibacy of the clergy: and fuch of them as full kept concubines, for fo their wives were called, were firifily enjoined to put them away before St. Andrew's day next following. At a previous meeting of this council in 1128 the cardinal de Crema prefided as the pope's legate; who after severe penalties were enacted on the marriages of the clergy, in a public harangue, declared it to be an unpardonable enormity, that a priest should dare to confecrate and touch the body of Christ immediately after he had arifen from the fide of a strumpet, for that was the decent appellation which he gave to the wives of the clergy. " But it happened," fays Mr. Hume (Hitt. of Engl. vol. 1. p. 343, 8vo.) "that the very next night, the officers of jullice, breaking into a diforderly house, found the cardinal in bed with a courtezan; an incident which threw fuch ridicule upon him, that he immediately stole out of the kingdom. The fynod broke up; and the canons against the marriage of clergymen were worse executed than ever."

CELEBES, called also Macasser, in Geography, anishand of the East Indian Ocean, situated under the equator, between Borneo on the west, and the Molucca islands on the east; or between 1° 20′ N. lat. and 5° 40′ S. lat. and 119° and 124° E. long. The form of this island is very irregular, so that it is not easy to ascertain its dimensions, as to length and

breadth

brendth, in miles; but it has been usually recleoned about coo miles long, and 350 broad; taking these parts whose dimensions are of the greatest extent. It is sicked into a number of small kingdoms and states, most of which however depend on the two great kingdoms of Macasier and Bour. The king of Ternate, also, has extensive possistions, which occupy almost the whole of the northern and extern part of Celebes. The two most powerful kings, whom the Dutch, by the preponderance of their arms, obtained as alies, are the kings of Macasier and Boui. The kings of Tello and Sandrahoni are in alliance with the king of Macasier; and that of Soping, Lochor, and Tanete, with that of Boui. Some small states, such as Wadjo, Mandhar, &c. are independent. Although the kings of Macasier and Boui are allies of the Dutch, they are always sworn enemies to each other; and the posicy of the Dutch has contrived to derive great advantage from the distort of these eastern princes. The kingdom of Macasier, or Goach, lies on the western side of the island, of which it occupies the greater part. The king of Goach, and that of Tello, both bear the title of Macasier, though each has a defined kingdom: they afflure the titles of Goach and Tello from their places

of refidence.

may be denominated the Celebefian itles. See MACASSER, GOACH, TELLO, BONI, SANDRABONI, SOPING, LOEHOE, Touradia, Cajelie, Toerongan, Bouton, Sumbawa, MAROS, LABACCAN, GALISSONG, BONTAIN, BOELE-COMBA, BERA, SALEYER, BONARATTE, CALAUWE, TANAKEKE, &c. &c. According to an ancient tradition, the Macassers, like many other nations, deduce the origin of their princes immediately from the gods. Once, they fay, after the death of the first fovereign of the kingdom, a beautiful female descended from heaven, fuspended by a golden chain. This celestial beauty, named Toemanoerong, was immediately chosen by the king of Bantam, and, after being pregnant three years, she brought forth a wonderful child, capable of speaking and walking as foon as it was born, but very ugly and deformed. This young prince was named Tocma-Salingaberiang. When he attained to manhood, he broke the golden chain, which his mother had brought with her from heaven, and the mother and her hufband inflantly difappeared, and left to their fon the kingdom, together with one half of the chain. This chain, which, as it is afferted, was fometimes light and fometimes heavy, and fometimes appeared of a pale colour, was long preferved as a valuable part of rarities, during the warlike commotions which took place in this kingdom about the middle of the last century. This Toema-Salingaberiang is confidered as the chief of the family of all the kings of Goach. The Dutch were they were able to establish themselves in their kingdom. In 1778, Goach, the capital, was taken by storm and deflroyed; and, in 1781, the fovereign Punduca Siri, fultan Abdal Hadja, was placed on the throne by the government of Batavia. The king of Goach does not posiets unlimited power, but is subject to certain laws, which he is obliged strictly to observe. He can undertake no measure of importance without the confent of his council; nor can he inflict arbitrary punishment on criminals, who must be punished according to the laws. His privy-counfellors are cailed Tomani-Calangs; and every village is under the direction of a particular chief or governor, diftinguished by the title

of Galarang. The Portuguele vifited this ifland about the beginning of the 16th century, and obtained, from the fovereign then on the throne, (viz. in 1512,) permiffion to form an establishment. The successors of this prince introduced merchandife, manufactured gun powder, and planted the first artillery on the walls of Goach. He also not only al-Sumbawa. They, moreover, held the government of Salever, which had been given to Macaffer by Bazb Ullach, habitants of Bali, and coined the first gold coins, which Dutch flivers. About that time also, the alliance between Goach and Tello was renewed; and these two states were fo firmly united together, that it was a common faying that there were "two lords, but one people." By the articles of union it was fettled, that all levies and contributions from conquered provinces, &c. should be equal in dignity; and, laftly, that they should both enjoy the title of "Sambaneo," fignifying as much as emperor. rior to Goach, both in extent of territory and number of daunted courage, which, notwithstanding all the adverte events that have befallen them in the course of a century, were never fubdued, till the year 1778; when a finishing ftroke was given to the independence, and power of refittance, of Goach. A rebellion having been raifed by the mother of the king, who governed during his nonage, with a view of emancipating the country from the yoke of the company, her forces were vanquished, the city of Goach taken by affault, its fortifications razed, and the government The kings of Macatler have a new name given them after their death, and their fucceffor must be nominated before their interment. The Dutch East India Company possess the castle of ROTTERDAM (which fee), called in the language of the country "Adjong Pandang," together with the furrounding district, in consequence of a treaty which they entered into with the prince of Celebes. But as the boundaries of their possessions were, perhaps, not accurately defined, the company always endeavoured to enlarge, and the Macassers, on the other hand, to confine them. The company possess also a peninfula extending from this place towards the north, and a large flat diffrict, which, on account of its fertility, is

confidered as the granary of Celebes, together with feveral places lying between this plain and the mountains, and likewife a great many villages among the mountains. These places border on each other, and are bounded on the west by the sea, on the north by the kingdoms of Tanette and Maros, on the east by Tamari, and on the south by the kingdom of Macasser.

The road of Macasser is one of the most beautiful in India, and at the same time safe for ships at every scasson of the year. The islands of "Great Ly Ly," and "Little Ly Ly," with their roofs, defend it from south-west to north; and there is a safe anchorage close under "Great Ly Ly," in the bad monsoon, and whenthe N.W. winds blow violently. Theentrance of the road is between the above-mentioned island of "Ly Ly," and a sunken rock, which lies full a quarter of a league S. from the point of the reef of "Ly Ly,"

The environs of Macasser are very pleasant. They confist of an extensive plain, reaching to the foot of a high range of mountains, situated seven or eight Dutch miles to the eastward, and dividing this part of Celebes, that lies to the weltward of the bay of Bon1, and south of the gulf of Tomini, into two parts. This range is called the mountains of Bontain, because the southern part of it terminates in a district of that name. The plain is covered, as far as the eye can reach, with rice-fields and patture grounds, which are interspersed, here and there, with small groves of fruitbearing or shady trees, and watered by drains made out of the larger rivers, which descend from the mountains.

Captain Forrest (in his "Voyage from Calcutta to the Mergui, Archipelago, &c.") informs us, that at a place called Kyly, or Kyela, N. of Macasser, and in the Mandhar division, there is said to be a spacious harbour; and that near the harbour are hills free from wood, and covered with grass, where many sheep are bred; though they are generally scarce, whilst goats are much more plentiful. There are also two or three harbours on the east coast of Celebes, and two on the north coast, Köandang and Amoran.

The feafons in Celebes are the fame as in Java. The S.E. monfoon continues from May till November, and is reckoned favourable; the N.W. monfoon, called the bad one, continues from November till May. During the former the fky is ferene, and the weather dry; but continual winds and violent rain prevail during the latter. It is fingular, however, that on the ealt fide of the above-mentioned range of Bontain mountains, the contrary takes place: for, when fine weather in the S.E. monfoon prevails on the welf fide of the mountains, hurricanes and rain are found on the ealt fide: fo that the boundaries of fummer and winter are only eight Dutch miles diffant from each other.

As this island lies under the line, the air is very hot; but the heat is moderated by frequent rains and cooling breezes, fo that the climate is not upon the whole infalubrious. It abounds with mountains, but the foil is generally fertile. The chief production of the island is rice, of which it yields more than enough to supply its numerous inhabitants, although it is not to good as the Java rice. Cotton of excellent quality is likewife very much cultivated; and the inhabitants manufacture it for the women's dreffes, which are held to be the finest in all India. These garments are called " Cambays;" they are red-chequered, mixed with blue, but dull-coloured; they reach from head to foot, and are often fold from 6 to 10 Spanish dollars a-piece. The Bouginese often import cotton from the island " Bali," both raw and fpun into yarn. They also manufacture beautiful filk belts, in which they fix their kriffes; also a kind of paper, from the inner bark of a small tree, in which they wrap their fine cambays; this paper they often dye of various colours, and export much of it to Manilla, and feveral other places; it

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resembles the cloth of Otaheite. They make fire-arms, but cannot make gun-locks; they also cast small brass guns, which they call " rantakka," the larger being about fix feet long, and carrying a half-pound ball. They are curious in fillagree work, both in gold and filver. Captain Forrest was informed, that they failed in their l'ADUAKANS, or proas, to the northern parts of New Holland, probably Carpentaria bay, to gather fea-fwallow (biche de mer), which they fell to the annual Chinese junk, at Macasser; they said also that gold was to be obtained there. In this island cocoa-nut trees, mangoes, bananas, melons, and oranges are cultivated in abundance, together with uby, a root used as food, and batta, a kind of buck wheat, which formerly was the chief food of the Javanese before they were acquainted with the use of rice. Here is also plenty of horses, oxen, buffaloes, deer, wild fwine, and birds of all kinds, particularly a variety of beautiful parrots. The Dutch carry hither opium, spirits, lac, coarfe and fine cloths, &c. and receive in exchange rice, wax, flaves, and gold. Here, as well as in many parts on the coast of Africa, the unfortunate beings doomed to flavery, are not prifoners taken in war, or criminals, but in general persons who have been kidnapped for the purpose of being fold; and it often happens, that relations do not helitate, for the fake of gain, to deprive their kindred of liberty. Most of the eastern fettlements, Batavia and Java, are furnished with flaves from Celebes. About 100 flaves are annually purchased at Macasser by the Dutch company, for their own fervice, and conveyed to Batavia; the whole remainder of this iniquitous traffic is in the hands of private individuals, and free inhabitants of the above-mentioned two places.

The island is well peopled: on the coast of Celebes alone there are faid to be 56,000 inhabitants, 17,000 of whom are capable of bearing arms. Of the various nations who inhabit Celebes, the Bonians or Bouginese, called in general Buggesses by the English, and the Macassers, are the most known: the latter are the most considerable of those who have been forced by the arms of the Company to enter into alliance with them, and their lands likewife lie near those of the Company, and they are, therefore, better known in history than the more distant kingdoms and nations. See BONI and Bouginese. Several of the inhabitants of Celebes find employment in the gold mines of this island; and were it better peopled, and the islanders more industrious, these mines might supply a greater quantity of the precious metal. But the Indians who inhabit those parts of Celebes which produce gold, content themselves, like those of other places, with procuring fufficiency to fatisfy their urgent wants in the easiest and speedicst manner. Accordingly, they obtain the metal by collecting the small particles which have been carried down by the streams, or by washing the fand which they dig up, rather than by working the mines in a regular manner. The gold mines in this island are found in the kingdom of Loehoe, and in the eaftern parts; and it is partly collected for the Dutch East India Company at Gorontalo. The mines commence on the fouthern fide of Bulang, and the northern fide of Kotta-Buna, or Mogondo, and proceed thence to Dondo on the fouth-west, and Tamperana on the north-west side, at the bay of Tomini. Every where between these two diltricts gold is found in a greater or less quantity. Where the land of Celebes becomes fo narrow, and the mountains fo low, that a person can with ease pass from one coast to the other, in a few hours, the auriferous mountains end; and on the whole coast on the other side, as far as Macasser, a single gold mine is not to be found. The villages, however, in these goldyielding mountains are very ill-peopled; and, befides, thefe treafures are neglected on account of the ignorant superstition of the natives; who will never venture to dig in any place for concealed riches, until they have fent thither a diviner, as he is called, to find out whether their labours are likely to be attended with fuccefs. This kind of divination, called in the language of the country " Talanga," confiits in their discovering, as they pretend, by the voice of a certain bird, the probability of fuccess, and the impediments that may occur to obttruct it. When the bird gives a favourable omen, the diviner proceeds to infure the favour of the protecting spirits of the place, by various kinds of offerings; and then the labourers commence their work, and continue it for as many c'ays or months as the bird has prescribed. The inftruments used in these mines are the following; viz. a piece of iron about 11 foot long and 2 inches thick, pointed and sharp at one end, and at the other furnished with a focket, into which is fluck a wooden pole, about 6 feet in length :- alfo, an iron hook, with a short wooden handle, which is employed for loofening and turning up the earth around stones; -a mattock and fmall shovels ;-dulangs, or small round dishes, about 18 inches in diameter, and fomewhat hollow, having a small cavity in the middle, which may be closed with a wooden cover, used for the purpose of receiving the black fand that yields gold, and washing it, by stirring it about till the heavy metal fublides into the above-mentioned cavity;and a pair of gold feales. In many places it is fearcely neceffary to go deeper than 10 or 12 feet, but in others the pits must be dug to the depth of feveral fathoms, and the sides mult be supported by means of boards and beams. It has been remarked, that the rocks on the borders of rivers, and most of the itones which are taken up from pits where the cre is rich, have a blue, and fometimes a yellow, colour, and are fo foft that they may be used as paint. Where the gold is less rich, the stones are grey or white, and either of a hard texture, or foft like limestone. By these tokens the produce of gold from any mine may be easily ascertained. The quantity and value of the gold which is found in any mine cannot be exactly estimated. In mines that are newly difcovered, labourers may fometimes, in the course of 14 days, find to the value of 200 dollars; whereas in other places the value of 20 dollars is fcarcely found in the course of a year. In the widely extended mines of the river Palella, which divides itself into several branches, there are some places where gold is exceedingly abundant; but in fuch places it is of less value, being scarcely 18 carats fine. The best gold is pro-cured from the mines of Popajatu, Molisipat, Ankahulu, Tolodinki, Lembuno, Sonsso, and Tamperana; also from the fouth and fouth-west side of Pogiama, Wongo, Tomolias, Bevool, and Tontoly. The gold of these mines is generally above 20 carats fine. Within the extent of the gold mines of Aukahulu there is a place called Longi, which produces pal town, in the proconfular Africa. gold that in fineness exceeds even that of Popajatu and Ankahulu. It is, however, difficult of access, and furnishes copper, at first supposed to be gold. This is the only mine on the north and north-west side, where copper is found. Near Bevool, on the fouth and fouth-west side, there is another, where good copper is dug up in dust, which is as fine as the finest gold dust. In the mines of Bombula, Batodulang, Ankahulu, and Palella, a great quantity of rock-crystal is found, and likewife a kind of iron ore. In all the mines of Celebes, the gold, when separated from the fand, is of confiderable fineness. At Pogiama and Palella alone gold ore is found here and there, mixed among other stones; but it is not rich, and the gold must be extracted by pounding the stone, which is not very hard. Stavorinus's Voyage, vol. ii. Von Wurmb's Description of the Island of Celebes or Ma caffer, &c.

CELEF, a river of Africa. in the kingdom of Algiers, Supposed to be the ancient Carthena, which falls into the sea about 3 leagues W. of Algiers, after a short course of 18 or 20 leagues.

CELIGERI, in Ancient Geography, a people of Mocha,

CELEIA, a town of Norica, mentioned by Pliny and Ptolemy, and appearing, by an ancient infeription of Gruter, to be the modern Cilley in Lower Stiria.

CELELATES, an ancient people of Italy in Liguria, who, according to Livy (l. xxxiii. c. 29), fubmitted to the Romans in the year of Rome 555, under the confulate of C. Cornelius and Q. Minutius.

CELEMANTIA, a town of Germania Magna, placed

by Ptolemy in the vicinity of the Danube.

CELENDERIS, a burgh of the Argolide, towards the extremity of the peninfula S.E. of the Argolide, on the Saronic gulf.—Alfo, a fea-port town of Afia, in Cilicia.—Alfo, an epifcopal town of Afia in Isauria, probably the

CELENDERITIS, a fmall diffrict of Afia, in Cilicia,

deriving its name from Celenderis.

CELENNÆ, an ancient town of Italy in Campania, mentioned by Virgil in his Æneid. It was a colony, according to a medal of Vefpafian.

CELENZA, in Geography, a town of Naples, in the province of Abruzzo Citra; 12 miles E. of Civita Borello-

CELERES, in Antiquity, a Latin word made use of to denote cavalry, fo called on account of the quickness of their movements, and the celerity with which their fervice was performed. They were a fort of light-horfe, about 300 in number, formed by Romulus for his body-guard, chosen out of the rest of the cavalry, and approved of by the suffrages of the curiæ of the people, each of which furnished ten. In war they conflituted the van-guard in advancing towards the enemy, generally beginning the engagement, and the rear-guard in retreating.

Though the celeres were a body of horfe, yet they usually dismounted, and fought on foot; their commander was called tribune, or prefect of the celeres. They were divided into three troops, of one hundred each, commanded by a captain called centurio; their tribune was the fecond perfon

in the kingdom. See CAVALRY, &c.

Plutarch fays, Numa broke the celeres: if this be true, they were foon re-established; for we find them under most of the succeeding kings: witness the great Brutus, who expelled the Tarquins, and who was the tribune of

CELERINA, in Ancient Geography, an ancient epifco-

CELERINUS, in Ichtbyology, a name by which fome authors have called the pilchard, clupea pilcardus; called alfo aqua membras, and chaleis.

CELERITY, in Mechanics, is the velocity of a moving body; or that affection of a body in motion, whereby it is enabled to pass over a certain space, in a certain time. See Motion and Velocity.

CELERY, in Botany and Gardening. See APIUM.

CELERY, wild, Apium antarclicum, in Botany, was found in confiderable quantities by Mr. (fir Jof.) Banks and Dr. Solander on the coast of Terra del Fuego. It is like the garden celery in the colour and disposition of the flowers, but the leaves are of a deeper green. The talte is between that of celery and parsley. It is a very useful ingredient in the soup for feamen, because of its antifcorbutic quality. Hawkefworth's Voyages, vol. ii. p. 60, &c. CELESTI.

graphy, a painter of hiltory and landscape, was born at Venice in 1637, and acquired the principles of defign and colouring from Cavalier Matteo Ponzoni. He was much applauded for a beautiful ftyle of painting, in history as well as landscape: but he principally employed himself in the latter. His beautiful views about Venice, and other cities of Italy, were painted both in a large and fmall fize; and his works are very highly prized, but not eafily procured. Two of his historical compositions are preserved in the chapel of Madonna della Pace at Venice; the one is St. Luke painting the portrait of the Virgin; and the other, the Adoration of the Magi, which are reckoned excellent performances. Another of his pictures in the chapel of Spedaletto, reprefenting St. Jerom, with the Virgin and fome faints, is well deligned, fost, and delicately coloured, but rather too ruddy. This mafter used a purplish tint, resembling the manner of Rubens; but he fometimes erred in the extreme. Pilkington.

CELESTIAL Globe. See GLOBE.

CELESTINE, in Biography, the name of feveral of

the popes.

CELESTINE I., a native of Rome and the fon of one Prifeus, was elected bishop of Rome, upon the demise of Beniface, in 422. Soon after his election an appeal was made to him against Antony, appointed bishop of Fusfala in Africa by St. Austin; in consequence of which he concurred in the feutence of the prelates of Numidia, who deprived him of all jurisdiction on account of his scandalous conduct. On occasion of another appeal by Apiarius, prefbyter of Sicca, against his bishop, who had degraded and excommunicated him for several crimes, of which he had been convicted, and which appeal had been in a state of fuspense during the pontificates of his two predecessors, the African bishops confirmed a canon that prohibited appeals beyond fea on any pretext, under penalty of excommunication; and Celestine thought it most expedient to give way for the present to the zeal with which they resisted the supremacy of the Roman fee. In the year 428 he remonstrated, in a long letter addressed to the bishops of the provinces of Vienne and Narbonne against feveral abuses that prevailed in the churches of Gaul; and towards the close of the year 420 he concurred with the Gallican bishops, in fending two missionaries into Britain for the purpose of suppressing the Pelagian heresy. But the principal act of his ecclefiaftical administration was the part he took in the condemnation of Neltorius. A violent dispute having com-menced in 430, between Nestorius, bishop of Constantinople, and Cyril, bishop of Alexandria, concerning the diffinction of two natures in Christ and the refusal of the title of mother of God to the Virgin Mary, an appeal was made by both the difputants to Celestine. The Roman bishop convened a council at Rome; which condemned the opinions of Neftorius, as heretical, degraded him from his episcopal office, and allowed him only ten days for recantation; on the failure of which he was to be deposed and excommunicated; and Cyril was appointed to be the vice-gerent of Celestine in the execution of this fentence. An ocumenical council was afterward fummoned by the emperor Theodofius at Ephelus, in order finally to decide concerning the lubject in dispute. To this council Celeffine fent legates, and he approved its condemnation of Nettorius; upon which he wrote a preffing letter to the emperor, requesting him to banish the herefiarch Nestorius to some uninhabited place, where he would have no power to spread the infection of his doctrine.

·CELESTI, ANDREA, called Cavaller CELESTI, in Bio- For this instance of zeal on behalf of what was then deemed orthodoxy, Celettine has been ranked among the faints of the Romish church. In 431 the pope addressed the bishops of Gaul in a letter, warmly supporting the doctrine of St. Augustine concerning grace and free will. He also sent Palladius into Ireland, in order to propagate the Christian religion among the rude inhabitants of that ifland; and as this first mission was not attended with much success, he employed, after the death of Palladius, in the fame mission, Succathus, a native of Scotland, whose name he changed into that of Patrick, and who arrived among the Irish in the year 432. The fuccess and fame of this mislionary are recorded in the annals of that country; and he has been acknowleged and honoured, under the appellation of " The Apostle of the Irish," as the father of the Hibernian church. Celestine died in 432. Several of his letters relating to the Neftorian controverly are extant; and others on various fubjects of discipline have been falsely attributed to him. Bower's Hist. of the Popes, vol. i. Mosheim's E. H. vol. ii. p. 8.

CELESTINE II. a Tufcan, cardinal of St. Mark, and in 1140 legate of the apostolic see in France, and called before his election to the papal chair Guido de Castello, succeeded Innocent II. in 1143. The chief act of his administration was that of absolving the king of France from the interdict which he had been put under by Innocent. had been a disciple of Abelard, and was respected for his humanity and other good qualities. He died in 1144, after having been in possession of the see of Rome about

half a year. Bower.

CELESTINE III. was elected to succeed Clement II.in 1191, in the 85th year of his age. His name was Hyacinth, and he had been cardinal-deacon for 65 years. After some delay he confented to crown Henry V. emperor of Germany, together with his wife Constantia, the emperor having previously stipulated on oath that he would give up the lands and territories that belonged to St. Peter, and reflore Tufculum to the apostolic see. He caused the enemies of William, bishop of Ely, and high chancellor of England, who had been appointed governor of the kingdom by Richard I. on his departure to the holy land, to be excommunicated, and the bishop to be restored to the government from which he had been excluded; and he also excommunicated the duke of Austria for having imprisoned Richard on occasion of his shipwreck in his return from the crusade. As Philip Augustus, king of France, had married Ingelburga, daughter of Canutus IV. king of Denmark, within the forbidden degrees of confanguinity, he divorced her under this pretext foon after the confummation of the marriage; and the divorce was declared lawful by the Gallican bishops. The decree of the bishops affembled in council was confirmed by the pope's legates; but it was afterwards reverfed on a discovery of the fallacy of the king's plea, by the pope. Philip, however, difregarding the prohibition of the pope, took another wife, and Celestine gave himself no concern in the matter. Being informed that in Poland and Bohemia most of the clergy were either married or publicly kept concubines, he fent, in 1197, a cardinal legate to reform this abuse; and he succeeded in restoring celibacy in Poland, but the opposition in Bohemia was such as to endanger his life. On the death of the emperor Henry, he granted leave to crown his fon Frederic as king of Sicily, on condition of the payment of 1000 marks of filver to himfelf, and the same sum to the cardinals. As his infirmities increafed, he withed to refign the papal chair, but the cardinals would not allow him to retire. At length he died in 1198, after a pontificate of nearly feven years. By a parchildren, to particular monasteries, from the obligation of

confirming their vows at mature age. Bower.

CELESTINE IV. was elected, after a contest among the cardinals, to fucceed Gregory IX. in 1241. His name was Godfrey; he was of the illustrious family of Castiglioni of Milan, and his mother was the fifter of Pope Urban III. From his retirement among the Ciftercians, he was drawn into public life, and created cardinal by his predeceffor. It was his declared wish to establish a lasting peace between the church and empire, but his death, on the 18th day of his pontificate, in a very advanced age, prevented his receiving an answer from the emperor to his pacific proposal. Bower.

CELESTINE V. was, before his advancement to the pontifical dignity in 1294, a poor hermit, called Peter de Murrhone, from the name of a mountain near Magella, about two mile- from Sulmona in the Further Abruzzo, who was born at Ifernia in 1215, and there lived a retired and auftere When he was acquainted with his election, which took place at Perugia, he at first declined the pontificate; but by the urgent perfuafion of Charles, king of Apulia, and his eldelt fon, Charles Martel, king of Hungary, enforced by Cardinal Latinus, he was prevailed upon to accept it, and made his entry into Aquila mounted on an afs, one of the kings on each fide holding his stirrup. Soon after his confecration at Aquila, he made a promotion of 12 cardinals; and before he left the city he confirmed the constitution of Gregory X. by which the cardinals were directed, on a vacancy, to be shut up in conclave till they should agree in a new election. The place of his refidence was Naples, which, by the recommendation of Charles, he preferred to the papal dominions, though the old cardinals wished him to remove thither. Totally unfit by his former habits for the papal office, he was perfuaded by cardinal Cajetan at the close of the year of his election to refign it. His resolution to this purpose was, however, strongly opposed by Charles and the people of Naples; and a doubt was fuggetted, whether or not a pope could abdicate. A constitution having been established, empowering all fovereign pontiffs to refign at their pleafure, Celestine availed himself of it : and after reading his act of renunciation, diverted himfelf of the pontifical ornaments, refumed his monk's habit, and fat down at their feet. Cajetan, who fucceeded him under the title of Boniface VIII., fearing his future interference, refilted his earnest request of returning to his solitude, and carried him to Rome. He contrived, however, to make his escape, and connected himself for some time with other hermits, in a wood in Apulia, till he found an opportunity of embarking in a finall veffel for Dalmatia; but being driven back by contrary winds, he was arrested by the governor of Capitanata. From thence he was conveyed by order of Boniface to Anagni, amidit the bleffings of the people, who crowded round him, and plucked the hairs of the als upon which he rode, as relies. Boniface confined him in his palace at Anagni, and after some time committed him to close custody in the castle of Fumoni, where he died in 1296, aged 81 years. Clement V. canonifed him in 1313; and the religious order which he established under the name of Celestines still subfits. The writings attributed to him are merely collections of paffages from the Scriptures, the fathers, the popes, and the canonifts. Bower. Du Pin-

CELESTINES, in Ecclefiaflical Hiflory, an order of religious, called also the congregation of St. Damian, reformed from the Bernardins in 1224, by pope Celestine V. then only Peter de Murrhone, of Isernia in Naples; and established

ticular bull, he absolved those who had been devoted, while in 1264, by pope Urban IV. and confirmed by Gregory X. in 1274. They were introduced into France by Philip the Fair, who requested a dozen of them from the general of their order, by his ambaffador at Naples, in 1300. This order still subsists in France and Italy .-- It is a kind of proverb with them Voila un plaisant Celestin.

> CELESTINI, an excellent performer on the violing whom the late duke of Dorfet brought from Rome in the year 1770. His ttyle was pleasing, elegant, and correct: and fuch were his manners and conduct : fo that while he remained in England, he at once did honour to his noble

patron, to his profession, and to himself.

CELETA, in Ancient Geography, a people who inhabited part of mount Hæmus and part of mount Rhodope, and who are called by Piny the most favage of all the Thracians. Livy tells us, that they fell upon Cn. Manlius, as he was returning out of Afia into Europe, and took from him great part of the booty which he had gotten by plundering some rich cities of Gallo-Græcia. Liv. decad. iv. lib. viii.

CELETES, or CELETE from xshn;, a race horse, in Antiquity, denote fingle or faddle horses, by way of contradiftinction from those yoked or harnessed together, called bi-

The fame denomination is also given to the cavaliers, or riders on horseback; and hence fome deduce celeres, the

CELETRUM, in Ancient Geography, a small town of Greece, in the north of Illyria, feated on a peninfula, with its walls encompaffed by a lake.

CELETTE, in Geography, a town of France in the department of the Loire and Cher, and diltrict of Blois; 4

CELEUSMA, or CELEUMA, in Antiquity, the shout or

cry of the feamen, whereby they animated each other in

The word is formed from neckeus, to call, to give the figual. CELEUSMA was also a kind of fong or formula rehearled or played by the mafter or others, to direct the throkes and movements of the mariners, as well as to encourage them to labour. See CELEUSTES.

to the military shouts in land armies.

When Christianity got footing, hymns and plalms were fung in vessels by way of celeusma, in which the words amen and hallelujah were frequently repeated.

CELEUSTES, in Ancient Navigation, the boatswain or officer appointed to give the rowers the fignal when they were to pull, and when to flop. See CELFUSMA.

He was also denominated epopeus, and by the Romans por-

tifculus; fometimes simply bortator.

CELEUSUS, in Anxient Geography, a place of Germany between Germanicus and Arufena, at the mouth of a small

CELEZENE, a country of Afia in Armenia, according. to Suidas; called Celfene and Celtzona by Eustathius.

CELIA, a town of Italy, fituate in the interior of the Peucetian diffrict, according to Ptolemy and Strabo: thought to be the prefent Ceglia. - Also a place of Italy in Campania, taken by Quintus Fabius, according to Diodorus

CELIAC Paffion, in Medicine. See COELIAC.

CELIBATE. See CELEBATE.

CELIDA, in Ancient Geography, a town of Africa, placed by Ptolemy in the Cyrenaica.

CELIDOGRAPHIA, the description of the spots which appear on the faces of the fun and planets.

3

The word is formed from unis, macula, fpot, and years, I describe.

Signor Bianchini has published a celidographia, or defeription of the spots of the fun.

CELIMEOS, in Ancient Geography, an episcopal see of

Asia, under the metropolis of Edessa.

CELIMIA, in the Materia Medica, a name given by the modern Greeks to the calamine, or lapis calaminaris. Arabians called this substance climia, and sometimes calimia; and celimia was but a very small change from this.

CELL, Cella, in Ancient Writers, denotes a place or apartment usually under ground, and vaulted; in which were stored up some forts of necessaries, as wine, honey, wheat, and the like; according to which it was peculiarly denominated cella vinaria, oleria. mellaria, penaria, &c.

The word is formed from celare, to conceal. See CELLS. CELL, in Botany, (loculamentum), the hollow part of a pericarp in which the feeds are lodged. According to the number of these, a pericarp is faid to be one-celled, two-

celled, &c.

CELLA, in Ancient Writers, was used for the lodge or habitation of a common woman or profitute, as being under ground; hence also denominated fornix.

" Intravit calidum veteri centone lupanar,

Et cellam vacuam." Juv. Sat. vi. ver. 121.

On which place an ancient scholiast remarks, that the names of the whores were written on the doors of their feveral cells, by which we learn the meaning of inscripta cella, in Martial, lib. xi. ep. 46.

CELLA was also applied to the bed-chambers of domestics,

and fervants; probably as being low and narrow.

Cicero, inveighing against the luxury of Antony, fays, the beds in the very celle of his fervants were spread with pompous purple coverlets.

CELLA is also applied to the members or apartments of baths.

Of these there were three principal, called frigidaria, tetidaria, and caldaria. To which may be added a fourth, called cella assa, a d sometimes sudatoria. See BATH.

CELLA was also applied to the adyta, or inmost and most retired parts of the temples, wherein the images of the gods to whom the edifices were confectated, were preferred. In this fense we meet with cella Jovis. cella Concordia, &c. Pub. Victor calls them delubra; and Pliny, by a more comprehensive name, ades. Hist Nat. lib. xxxv. cap. 10.

The Roman capitol, we are told by Dionysius, had three Each celle, or chapels; the middlemolt of which was facred to Jupiter, that on the right hand to Minerva, and that on

the left to Juno.

CELLA, is also used for a lesser or subordinate fort of monattery, dependant on a great one, by which it was erected and continues still to be governed. The great abbies in England had most of them cells in places distant from the mother-abbey, to which they were accountable, and from which they received their superiors.

mandy, France, Italy, &c.

The name cell was fometimes also given to rich and confiderable monasteries not dependant on any other. Such was that called cella vetus, erected by Otho, furnamed the Rich, marquis of Misnia, in the middle of the twelfth century, the

most splendid abbey in that country.
CELLÆ, in Ancient Geography, sometimes called Calla,
a town of Africa, in Mauritania.—Also, another town of Africa in Byzacene, upon the Lesser Syrtis; called by D'Anville

"Cellæ Picentinæ."-Alfo, a town of Europe, in Thrace, upon the Hebrus, at a fmall distance E. from Philippopolis. -Alfo, a place in Macedonia, between Heraclea to the north, and Edeffe to the fouth.

CELLAR, Cellarium, in Ancient Writers, denotes the fame with cella, viz. a confervatory of eatables, or drink-

Cellar differs from vault, as the latter is supposed to be deeper, the former being frequently little below the furface

of the ground.

In which fense, cellarium only differed from penus, as the former was only a store-house for several days, the latter for a long time. Thus it is, the Bractroperate, a fort of ancient Cynics, are faid by St. Jerome to carry their cellar about with them. Hieron, in Matth. cap. x.

CELLARIA, in Zoology, a fection of the Sertularia genus, including those species which have the stem crustaceous, inclining to the nature of flone, and composed of rows

of cells: no veficles, but fmall globules inftead.

CELLARIUM, in Ancient Writers, denoted an allowance of bread, wine, oil, or other provition, furnished out of the cella, to the use of the governor of the province, and his officers, &c. In which fenfe, the word amounts to

much the fame with ANNONA, which fee.

CELLARIUS, CHRISTOPHER, in Biography, was born at Smalcald in 1638, and having studied at various German Universities, was invited at the age of 30, to teach moral philophy and the Oriental languages at the college of Weiffenfels. In 1673, he became rector of the college of Weimar, and afterwards occupied the fame post at Zerts and Merfburg. At the university of Halle in Saxony, founded by the king of Prufia, he was professor of eloquence and hiftory. His affiduous application, at length, brought on the disorder of the stone, with which he was long tormented. He died at Halle in 1707, in his 69th year. His numerous publications comprifed original works and editions of ancient authors. Of the former are, "Notitia orbis antiqui," 2 vols. 4to. Leips. 1701, 1706, 1731, and Cambr. 1703, acknowledged the best work on ancient geography extant, which brings it down to the time of Constantine; " Atlas Cœlestis," fol.; "Hittoria Antiqua," Jen. 1698, 12mo. an abridgment of ancient history; " De Latinitate mediæ et infimæ ætatis." The works edited by Ceilarius are "Ciceronis Epist, ad Familiares;" "Plinii Epist.;" "Corn. Nepos;" "Quintus Curtius;" "Eutropius;" "Sextus Rufus;" " Velleius Paterculus;" " Duod. Panegyr. Antiq. ;" "Lactantius ;" " Minutius Felix ;" " St. Cyprian. de Vanit. Idol. ;" "Sedulius ;" " Prudentius ;" " Silius Italicus ;" "Pici Mirandul. Epist. ;" "Zosimus ;" "Pæanius;" the "Thefaurus of Faber," with large additions. A collection of his letters, and some other pieces, was published after his death. Nouv. Dick. Hist.

CELLARS, in Modern Building, are the lowest rooms in a house, the ceilings of which usually lie level with the fur-

face of the ground on which the house is built.

Cellars, and other places vaulted under ground, were The alien priories in England were cells to abbies in Nor- called by the Greeks hypogea; the Italians fill call them fundi delle cafe.

As to the fituation of cellars, fir Henry Wotton fays they ought, unless the whole house be cellared, to be fituated on the north fide of the house, as requiring a cool fresh air.

In order to estimate the number of cubic yards in the digging of cellars, multiply continually together the three dimensions of length, breadth, and depth in feet, and divide the product by 27, the number of cubic feet in a yard; and

the quotient will give the cubic yards. Suppose the length 54 feet, the breadth 28, and the depth 8; then 54×28×8 =120%6; and 1209% ==448.

CELLARER, or CELLERER, Cellerius, or Cellelarius, an officer in monafteries, to whom belong the care and procurement of provisions for the convent.

Law, where cellarius denotes an examiner of accounts and expences. Ulpian defines it thus: "Cellelarius, id est, ideo

præpolitus ut rationes falvæ fint." officers of monasteries; under his ordering was the pistrinum, or bakehouse, and the bracinum, or brewhouse. In the richer houses there were particular lands fet apart for the maintenauce of his office, called in ancient writings, ad cilum monachorum. The cellelarius was a great man in the convent. His whole office in ancient times had a respect to that origin: he was to fee his lord's corn got in, and laid up in granaries; and his appointment confilled in a certain proportion thereof, usually fixed at the thirteenth part of the whole; together with a furred gown. The office of cellarer then only differed in name from those of bailiff and minstrel; excepting that the cellarer had the receipt of his lord's rents through the whole extent of his jurisdiction.

CELLARER was also an officer in chapters, to whom belonged the care of the temporals, and particularly the distribution of bread, wine, and money to canons, on account of their attendance in the choir. In some places he was called cellarer, in others burfer, and in others 6. 11

CELLE, in Geography, a town of France, in the department of the two Sevres; and chief place of a canton, in the district of Melle; to miles S.E. of Niort. The place contains 1102, and the canton 8263 inhabitants; the territory includes 1671 kiliometres and 12 communes.

CELLE, or Marcen Celle, a town of Germany, in the duchy of Lower Stiria, on the confines of Austria, with a celebrated abbey to which the empress Maria Theresa prefented a filver image of the Virgin, after the birth of the emperor Joseph II.; 12 miles N. of Pruck.

CELLE fur Thiers, a town of France, in the department

of the Puy de Dome; 2 leagues E. of Thiers. CELLEFROUIN, a town of France, in the department of the Charente, and district of La Rochefoucauld;

o miles N. of La Rochefoucauld. CELLENE, in Entomology. Cramer calls the Fabrician

PAPILIO DELILA by this name CELLENSIS, in Ancient Geography, an episcopal see of

Africa in the Byzacene .- Alfo, another in Mauritania Sitifentis

CELLEPORA, in Zoology, a genus of zoophytes, the animal of which is an hydra, or polype, and the coral fomewhat membranaceous, and composed of round cells. The eight following species of cellepore are described by wri-

CELLEPORA ramulofa. This species is dichotomous, falciculate, with round obtuse ramifications, and very crowded cylindrical tubes. Müll. Zool. Dan. Inhabits the North

CELLEPORA Spongites. Fragile, with rows of tubular topshape cells, in fingle layers, with marginate openings, irreand North Sea, called by Linnaus cellepora spongites; by Ellis and Solander millepora Spongites; adarce of Mercat.; porus auguinus. Imperat. Hist. Nat. Lapis spongia. Best. Mus.

CEPTERORA verrucofa. With ovate cells in a round mals; mouth usually with three teeth. Fabr. Tubisora verrucofa. Line. Inhabits the Mediterranean and Norway

CELLTPORA pumicofa. Dichotomous, very brittle; nearpumice stone; inhabits the Indian, Atlantic, and European

With convex cell; mouth fringed

Fabricius describes this species as having seven teeth in by Pallas; other writers speak of them as varying in point of number in different specimens. This kind is found ou fuci in the Mediterranean and North Sea.

Cellepora byalinata. Cells fubglobular, and diaphanous; mouth oblique and fimple, or unarmed. Fabr. Fn. Green. Frequent on fuci, and shells in the Northern feas of Europe.

CELLEPORA nitida. Cells subcylindrical, pellucid, and annulated; mouth terminal and fimple, or unarmed. Fabr.

CELLEPORA annulata. Cells oval, ventricose and annulated; mouth ringent and armed with about four teeth. Fabr. Found attached to fuci, stones, &c. in European

CELLES, in Geography, a town of France, in the department of Jemappe, and chief place of a canton, in the diffrict of Tournay. The place contains 1950, and the canton 12,835 inhabitants. The territory includes 157\frac{1}{2}

CELLIER, Roms, in Biography, a learned Benedictine, was born at Bar-le-Duc in 1688; and having cultivated in early life an attachment to literature and piety in the congregation of the Benedictines of St. Vanne and St. Hidulphe, he assumed the habit of the order in more advanced age, and filled feveral potts in it, particularly that of titular prior of Flavigny. He died in 1,61. His great work was written in French (though begun in Latin), and entitled " A general History of Sacred and Eccletia tical Authors," in 23 vols. 4to., published from 17:9 to 1763. It comes down no lower than to St. Bernaid. This work is an useful compilation, but rendered tedious by its diffuseness. He also published " An Apology for the Morality of the Fathers, against Barbeyrac," 1718, 4to. His habits were studious and retired, and his temper singularly mild and

condescending. Dict. Nouv. Hitt.
CELLINI, Benevenuto, a celebrated artist, was born at Florence in 1500; and though he discovered an early taste for design, was obliged by his father to learn music. Atterwards he was bound apprentice to a jeweller and goldpaffed through various viciffitudes, and at length fettled at Rome, where he was taken into the fervice of pope Clement VII., both as a mulician and goldfmith. In the latter department he practifed drawing, feal-engraving, damasking steel, medalling, working in grotesque, and a variety of other ornamental arts. He was also an expert engineer, and was entrusted by the pope with the defence of the castle of St. Angelo, when Rome was sacked by the conflable Bourbon. On this occasion he claims the honour of having that the conftable while fealing the walls, and of directing the cannon which killed the prince of Orange. As he was employed by Clement in making stamps for the Roman mint, the coins of that period are reckoned fingularly beautiful. His medals, and jewellery works, are also

highly extolled as the finest specimens of the art. At the death of the pope, he returned to Florence, and was patronifed by the grand duke Alexander. The coins which were ftruck from the heads of this duke prepared by Cellini for the mint at Florence have been held in fuch estimation, that they have been preserved by the curious like aucient medals. The roving disposition of this admirable artist led him to visit France; but being tired of that country, notwithstanding the gracious reception of Francis I., he returned to Italy. At Rome he was committed to prison under a charge of having robbed the castle of Angelo of considerable treasure, while the Spanish army was in that city; and though he made his escape in a wonderful manner, he was retaken, and again confined, till at length he was delivered from the hardships he endured by the intercession of the cardinal of Ferrara. On his return to France, he entered into the fervice of Francis, and employed himself in sculpture, and in calling large figures of metal, by which he obtained great reputation. But by his turbulent and quarrelfome disposition he incurred the displeasure of the favourite Mad. d'Estampes, and was obliged, after a refidence of 5 years, to quit the country and return to Florence. In the fervice of the grand duke Cosmo, he displayed his astonishing genius, not only by fmaller works, but by some large pieces of sculpture, particularly a statue of Perseus and Andromeda, and a crucifix, which placed him on a level with the first sculptors. In this art he had received instructions from the greatest genius of his time, Michael Angelo Buonarotti. He wrought in marble as well as in metal, and as he was a powerful competitor to the famous Baccio Bandinelli, there subsisted between them a great degree of mutual jealoufy and hatred. He died at Florence in 1570. In 1568 Cellini published two treatifes; one on the goldsmith's art, the other on sculpture, and the casting of metals. He also composed the history of his own life, which has been translated into English by Dr. Nugent, in 2 vols. 8vo. 1771. In this work he delineates his own character without difguifing his faults, whilft he makes a boaftful recital of his bravery, address, and professional skill. In the latter respect, the testimony of his contemporary, Vasari, places him among the most ingenious men of that flourishing period of the arts. Life of Benevenuto Cellini by himfelf. Gen. Biog.

CELLINO, in Geography, a town of Naples, in the province of Abruzzo Ultra; 7 miles E. of Teramo.

CELLITES, CELLITE, in Ecclefinsfieal History, an order of religious, founded at Antwerp in the beginning of the fourteenth century, whose patron was Alexius, a Roman; and therefore, in Italy they are called Alexian; but in Germany, and the Low Countries, where they have monatteries, Cellites, i. e. people inhabiting cells. See LOLLARDS.

CELLON, in Ancient Geography, a canton of Afia, in the Palmyrene territory, mentioned in the history of Judith. CELLONÆÆNSES, a people of Scythia, mentioned

by Phavorinus.

CELLS, Celle, Cellula, are little houses, apartments, or chambers; particularly those wherein the ancient monks, solitaries, and hermits, lived in retirement.

Some derive the word from the Hebrew 873, i.e. a

prison, or place where any thing is shut up.

The fame name is ftill retained in divers monasteries. The dormitory is frequently divided into so many cells, or lodges. The Carthushans have each a separate house, which serves them as a cell.

The hall wherein the Roman conclave is held is divided, by partitions, into divers cells, for the feveral cardinals to

adge in.

. CELLS are also the little divisions, or apartments, in honey-

combs, where the honey, young bees, &c. are diffributed: thefe are always regular hexagons.

CELLULAE Adiposa, in Anatomy. See Cellular

CFLLULAS, in the colon, a fort of spaces wherein the excrements continue some time before they are voided.

CELLULANUS, a monk inhabitant, or refident in a cell, or cella. He is also denominated concellancus, and fine cellista, by which are imported the relation of fellow-monks,

or those who live in the same cell or convent.

CELLULAR SUBSTANCE, in Anatomy, or cellular membrane, tela cellulofa, or mucofa, of Latin writers, tiffu muqueux of the French, is the medium which connects and supports all the various parts and structures of the body. It is composed of an assemblage of fibres, and laminæ of animal matter; connected to each other, so as to form innumerable cells, or fmall cavities, from which its name of cellular is derived. This substance pervades every part of the animal structure. By joining together the minute fibrils of mufcle, tendons or nerve, it forms obvious and visible fibres; it collects these fibres into larger fasciculi; and by joining such fasciculi to each other, constitutes an entire muscle or nerve. It thus forms an investment common to the whole muscle, and beflows on each bundle of fibres, nay, on each fibre, down to the most minute threads, peculiar sheaths, delicate and tender in proportion to the fubtilty of the fibre. It joins together the individual muscles, and is collected in their intervals. It furrounds each veffel and nerve in the body; often connecting these parts to each other by a firm kind of capfule; and in a loofer form joining them to the neighbouring muscles, &c. When condenfed into a firm and compact thructure, it conflitutes the various membranes of the body; which, by long maceration in water, may be refolved into a cellular texture. Its general condensation on the surface of the body conflitutes the cutis, or true fkin. In the bones, it forms the batis and groundwork of their fabric; a receptacle, in the interffices of which the earth of bone is deposited. Maceration in diluted acid diffolves this earth, and leaves, if one may use the expression, a skeleton of the bone, representing its figure, its processes, and its texture, in a kind of cellular fubstance. The only parts of the body in which the cellular texture feems to be wanting, are the proper substance of the brain, the crystalline lens, enamel of the teeth, and the infenfible integuments of the body; viz. the epidermis, nails, and hair. As the cellular fubiliance is entirely foluble inboiling water, it is afcribed by chemilts to the peculiar modification of animal matter, termed gelatine. Its watery folution assumes, when cold, the appearance of jelly; and, after a particular mode of preparation, constitutes glue.

The interstices of the cellular substance are subsicated and mossitened by a ferous or watery suid, poured out from the exhalent arteries, and again taken in by the absorbents. It thus acquires a pliancy and sosteness, which adapt it particularly to serve as a connecting medium for parts, which have motion on each other. The importance of this property will be best understood by observing the effects of its loss. Instantantion or absects often causes an induration and consolidation of the cellular texture, by which the integuments are sixed to the muscles; the muscles are firmly united to each other, and to the surrounding parts; in short, a kind of ancylosis ensues, by which the motions of the whole are con-

fiderably impaired.

From the universal extent of this cellular texture, two conclusions may be drawn. 18. It forms the basis of the whole animal fabrie, in fuch a way, that if we conceive every part removed, except this, the form of the whole would still be expressed in cellular substance. 24ly. It forms a connec-

 $C \to L$ CEL

tion and paffage between all parts of the body, however remote in fituation, or diffimilar in structure. For the cells of this fubstance every where communicate; as we may collect from facts of the most common and familiar occurrence. The air in emphyfema fpreads rapidly from the cheft to the most remote parts of the body; it has been known in fuch a cafe to gain admission, into the eye-ball. (Littre in Mem. de l'Acad. des Sciences, an. 1713.) A fimilar diffution of this fluid may be effected by artificial inflation, which is commonly practifed by butchers on the careafes of calves. In anafarea, or preternatural accumulation of fluid in the cellular substance, the most depending parts are the most loaded; and fearifications in these drain the water off from the whole body.

The structure of the cellular substance varies considerably in different parts; it is very delicate, and possesses peculiarly fhort fibres, where it unites the different coats of the hollow vifcera of the body; also where it joins the minute fibrils of mufcular fafciculi. It is very loofe in the fcrotum, and integuments of the penis; and it is found in every intermediate Hage. In these various states of density and looseness, it bestows on every part the required degree of firmness and flrength, defines its form, and determines its mobility.

A peculiar power of contraction is attributed to the cellular substance; and is mentioned by Blumenbach, under the term contractilitas. (Institut. Physiol. sect. 4.) This is widely different from irritability, and confifts in a flow and gradual motion, which is exemplified in the corrugation of the ferotum, and in the fimilar effect produced by cold on

the furface of the body in general.

The cells of the cellular fubiliance, in many parts of the body, are deltined for the reception of a fluid termed fat, adeps, or adipous fubiliance. This fubiliance is of an unctuous nature, inflammable, lighter than water, usually inodorous, and, generally speaking, similar to the vegetable oils. In addition to the carbon and hydrogen, which it poffesses in common with these oils, it abounds with oxygen, and a peculiar acid termed the febacic. It is white in young animals, and becomes yellower as they advance in age. It is always more or lefs fluid in the living subject; in carnivorous animals and in man it retains much of its oily appearance after death; but in herbivorous animals it constantly assumes a concrete form. Dr. Hunter gave the name of adipous to that portion of the cellular fubiliance which contains the fat;

and diftinguishes the rest by the term reticular.

As the fat is deposited in cells, it assumes, in general, a kind of granular form. It varies confiderably in confiftence. That of the orbit is the foftest in the body. The fat about the kidnies becomes particularly hard after death, and is called fuet; the globules or portions of this are very large, and it contains on the whole lefs cellular fubstance than any fat in the body. There is, generally speaking, a layer of fat under the skin; whence a membrana adiposa has been fometimes enumerated as one of the common integuments of the body. This is connected to the subjacent muscles by a portion of the reticular substance. Some parts of the body never contain fat: even in subjects, who have the greatest accumulation of this fluid. This is the case with the scrotum, the integuments of the penis, and the eyelids; it is obvious that the functions of these parts mult be completely destroyed, if they were subject to the enormous accumulations of fat, which occur in the other parts of the body. Several of the viscera also never contain any of this fubstance, probably for the same reason, viz. the brain and

The quantity of fat varies according to the age, the

the individual. It is not found in the early periods of feetal existence; and cannot be distinguished with any certainty, foouer than the fifth month after conception. In the fœtus, and for some time after birth, the fat is confined to the furface of the body; it is only found in a stratum under the skin. It begins, however, gradually to be deposited in the intervals of the muscles, and on the surface of some viscera. In old fubjects, however thin they may feem on an external view, there is always much fat, penetrating even the fubflance of the muscles; the bones are greafy throughout; the heart is more or less loaded, as are also the parts in the abdomen. Hence a young subject should always be selected for dried anatomical preparations. There is confiderable difference in the quantity of fat in different in this duals; and in some there is a propensity or disposition to its accumulation. A fedentary life, copious food, and tranquil continuance of these causes, that it must be considered as a difease, and is attended with the greatest inconvenience to the individual. General diseases of the frame are commonly attended with an absorption of the fat from the cellular substance: acute difeases cause a very rapid emaciation. In no case is the adipous substance more completely removed from the whole body than in anafarca, where its place is fupplied by a ferous fluid.

Dr. Hunter thought that the fat was contained in cells peculiar to itself and different from those which are diffended by water in analarca; and he diftinguishes the two kinds of cells by the names of adipous and reticular cellular fubitance. C. A. a Bergen had already made a fimilar diffinction (Diff. de Membrana Cellulofa in Haller's Disput. Anat. tom. 3.) He observes, in proof of this opinion, that fat is never accumulated in certain parts of the body, which parts are the most particularly distended by the water of anasarca. He thinks that the cells of the adipous fubiliance do not communicate together like those of the reticular; because the fluid fat does not drain into the depending parts like the water of anafarca: nor does the skin pit where fat is col-

locted under it.

The fame great anatomiil also thought that there was a glandular apparatus for feereting the fat. "Wherever there is fat in the human body, I apprehend that there is a particular organization, or glandular apparatus superadded to the reticular membrane; confifting of vehicles, or bags for lodging the animal oil, as well as veffels fitted for its secretion; so that I would compare the marrow in the bones to the glandular or follicular parts of the fat or adipous membrane; and the net-work of bony fibres and laminæ, which support the marrow, to the reticular membrane, which is mixed with, and supports the adeps." Medical Obs. and Inquiries, vol. ii. p. 33. Malpighi seems to be the first who ascribed the secretion of fat to a glandular apparatus: he has described the follicles or cells, in which this structure resides; and even tubes, which he confiders as exerctory ducts of his glands. (De Omento et adipolis Ductibus.) His opinions were adopted in a greater or less extent by several anatomists; as Gliffon, Havers, Perrault, Fanton, Littre, and even Morgagni. It appears to us more probable, that the fat is a simple secretion from the arteries, like the ferous fluid of the cellular membrane. We cannot differn any thing deferving the name of gland in the adipous fubitance of the body. We subscribe, in fhort, to the opinion of Haller: "Simplicissima et facillima fecretionis adipofæ hiltoria .- Inter arterias, et adipofos loculos, nullum aliud receptaculum interesse. Neque oculus, flate of health, and the peculiar habit or disposition of aut microscopium in tenuissimis laminis cellulosis crassionem aliquam aliquam particulam discernit, quam pro glandula habeas." (Elem. Physiolog. tom. i. lib. i. fect. 4.) We see preternatural collections of fat, (forming fatty tumours,) in those parts which are naturally the most free from adeps: can we suppose that glands are formed or created in this case? Is it not more congenial to our opinions on the formation of tumours in general to afcribe the phenomena to a peculiar

action of the arteries?

The uses of the fat feem to be, in part, common to it with the cellular substance: it connects contiguous parts, and at the same time prevents their coalition. It admits of their moving on each other with freedom and facility. Its deposition under the integuments gives a roundness and convexity to the furface, on which the beauty of the human form principally depends. Indeed, its accumulation in particular fituations immediately influences the outline of the part; viz. the orbit, the cheek, and the buttocks. The effect of its loss is most disagreeably manifested in the lank cheek and hollow eye of an emaciated patient. The fat is also said to defend the surface of the body from cold; and, indeed, it is accumulated very copiously under the integuments of fuch animals, as are exposed to the rigour of high northern latitudes; as the whale, the feal, &c. It has been likewife supposed that the fat, which is absorbed under certain circumstances, is applied to the nutrition of the body.

When we confider the extent and importance of the cel-Jular Substance in the animal body, we shall perhaps be furprifed that these have only been ascertained within a comparatively short period of time. With the exception of a few vague notices in preceding writers, Malpighi, Ruysch, Douglass, and Winflow, gave the first correct descriptions of this substance in particular parts. It is to Haller that the merit belongs, of first shewing the great share which it has in the composition of the body in general, and particularly in the formation of membranes. The reader will peruse with advantage on the whole of this article, the 1st book of Haller's "Elementa Physiologiæ." He may likewise consult "Bordeu Recherches sur le tissu muqueux et l'organe

cellulaire," Paris, 12mo.

CELME, in Geography, a town of Spain, in the province of Galicia, on the river Lima; 6 leagues fouth of Monte-

CELNIUS, in Ancient Geography, a river of Britain, mentioned by Ptolemy, and supposed to be the river Spay,

in the shire of Elgin.

CELONÆ, a town of Afia, supposed to have belonged to the Persian empire, and to have been situated towards

CELONZA, in Geography, a town of Naples in the pro-

vince of Capitanata; 5 miles N.W. of Volturara.

CELORICO, a town of Portugal, in the province of Beira, containing three churches, and about 1100 inhabit-

ants; three leagues N.W. of Guarda.

CELOSIA, in Botany, Linn. gen. 289. Schreb. 405. Lam. Illuf. 442. Willd. 463. Juff. 88. Vent. vol. ii. 265. Gert. 737. (Stachyarpagophora, Vaill. A. G. 1722. Passevelours, Lam. Encyc.) Class and order, pentandria menogynia. Nat. Ord. Holeraceae, Linn. Amaranthi, Just. Amaranthoidez, Vent.

Gen. Ch. Cal. Perianth of two or three leaves, lanceolate, acute, dry, shining, permanent. Cor. Petals five, lanceolate, acuminate, creet, permanent, rigid, refembling the leaves of the calys. Ned. furrounding the germ, quinquefid. Stam. filaments five, awl-shaped, conjoined at the base to the plaited nectary; anthers versatile. Pift. Germ globular; flyle awl-shaped, straight, the length of the stamens; stigmas one, two, or three. Peric. Capfule globular, furrounded VOL. VII.

by the corolla, one-colled, separating transversely into two parts (circumfeiffa). Seeds feveral, roundish, emarginate.

Eff. Ch. Calyx two or three-leaved; leaflets fimilar to those of the five-petalled corolla; thamens conjoined at the base to the plaited nectary; capsule opening horizon-

Obf. Juffieu, Ventenat, La Marck, and Gærtner understand the fructification differently. According to them the plants of this genus have no corolla, a five-leaved calyx, and an involucre of two or three icales refembling the leaflets of the calyx. It is nearly aliced to Amaranthus and Gomphrena; differing from the former chiefly in its hermaphrodite flowers, and from the latter in having more feeds than

Sp. 1. C. argentea, Linn. Sp. Pl. 1. Mart. 1. Poiret Encyc. 1. Willd. 1. (Amaranthus, Mart. Cent. 7. tab. 7. Belutta adeca manjen, Rheed. Mal. 10. tab. 38.) "Leaves lanceolate; stipules somewhat falcate; peduncles angular; spikes scarious." β. "Leaves nearly linear." Therra belutta, Rheed. tab. 39. Root annual, whitish, fibrous. Stems almost woody, green, smooth, striated; branches, slender. Leaves alternate, narrow, often very acute, entire, fmooth, narrowed into a petiole; thipules caducous, narrow. Flowers in a terminal, oblong spike, either simple or closely branched, of a white filvery colour, sometimes reddish at the fummit; leaslets of the calyx thin, transparent, shining; anthers red. Seeds three or four in each capfule, small, orbicular, flattened, smooth, shining. A native of China and the coast of Malabar. 2. C. albida, Willd. 2. Poiret 3. (C. pyramidalis, Burm. ind. 65. tab. 25. fig. 1.) " Leaves linear-lanceolate; ftem without stipules; spikes egg-shaped; bractes the length of the corolla." Poiret doubts whether it be fufficiently diffinct from the preceding, and suspects that by bractes Willdenow means the leasters of the calyx. A native of the East Indies. 3. C. margaraticea, Linn. Sp. Pl. 2. Mart. 2. Poir. 2. Willd. 3. (Amaranthus simplici panicula, Bauh. pin. 12.) "Leaves egg-shaped; stipules falcate; peduncles angular; spikes scarious." This also is scarcely more than a variety of C. argentea. It has thicker stems, broader and shorter leaves, and shorter spikes; in other respects not different. 4. C. criflata, Linn. Sp. Pl. 3. Mart. 3. Poir. 4. Willd. 4. Gært. tab. 128. fig. 8. Lam. Ill. Pl. 168. fig. 1. (Amaranthus panicula conglomerata; Bauh. pin. 22. A. vulgaris, Rumph. amb. 5. tab. 84.) Cock's comb. " Leaves lanceolate-egg-shaped, recurved, somewhat waved; peduncles angular; fpikes oblong, crested." Root annual. Stems angular, striated. Leaves alternate, acute, various in breadth in different plants, narrowed into a petiole at the base, sometimes a little curved. Spikes fometimes branched at the bafe, various in their form and fize as well as colour, which is yellow, or yellowish white, red, or purple, and sometimes variegated with two or three colours. A native of Alia. 5. C. comofa, Willd. 5. Poir. 10. Retz. Obs. 6. p. 26. "Spikes cylindrical, comose; leaves lanceolate." Stem upright, naked, branched. Leaves quite entire, smooth. Spikes cylindrical, barren in the upper part, often much divided, confifting of minute, imbricated bractes. Flowers folitary, longer than the bractes, rifing among them at fome diffance from each other. Style flightly trifid, permanent, twice as long as the petals. Capfule operculate, containing two feeds. A native of the East Indies. 6. C. paniculata, Linn. Sp. Pl. 6. Mart. 4. Poir. 7. Willd. 6. Swartz. Obs. p. 100. (C. major sarmentosa, Brown Jam. 179. Blitum album majus scandens, Sloan jam. 49. hist. i. tab. 91. fig. 2. " Leaves ovate-oblong; frem rifing, panicled; fpikes alternate, terminal, remote." Rocs annual. Stem feeble, proftrate, cy-Dd

lindifical, branched. Leaves alternate, acuminate. Florvers alternate, diffinct; flamens shorter than the corolla; stigma trifid." A native of dry rocky ground in Jamaica. 7. C. nitida, Willd. 7. Vahl. symb. 2. p. 44. (Amaranthus fruticosus erectus, Sloan. hist. 1. tab. 91. fig. 1.) "Leaves ovate-deltoid, attenuated; fpikes terminal, branched; flowers diftinct; stem somewhat shrubby." In habit resembling achyranthes farmentofa, but placed by Vahl under celofia, on account of its calyx, corolla, and the number of its feeds. A native of the West Indies. Poiret suspects that it is one and the fame plant with the preceding. But his doubt appears to have arisen from a blunder made by Willdenow, in quoting at full length, as a fynonym of both, the amaranthus fruticolus erectus, spica viridi laxa & strigola of Sloane, which belongs only to the present species; Linewus having referred the preceding to another of Sloane's plants. Wildenow indeed under nitida refers to pl. 91. fig. 5. not fig. I. as it stands in Vahl, but this, as Poiret observes, must be an error of the press, there being no fig. 5 in that plate. 8 C. eeccinea, Linn. Sp. Pl. 5. Mart. 5. Poir. 5. Willd. 8. (Amaranthus panicula incurva, Bauh. p. 121.) Scarlet or Chinese cock's-comb. "Leaves egg-shaped, stiff, not auriculated; ftem furrowed; fpikes manifold, crefted." Root annual. Stem four or five feet high, branched. Leaves very large, narrowed into a petiole, ending in a long point, a little waved at the edges, smooth, entire, soon failing off. Spikes axillary and terminal, large, branched, tufted, of a beautiful fearlet colour: flamens shorter than the corolla. A native of the East Indies. 9. C. castrensis, Linn. Sp. Pl. 4. Mart. 6. Poir, 6. Willd. o. (Amaranthus cristatus; Cam. Epit. 792. A. minor. Barrel ic. rar. tab. 1195. Bocc. Muf. 2. tab. 66.) " Leaves lanceolate-ovate, marked with lines, very much acuminate: flipules falcated; fpikes crefted." Roct annual. Stems erect; branches axillary, almost from the bottom to the top of the stem. Leaves alternate, petioled, smooth, marked underneath with reddish veins; stipules two, fessile, embracing the stem. Spikes stender, axillary, sometimes a little branched. A native of the East Indies; less beautiful than many of the other species. 10. C. monfonia, Willd. 10. Poiret 10. Mart. 12. Hort. Kew. 1. p. 288. Retz. Obs. 2. p. 13. (Illecebrum monfoniæ; Linn. jun. Supp. 161. Amaranthoides; Pluk. alm. tab. 334. fig. 4. Amal. tab. 357. fig. 4.) "Leaves awl-fhaped, whorled; ftem branched, divaricated; spikes compact, cylindrical." Root annual. Stems proftrate, branched, ending in more elongated branches, a span long, and hoary. Lower leaves almost crowded into a tuft. Spikes opposite and terminal, reddish and whitish, very beautiful. A native of the East Indies. It. C. corymbofa, Linn. Sp. Pl. 7. (excluding, according to Willdenow, the last two fynonyms, which belong to Achyranthes corymbofa.) Willd. 11. Retz. Obf. 2. p. 13. (Paronychia; Burm. zeyl. tab. 65. fig. 2.) " Leaves linear, whorled, fmooth; flowers corymbous-dichotomous." Root perennial. Willdenow afferts that it may cafily be distinguished from achyranthes corymbola by its flem ascending at the base, by its broader leaves and longer stipules, and by its flower; but Poiret is of opinion that the difference is very problematical. 12. C. trigyna, Linn. Mant. 212. Mart. 7. Poirs. Q. Willd. 13. Jacq. Hort. 3. tab. 15. Lam. Illust. Pl. 168. fig. 2. "Leaves egg-shaped, acuminate, flat; stem herbaceous ; raceme loofe ; bracles fearious ; pistil trifid." Root annual. Stem a foot and half high, erect, fimple, fomewhat angular, firated, ftiff. Leaves alternate, petioled, even, acute; flipules in pairs, crefcent-shaped, horizontal, embracing the stem. Flowers in terminal racemes, a few clustered together at different distances, white, on short peduncles; bractes filvery, egg-shaped, distant; calyx two-

leaved; petals egg-shaped, acute, scarious, permanent; flamens purplish, only flightly connate at their base, shorter than the petals; germ globular; ftyle very flort; fligmas longer than the style, purple. Capfule globular. Seeds three. A native of Senegal. 13. C. candata, Willd. 12. Vahl. Symb. 1. p. 21. (Achyranthes paniculata; Forst: dese. 48. "Leaves egg-shaped; racemes compound, loose, very long; pillil bifid; stem without stipules." Poiret thinks it only a variety of C. trigyna. A native of Arabia Felix. 14 C. virgala, Poir. 11. Willd. 14. Jacq. ic. 2. tab. 330. Collect. 2. p. 279. "Leaves egg-shaped, acuminate, waved; stem fomewhat shrubby; raceme loofe; bractes membranous; pittil trifid. Root perennial. Stem four feet high, almost woody, smooth, preserving its verlines long, petioled, alternate, quite entire; upper ones finaller, lanceolate; ilipules acute, falcated. Flowers greenthe leaslets of the calyx, which are shorter than the corolla, a little concave. Capfule membranous. Seeds about fix, lenticular. After impregnation the calyx and corolla unite and enclose the fruit, giving it a conical form. Native country unknown. 15. C. polygonoides, Mart. 14. Poir. 13. Willd. 15. Retz. Obs. 2. p. 12. " Leaves heart-shaped. ftem hispid; raceme spiked, loose; slowers trigynous." Root perennial. Stem herbaccous, almost upright, striated. Leaves obtuse, petioled, alternate, scabrous. Racemes conered, little clusters. Capfule pitcher-shaped, with a contracted mouth covered by a lid, longer than the calyx, many-seeded. 16. C. madagascariensis, Poir. 14. " Stems fomewhat farmentofous; leaves lanceolate, finuated, obtufe; flowers raceme-spiked." Stems surrowed, limber; branches diftant. Leaves petioled, alternate, smooth. Flowers small, cinereous white. Gathered in the ifle of Madagafear by Commerfon and J. Martin, and deferibed from a dried fpe-cimen in the herbarium of La Marck, but too imperfectly preserved to make it quite certain that the plant belongs to this genus and not to achyranthes. 17. C. baccata, Mart14. Poir. 15. Willd. 16. Retz. Obf. 5. p. 23. "Leaves
heart-shaped, acuminate; racemes spiked, loose, slowers trigynous; fruit berried." Stems upright. Leaves alternate, lets two, fmall; petals oval, a little concave; filaments dilated at the base, entirely surrounding the germ. Fruit a blackish berry, not corresponding with the generic character. Seeds three, large, shining, convex on one fide, concave on the other. A native of the East Indies. 18. C. graphaloides, Mart. 9. Willd. 17. Linn. jun. Supp. p. 161. "Shrubby, woolly; leaves opposite, egg-shaped, white underneath; head globular, peduncled. Found by Thouin in Brazil. Poiret suspects it to be an illecebrum. 19. C. nodiflora, Linn. Sp. Pl. S. Mart. 10. Poir. 12. Willd. 18. Retz. Obi. 4. 24. B. 70. Jacq. Hort. tab. 98. (Amaranthoides; Burm. zeyl. tab. 5. fig. 2. Pluk. Almag. tab. 133. fig. 2.) " Leaves wedge-shaped, rather acute; spikes globular, lateral." Root annual. Stems angular, grooved, even. Leaves like those of pursane, obtuse with a point. quite entire, smooth, on very short petioles. Spikes solitary, peduncled; peduncles commonly florter than the leaves. Instead of the calyx there are from one to three linear bractes; stamens fixed to the nectary at the base; stigma twin-capitate. Seed fingle; lens-shaped. It varies; I. with oblong leaves and peduncled heads; 2. with short roundish leaves ending in a point and feffile heads; the first from Sumatra; the second from Malabar. Retz. According to this description it is surely an achyranthes. It is also a native of the island of Ceylon.

CELOSIA lanata, Linn. Sp. Pl. 7. Sec ILLECEBRUM javanicum.

CELOSIA procumbens; Murray Jac. See Gomphrena interrupta.

CELOSIA Gronov. virg. See IRESINE celofioides.

CELOSIA, in Gardening, comprehends fome flowery ornamental annual plants, as the amaranth, or cock's-comb.

The species commonly cultivated are the crested amaranth, or cock's-comb (G. criflata); the pearly-spiked celosia, or cock's-comb (C. margaritacea); the scarlet celosia or Chinese cock's-comb (C. coccinea); and the woolly celofia (C. lanata). Of the first fort there are many varieties, differing in form, magnitude, and colour, from the same seed. In the dwarf kinds, they vary, with large purple heads of flowers, with red heads, with fearlet heads, and with yellowish heads: in the giant kinds, with very large purple heads, with red heads, with scarlet heads, with yellowish heads, with white heads, and with variegated heads: and in the branching kinds, with purple, with red, and with buff-coloured flowers. And the able editor of Mil'er's Dictionary has raifed great varieties from feeds from China and other countries, but generally found them alter in a few years, notwithstanding great care was taken in faving the feeds. principal colours of their heads were red, purple, yellow, and white, but he has had fome whose heads have been variegated with two or three colours. He also raised some, he fays, from feeds from Persia, whose heads were divided like a plume of feathers, and were of a beautiful fearlet colour, but which degenerated in a few years. Linnæus has found it to vary, with narrow and broad leaves; and Thunberg afferts that the crefts or heads of flowers are often a foot in length and breadth in Japan, and extremely beautiful, but that they degenerate in other fituations.

In the fecond fort there are varieties with oblong fpikes of equal thickness, with pyramidal fpikes, with entire white

spikes, and with white and red spikes of slowers.

The third kind also varies, with crefted spikes, with incurved crefted spikes, and with plumed spikes of slowers.

Method of Culture.—It is observed that in order to produce fine flowers of this fort, it is necessary to be particularly careful in collecting the seed, on a to have it good and well ripened. In regard to the method of raising all the different forts, it is by sowing the seeds of each separately in the early fpring, as in the beginning of March, either upon a hot bed, or in pots to be plunged in one; in the first case, the surface being covered with sine, light, dry mould, four or five inches in thickness. When the plants have attained a few inches in growth they should be carefully taken up, and pricked out upon another hot-bed prepared and moulded for the purpose, at the distance of fix inches; and should remain in this situation till they begin to be crowded, which is mostly the case in fix or seven weeks. At this period another hot-bed should be put in readiness, with very deep frames.

Where the plants have been raifed without pots on the beds, as many as are necessary should now be put in pots, care being taken to remove them from the former bed, with good balls of earth about their roots, by means of a trowel, placing one in each pot without disturbing the mould about them, filling up the spaces about them with good rich earth. Some water should then be given, and the pots be plunged to their rims in the bed, and as close together as possible to penings between the pots being filled up well with mould to prevent the rising of steam so as to injure the plants.

And the glaffes in these cases should be so managed as to preserve the heat in such a state as may keep the plants in a constant vigorous state of growth, being matted up in the nights, and having linings applied when there may be occasion for it from the state of the weather. When the weather is sine and calm, air should, however, be admitted rather freely by lifting up the ends of the frames, and water be moderately sprinkled over them as there may be occasion for it.

For the large forts, the frames should have sufficient depth to draw them up to three or four feet in height, being raised, when necessary, as the plants advance in growth; but for the dwarf kinds the common frames are sufficient, as their heads should be constantly kept near to the glasses.

See HOT-BED and GARDEN-Frame.

As the fummer advances the plants should be gradually hardened by more free admission of air, till the giastes are wholly removed, and the plants set out where they are to remain, in which it is proper to support the tall forts by handsome sticks. In this situation water should be freely given every day, to prevent the leaves from shrinking and keep the flower-heads sull and sine. It is remarked that plants of these forts may be removed from the second hot bed into the beds, clumps, or borders; but that they never grow so fisheringly as in the above method.

The feeds in all the different fpecies become in a flate of perfection about the beginning of the autumn, when attention should be had to felect them from the best and finest plants of each kind, sheltering the heads when necessary from rains, &c. and keeping the different forts of feed separate and

in a dry lituation.

The perfection of the cock's-comb chiefly confifts in the having a regular, upright, ftraight ftem without any fide branches, but well furnished all the way with leaves, and the large flower-head creek, clofe, and regular, in its form.

There are all plants of the fine ornamental kind, which have a good effect in the more confpicuous parts of gardens or pleafure grounds in mixture with others of the flowery kinds. The cock's-combs are well calculated to be placed in the courts and other places about the house, from the variety of effect which is afforded by their fine showy heads of flowers.

CELSA, in Ancient Geography, a town of Hither Spain, towards the fouth-well, leated on the Iberus. It was a Roman colony, and had a port on this river. Ptolemy has crroneously placed this town at the foot of the Pyrenées.

CELSA, in Geography, a town of Naples, in the province

of Principato Citra; 25 miles S.W. of Cangiano.

CELSIA, in Botany, (so named by Linnæus in honour of his friend Olaus Celfius, D.D. professor of the Greek language, and afterwards of theology in the university of Upfal). Linn. gen. 757. Schreb. 1015. Willds. 1153. Gært. 327. Just. P. 124. Vent. vol. 2. p. 367. Class and order, didynamia angiospermia. Nat. Ord. Lurida, Linn.

Solanea, Juff. Vent.

Gen. Ch. Cal. Perianth five-parted; fegments lanceolate, permanent. Cor. monopetalous, wheel-shaped; tube very short; border slat; fegments roundish, unequal. Stam. Filaments four, capillary, a little inclined, unequal, bearded; anthers roundish. Pif. Germ superior, roundish: style shiften, the length of the stamens; sligma obtuse. Per. Capsule, roundish, compressed at the tip, acuminate, surrounded at its base by the calyx, two-valved, two-celled; partition simple, contrary to the valves. Seeds numerous, small, angular.

Dd2

ments bearded. Capfule two-celled.

Sp. t. C. orientalis, Linn. Sp. Pl. Mart. 1. Lam. 1. Willd. 1. Gart. tab. 55. fig. 7. Lam. Iliuf. Pl. 532. (Verbafcum Sophiæ folio; Tourn. Cor. 8. Buxb. Cent. 5. p. 17. Blattaria; Buxb. Cent. 1. tab. 20.) "Leaves bipinnated." Linn. Root annual. Stem a foot and half high, upright, Larbaccous, cylindrical, simple or furnished with short branches, leafy from the bottom. Leaves alternate, feattered, bipinnatifie, not bipinnate as they are described by Linnaus in the specific character, green, entirely smooth: segments almost to the midrib, lying flat on the ground. Flowers pale yellow, fmall, folitary, fefile, axillary; fegments of the calyx narrow, fometimes bind or trilid. A native of the Levant, flowering in June, fent to Paris from Armenia by Tournefort, in 1701, and cultivated in Chelfea-garden in 1739. 2. C. arèturus, I-Iurray Syft. Veg. p. 469. Vahl fymb. 3. p. 79. Mart. 2. Lam. 2. Willd. 2. (Verbascum arcturus; Linn. Sp. Pl. V. humile creticum: Bauh. pin. 240. Alp. exot. tab. 122. Colum. ecphr. 2. p. 82. " Rootleaves lyrate; upper ones oblong; peduncles longer than the braces; fegments of the calyx bnear, quite entire." Vahl. Root biennial. Stem a foot high or more, flender, weak, often simple, leafy, villous. Leaves generally alternate, sometimes opposite, petioled, toothed, a little villous, dark green. Flowers yellow, in a loofe fpike on the upper part of each flem; peduncles from fix to nine lines long; filaments covered with red or purple hairs. A native of Candia, first cultivated at Kew about 1780. 3. C. coromandelina, Willd. 3. Vahl Symb. 3. p. 79. " Root leaves lyrate; stem ones egg-shaped; peduncles thorter than the bractes; segments of the calyx linear-oblong, quite entire. Root annual. Flowers distant, about the size of those of C. arcturus. A native of the East Indies. 4. C. cretica. Murr. Syst. Veg. p. 463. Linn, jun. Sup. p. 281. Mart. 3. Lam. 3. Willd. 4. (Verbaseum; Mill. Ic. tab. 273. Blattaria; Moris. 2. 488.) "Root-leaves lyrate; stem ones oblong; slowers nearly feffile, the length of the brackes; fegments of the calyx egg-shaped, ferrated." Vahl. Root biennial. Stem two feet high, herbaceous, fimple, upright, cylindrical, pubefcent. Leaves alternate, embracing the flem, wrinkled, ferrated, pubefeent underneath. Flowers large, yellow, with a ferruginous fpot at the base of each of the upper divisions; in a long terminal raceme; bractes heart-shaped, acuminate, fomewhat acutely ferrated, one-flowered; fegments of the calyx pubefcent on the outfide; two upper filaments very two lower ones the length of the corolla, finooth, inclined, with linear anthers. A native of Candia and the East Indies. 5. C. betonicifolia, Willd. 5. Desf. atl. 2. p. 58. (Blattaria; Dodort. ic. Shaw afr. 4. 78.) " Leaves ovateoblong, wrinkled, fcolloped; bractes lanceolate, shorter than the peduncle." Root biennial. Stem two or three feet high, .erect, fomewhat hairy, generally branched; branches rodlike, bearing the flowers. Leaves alternate, fmooth or ones feffile, embracing the ftem, lanceolate, acute, toothed. Flowers yellow, with a dark purple spot at the base of each of the two upper divitions; fegments of the calyx egg-thaped, acute, nearly equal, ferrated or entire; two upper filaments flaorter, hairy; two lower ones fmooth, declined, incurved upwards. Capfule roundish, covered with the calyx. A native of walte ground about Algiers.

CELSIA linearis and urticifolia, Jacq. and Curt. Bot. Mig. See HEMIMERIS.

Est. Ch. Calyx five parted, corolla wheel-shaped. Fila- be sown on a warm border as soon as they are ripe, the plants will come up and live through the winter provided the foil be poor; but in rich ground they are apt to grow rank, and are generally deftroyed by the first froits, or rotted in rainy scasons. They do not bear transplanting, and require only to be thinned, and kept free from weeds. Plants fown in the fpring feldom produce ripe feeds. The fecond and the fourth species require the protection of the green house.

CELSIONUS Mons, a mountain supposed to have

CELSITA, a finall town of Spain, in Bœtica.

CELSITANI, a people placed by Ptolemy in the island

CELSUS, in Biography, an early adversary of Christianity, is supposed to have been born towards the close of the reign of Adrian, who died A. D. 139; and he is placed by Dr. Lardner, with his friend Lucian, in the year of Christ, 1-6. died in March, A. D. 180. Although he fometimes recurs ranked by Lucian, who inferibed to him his " Alexander," or "Pfeudomantis," as well as Origen, who wrote against him, among the Epicureans; and this supposition best accounts for the violence with which he opposed the Christian religion; book which he wrote against the Christians was entitled 2070; alafa, or "The true Word." Of this work we have no refutation of it. 'The extracts from his writings, preferved by Origen, have given occasion to various opinions concern-Motheim, was a trifling caviller, as is manifelt from the ferve any other purpose than to shew his malignant and illiberal turn of mind. Cave observes, that Origen has powerbeen an inveterate enemy to Christianity, they shew that he was not deflitute of learning and ability. The answer of Origen was written at the defire of his friend Ambrofe; and ferom, but also by many judicious moderns, particularly Du Pin; who fays, it is polite and methodical; not only the belt work of Origen, but the completest and best written apology for the Christian religion, which the ancients have left us. Origen's apology confitts of eight fections for the convenience of perufal and reference. As Celius, personating a Jew, undertook a laboured argument against the Christians, and wrote so lately as the time of Marcus Antoninus, when the Christians were openly persecuted, and their affairs were better known by the perfecution itfelf, and by the apologies then made for them; we may reasonably expect to find in his work many things that are useful to us in the vindication of our religion; and his tellimony to the books of the New Testament is peculiarly valuable. From feveral passages in Celfus, it appears, that the Jewish ex-Propagation and Culture,-If the feeds of the first species pectation of a Messian was a thing well known; and that

this expectation sublisted before the appearance of Jesus in the world. And, indeed, their having fuch an expectation in the time of Celfus, is an argument that they had it before the coming of Jefus; for they would not have taken up fuch a notion from his followers. Many passages are cited by Lardner from Celfus, which contain references to the books of the New Tellament. To the cavils of Celfus, grounded on the passages which he has cited, Origen has given very fatisfactory answers. To the facts recorded in the New Testament, Celfus has borne testimony; though he has misrepresented and perverted them. With regard to the miracles of our Lord, it is not easy to determine whether Celfus believed them or not. But it is not more eafy to fee how he could disbelieve them; and he was at a loss how to account for them. "I think," fays Dr. Lardner, " Celfus could not or would not allow our Lord's great works to have been done by the power of God, because he would not admit the confequence, which was, that Jefus had a divine commission, and acted by authority from heaven; and rather than admit that just and necessary conclusion, he has recourse to shifts and evalions, which are abfurd and incomfiltent." Accordingly, Origen fays, "Celfus not being able directly to deny the great works which Jefus is recorded to have done, afperfeth them, and calls them juggling tricks." With regard to the moral doctrine of the New Teltament, it appears, from passages of Celfus, that no just exception could be made to it. Although he does not allow it to have any fuperior excellence above the doctrine of the philosophers, he does not deny it to be like their doctrine, and equal to that of the best fort of the philosophers. From other passages it sufficiently appears, that Celfus allowed the progress and spread of the Christian religion; and that he acknowledges the fincerity and iteadiness of those who embraced it amidst the difficulties and hardships to which they were subject. As to his charge of magic against the Christians, this affords an argument, that there were fome uncommon things done by them at this time, as Origen and other ecclefiastical writers have often afferted; but not to the detriment of mankind, as Celfus infimates, but for their benefit. From paffages relating to Christian worship, it appears, upon the authority of Celfus, that they worshipped the one God, creator of all things, and had a high veneration for Jesus Christ; nor would they worship damons, or join in the public facrifices and festivals of heathen people. Celfus likewise speaks of Christian presbyters; though they had not then any alters, or temples, nor other fumptuous buildings to meet in. He also reproaches them with holding their religious assemblies privately, and contrary to law; nor was it without reason that they aimed at privacy; for, as he owns, they were then fought for to be put to death. Celfus appears not to have been unacquainted with the abfurd opinions of some who went under the Christian name; whom he introduces with a view of calling the greater reproach on those who were more rational in their belief. All the attacks of Celfus are against the more sober part of the believers: those others were fought for in order to disparage and expose them, if possible. It is well known, that, soon after the rife of Christianity, the followers of Jesus were loaded with many calumnies: they were faid to kill infants, and eat them; and when the lights were put out, to practife promiscuous lewdness in their assemblies. Celsus, in whose time these charges were not extinct, seems, however, to have thought them abfurd and incredible; and to mention them with any marks of countenance and approbation, he supposed would be a prejudice to his argument. But though he has omitted thefe, he has introduced divers injurious reflections upon the Christians, and thus shown his disposition to expose them to general and public resentment. If Christians, therefore, derive any advantage from the work of Celsus, which is undoubtedly the case, and the advantage is very considerable, it is altogether beside the intention of the author; who evidently wished to disgrace Christianity,

and prevent its subfiftence and diffusion.

We have three fummaries of the fragments of the work of Celfus preferved in Origen, in our own language, befides the copious extracts, with appropriate remarks, made by Dr. Lardner, of which we have above availed ourselves; one by Dr. Doddridge, for a fummary of which, fee Lardner's Works, vol. viii. p. 62, &c.; one by Dr. John Leland of Dublin, in his Anfwer to Christianity as old as the creation, vol. ii. ch. 5. p. 150-154; and another by Dr. Sherlock, supposed to be the ingenious author of the "Evidence of the Refurrection cleared up," p. 19 and 20, from which we shall extract the following observations. "Celsus lived at no great distance from the apotholic age, at a time when all religions were tolerated but the Christian; when no evidence was stiffed, no books destroyed, but the Christian. And yet Celfus laboured under the fame want of evidence, as Woolston and his auxiliaries, and had only the gospel to fearch (as Origen more than once observes), for evidence against the gospel. A firong proof that there never had been any books of credit in the world, that questioned the gospel facts, when fo spiteful and so artful an adversary as Celsus made no use

"Ceisus admits the truth of Christ's miracles. The difference between him and Origen lies in the manner of accounting for them; the one afcribing them to the power of God, the other to the power of magic. So that, if the confiderer will stand to the evidence of his own witness, the question will not be, whether the miracles are true in fact (for that is granted on both fides), but whether the truth of the miracles infers the divine authority of the performer. Nor can it be supposed, that Celfus would have admitted the miracles of Christ as real facts, had he not been compelled to it by the universal consent of all men in the age he lived? The truth is, that the objections of Cellus are preserved in his own language. Origen's answer is not a general reply to Celfus, but a minute examination of all his objections, even of those which appeared to Origen most frivolous. For his friend Ambrofius, to whom he dedicates the work, defired him to omit nothing. In order to this examination, Origen states the objections of Celsus in his own words, and that nothing might escape him, he takes them in the order in which Celfus had placed them. Celfus then, as it happens, is fafe; and the confiderer need not to lament over him any more." See also Paley's " View of the Evidences of Christianity," vol. i. p. 294, &c.

Celus, besides his book against the Christians, wrote a piece "On the life to be led by those who meant to follow the rules of philosophy;" and another "Against Magie" is ascribed to him both by Origen and Lucian. Du Pin, vol. ii. p. 454. Brucker's Hitt. Phil. by Enfeld, vol. ii. p. 141. Mosheim's E. H. vol. i. p. 163. Cave's H. L. vol. i. p. 96. Fabr. Bib. Gree. l. iii. e. 33. t. ii. p. 869. Lardner's

Works, vol. viii. ch. xviii. p. 6-69.

CELSUS, A. CORNELIUS. The memoirs for the life of this elegant writer are very feanty. Even the knowledge we pretend to of his family, his rank in life, or of the age in which he lived, is rather probable conjecture than derived from certain information. It has been disputed whether he practifed any branch of medicine; and if we determine in the affirmative, it is only because we cannot conceive that a mere amateur would have been at the pains of acquiring such

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refifed knowledge as he appears to have had of the dogmas of the different fects of phyficians, or would have been able to deferibe the difeafes he treats of with fo much accuracy, or laid down the most approved methods for curing them that were then known. All this he has done; it is therefore reasonable to suppose he practifed the art, in which he was so complete a proficient. Friend, whose opinion we may fasfely follow in every thing relating to the early history of medicine, and its professor, produces, as a proof that he practifed surgery, a passage from that part of his work, where he treats "De Oculorum Vitiis," reproving the method used by Heraclides in curing adhesion of the cyclids; "Ego sie restitutum effeneminent memini."

Friend agrees with Le Clerc, that Celfus was a Roman by birth, probably of the Cornelian family; that he was born in the latter part of the reign of Augustus Casar, and was living in the time of Caligula. The work by which he has been rendered famous is entitled "De Medicina Libri Octo." The great number of editions this book has paffed through fufficiently indicate the high effect in which it is held. It contains, in an epitome, every thing that is valuable in the works of Hippocrates. In medicine he feemed to have approved and followed the doctrine of Afelepiades; but the most valuable part of the work is that which treats of furgery, in which we find methods of practice laid down, and modes of performing feveral operations described, in the manner still used. The language also in which the precepts are contained, is fo pure and elegant, as to have contributed in no fmall degree to the celebrity of the work. He is faid to have written on rhetoric and on other subjects, but his works on those subjects, if they ever existed, are lost. Le Clerc, Hift, de Med. Friend's Hiftory of Physic. Haller, Bib. Anat. Chir. et Med. in which most of the editions of the " De Re Medicina Lib." are noticed. The earliest was at Florence, 1478, fol. One of the best is Almeloveen's, edited at Padua, 1722, Svo. by Vulpius, and reprinted in 1750. There have been also translations of Celsus into French, English, and other modern languages. The short abridgment of rhetoric, which has been afcribed to him by

CELTES, CONRAD, named also Protucius, and MEissel, a modern Latin poet of fome eminence, was born at Schweinfurt, in Franconia, in 1459. After having acquired a large took of literary and scientific knowledge in his fludies at Cologne and Heidelberg, he vifited many of the German univerlities, and supported himself as a private lecturer. He was thus enabled to make a tour for improvement through all the principal cities and univertities of Italy. The reputation he thus gained was the means of introducing him to the elector of Saxony; and the emperor Frederic III., to whom he was recommended by the elector, conferred upon him the poetical laurel at Nuremberg in 1491. Having terminated his rambles, he fettled at Vienna; where he was made professor of eloquence and poetry, and librarian to the emperor Maximilian. Here he died in 1508. Celtes deferves to be ranked among the restorers of polite literature in Germany. Of all the various writings which he left, the poetical were the most diffinguished. Whilit he possessed fome vigour of imagination and brilliancy of expression, he was deficient in good talte and correct judgment. Some of the best of his pieces, containing amatory elegies, odes, epigrams, &c. were published at Strasburgh in 1515, by the care of a literary fociety of which he was the founder. He wrote also a poem on the manners of the Germans, on the river Viltula, an historical account of the town of Nuremberg, the cosmography of Aristotle and Apuleius, orations, and Leveral other pieces. Moreri. Gen. Biog.

CELTI, in Ancient Geography, a place of Spain, between Aftigi and Regiana, according to the Itinerary of Antonine. Pliny makes it the chief of the towns in the jurifdiction of Hilipalis.

CELTIBERIA, the ancient name of a country of Spain, in the Tarragonenlis, and to the call of Carpetania, according to Pliny and Ptolemy. The latter places in it 18 towns. It was originally of large extent; but the wars of

the Romans reduced it to a narrower compafs.

CELTIBERIANS, a powerful and celebrated people who occupied the greatest part of the interior of Spain. Polybius, when he relates that T. Gracchus had fubdued number, in order to flatter the vanity of Gracchus, who had made this conquelt in the year of Rome 575. Livy makes the same report; but Strabo very justly observes, that these cording to this author, Celtiberia produced a great number of plants, the roots of which ferved the purpofes of dyeing. He adds, that the part of it which was near the Mediterranean abounded with vines, olives, figs, and other trees which yielded excellent fruits. Their principal towns were Cafcantum, Turiafo, Bilbilis, Ergavica, and Valeria. The Celtiberians, according to Diodorus Siculus, were a people composed of two nations, the Iberians and the Celtes. Accordingly, the inhabitants of Celtiberia, or Spain, might be defigned to diftinguish those Celtes on that from those on this fide of the Pyrences. For thus we find Galia or Gaul divided into Cis and Trans-Alpina; and the word Iberia feems to be derived from the old Celtic and Teutonic "iber," which fignifies over; and thus Spain, which is fometimes found in the plural number, was divided into Citerior and Ulterior. The Celtes and Iberians made war against one another, with a view to the possession of their respective territories; but as neither the one nor the other prevailed, they negociated a peace on condition that they should possets both countries in common. From this condition, followed by intermarriages and various alliances, refulted the name of Celtiberians, which they assumed. These people, thus formed of two diltinct people, equally valiant, and posiessing a rich and fertile country, acquired great reputation by their long reliftance to the Roman arms; though at length they were subdued. The cavalry of the Celtiberians, says Diodorus, are excellent; but their infantry was less difting uished. All the Celtiberians, except their chiefs, bore a " fagum" of wool fo large, that it refembled the hair of a goat. Some of them were armed with a Gaulish buckler, and others with a round "cyrta," of the fize of a buckler, and "cuifhes," or armour for the legs, made of horse-hair. All of them wore helmets of iron with red plumes, a two-edged fabre of feel, and a cutlass, a foot long. The cavalry of the Celtiberians were so well skilled in the use of arms, that they sought equally well on foot or on horseback. The Celtiberians had a fingular custom of washing their bodies every day, and their teeth with urine, pretending that nothing contributed fo much to health. Whilft they treated their enemies with feverity, they were very hospitable to thrangers, and contended for the privilege of entertaining them, as the means of engaging the favour of their gods. Their food confilled of various delicacies, and their drink of a fort of fweet wine, mixed with honey. Their mules were in high estimation, and yielded them great profit. The Celtiberians regarded as impious the cultom established among the Iberians of causing the bodies of those who died to be devoured by vultures. Strabo fays, that these people celebrated a feast at every full moon, in honour of an anonymous god; it commenced with the beginning of the night and lasted the whole of the next day. CELTICA,

CEL

Plutarch, a fpacious country, which, according to utarch, extended from the ocean and the northern climates as far as the Palus-Mœotides to the eaft, touching on one fide on Pontic Scythia.

CELTICI, a people of Spain, who, according to Strabo

and Pliny, dwelt on the confines of Lusitania.

CELTICI Mirobrigenfes, were, according to Pliny, the inhabitants of Mirobriga, a town of Spain.

CELTICI Neriz, a people of Spain, placed by Pliny on the promontory of Nerium, the present Finisherre.

CELTICI Prasumarii, a people of Spain, in whose country

were the rivers Tamaris and Sars.
CELTICUM PROMONTORIUM, a name given to the promontory of Artabrum, called also Nerium, on the western

coast of Spain, to the N.W., now Finisterre.

CELT'IS, in Botany. (Celtis, Plin. 13. 17.) Tourn. Clafs 21, fect. 2, gen. 1. Linn. gen. 1143. Schreb. 1591. Juff. p. 408. Vent. vol. iii. p. 553. Gært. 487. Lote or nettle-tree, Eng. Micacoulicr, Fren. Loto, Ital. Clafs and order, polygamia monæcia. Nat. Ord. Scabride, Linn. Amentacca, Juff. Vent.

Gen. Ch. Hermaphrodite. Cal. perianth one-leafed, five-parted; fegments egg-shaped, spreading, withering. Cor. none. Stam. filaments five, very short, at first concealed by the anthers, but after the shedding of the pollen growing longer; anthers oblong, thickish, quadrangular, marked with four furrows. Pifl. germ superior, egg-shaped, at least as long as the calyx; styles two, spreading, variously instexed, awl-shaped, pubescent, very long; stigmas simple or bind. Peric. drupe globular, containing one round nut or stone, with a single kernel. Male. Cal. sometimes six-parted. Cor. none. Stam. filaments sometimes six. Pifl. none.

Eff. Ch. Hermaph. Calyx five-parted. Corolla none. Stamens five. Styles two. Drupe one-feeded, Malc. Calyx five or fix-parted. Corolla none. Stamens five or fix.

The two kinds of flowers are fometimes feparate, and fometimes on the fame raceme; in the former case the male

flowers are fituated below the others.

Sp. 1. C. australis, European nettle-tree, Linn. Sp. Pl. 1. Mart. 1. Lam. 1. Pallas. Rof. 1. 19. (C. fructu nigricante, Tourn. Inst. p. 612. Lotus fructu cerasi, Bauh. Pin. 447.)
"Leaves ovate-lanceolate, acuminate; fruit solitary." A tree. Trunk from 40 to 50 feet high; branches numerous, spreading, long, flexible, pubescent near the summit. Leaves near four inches long, and about two broad in the middle, dark green, ferrated, obliquely nerved, veined, rather scabrous above, flightly villous on both fides, especially when young; flipules rather long, linear, narrow, caducous. Flowers axillary all along the branches, small, of an herbaceous colour, perishing before the leaves have attained to half their fize; peduncles folitary, generally simple, about three-fourths of the length of the young leaves; styles villous, divaricated. Fruit about the fize of a small cherry, blackish, round, a little fleshy. A native of the fouth of Europe. The flowers open at the beginning of April. The fruit comes to maturity in the enfuing January, and continues on the tree till the fap rifes in fpring; it is rather aftringent, and is eaten not only by birds, but by children, in Spain. Its wood is of a dark colour, remarkably hard, compact, and heavy; tough and flexible, and therefore excellent for making the shafts of carriages and hoops of barrels and tubs; next to ebony and box in durability, strength, and beauty; capable of receiving a fine polish, and, when fawed obliquely, is faid to be a good fubilitute for the fattinwood of America. The ancients used it for flutes and other musical instruments, and as it is not subject to crack, it is particularly fit for the purposes of the carver. The root is less compact than the trunk, but of a darker colour,

and fuitable for the hafts of knives and other utenfils. Scopoli obtained from the expressed seeds an oil with a flavour fimilar to that of oil or fweet almonds. As an ornamental tree, it merits the attention of the planter, having a fine regular spreading head of a cheerful green colour, coming early into leaf, and retaining its foliage late in the autumn. It has not, however, been much cultivated in England, and is less common than the next species. 2. C. occidentalis, Linn, Sp. Pl. 3. Mart. 2. Lam. 2. Gært. tab. 77. fig. 3. Lam, Illuf. Pl. 844, fig. 1. (C. fructu obfcure purpuraf-cente, Tourn. Inft. p. 612. C. procera, Gronov. Virgin. p. 158. Lotus arbor Virginiana, Rai Hist. p. 1917.) "Leaves obliquely egg-shaped, serrated, acuminate; fruit folitary." \(\beta \). "Leaves more slender, less acuminate." A tree. Trunk straight; in young trees even, and of a dark colour; in older ones rough, and lighter green; branches spreading. Leaves alternate, broader and shorter than those of the preceding species, tender, quite entire at the base and tip, ferrated in the middle, obliquely nerved, veined; petioles flightly villous from three to fix lines long. Flowers opposite the leaves; fegments of the calyx oblong, obtuse,. concave, spreading, ciliated at the edges; stamens nearly the length of the calyx; germ conical, furrounded at its base by a ring of fine, short, whitish hairs, which continue on the young fruit Fruit the fize of a fmall cherry, oval, appearing like a berry, of a deep purple colour and fweet taile; stone globular, not dividing, white, hard, a little wrinkled. A native of Pennfylvania, first brought into England by John Tradescant; slowering in May, and ripening its fruit in October. There are many large trees of this species in the English gardens, which, in favourable feafons, ripen a great quantity of fruit; and there are few years in which the fruit is not lent from America. It comes out late in the spring, but retains its leaves longer than any other deciduous tree. Its wood is tough and pliable, and elteemed by coach-makers for the frames of their carriages. The variety β is a native of Louisiana, and was cultivated in the royal garden at Paris, but as it was killed down to the root every winter by the frost, La Marck never faw its fruit or flowers, and, therefore, could not determine whether it be merely a variety or a diffinct species. 3. C. craffifolia, Lam. 3. " Leaves fomewhat heart-shaped, ferrated, acuminate; peduncles often with two flowers." Branches woody, cylindrical, pubefcent in the young shoots, with a reddish brown bark. Leaves in young plants five inches long, and three and a half broad, alternate, petioled, generally enlarged on each fide with a kind of roundish ear, fo as to appear fomewhat heart-shaped, but, with the inequality, observable in the other species, rough on both sides, with short hairs, especially on the upper surface; petioles short, slightly villous. Peduncles axillary, generally two or three-flowered, longer than the petioles. Fruit round, fmooth, about the fize of a fmall cherry. A native of North America: cultivated at Paris; and described by La Marck from a living plant. 4. C. americana, Mart. 4. Plum. Cat. 18. "Leaves oblong-egg-flaped, obtule, nerved, finooth above, golden underneath." Trumk near twenty feet high, covered with a grey bark, and dividing at the top into many branches. Leaves near four inches long, two and a half broad, rounded at their extremity, of a thick texture, very smooth on their upper surface, and on their under, of a lucid gold colour. Fruit round and red. Found by Plumier in the French West India islands, and by Houston in Jamaica, and cultivated by Miller. Nearly allied to the preceding, if not the fame species, differing chiefly in the furface of the leaves. 5. C. Tournefortii, Lam. 4. (C. orientalis minor, Tour. Cor. 42. Voyage,

vol. ii. p. 425, with a figure.) " Leaves egg-shaped, crenate-ferrated; younger ones fomewhat heart-shaped; fruit yellow." Trunk twenty-five or thirty feet high, much branched; branches smooth, alternate, cylindrical. Leaves about two inches long, and fixteen lines broad, alternate, acute, obliquely truncate at the base so as to be obscurely heart-shaped, firm, rather thick, nearly smooth, green on both fides, a little feabrous on the upper furface, marked underneath by projecting branched nerves which proceed from the midrib. Fruit fmooth, round, yellow, but tending to brown, when quite ripe, about the fize of a pea; peduncles axillary, folitary, fimple, more than twice the length of the petioles, befet with fhort white hairs on their upper part at the base of the young fruit, as in C. occidentalis. A native of the Levant: introduced into France by Tournefort. 6. C. orientalis, Linn. Sp. Pl. 2. Lam. 5. (Mallam toddali, Rheed. Hort. Mal. vol. iv. p. 83. tab. 40. Papyrus fpuria? Kæmpf. Am. Æn. Exot. tab. 472. Salvifolia arbor, Pluk. Alm. tab. 221. fig. 4. Ghæduba, Burm. Zeyl. 26. Herm. Zeyl. 14. Baccifera indica, Rai Hift. 1597.) "Leaves ovate-acuminate, obliquely heart-shaped at the base, finely ferrated, villous underneath; panicles axillary." Lam. A tree of a moderate fize, with a fmooth bark. Branches flightly villous. Leaves about four inches long, more than an inch and half broad, alternate, oblique, green, paler underneath, wrinkled on the upper furface, and rough, with stiff hairs, directed towards their fummit, clothed on their lower furface more abundantly with finer and fofter hairs; petioles from two to four lines long. Flowers fmall, greenish, on very short pedicels; in axillary, twice or thrice dichotomoufly branched racemes, forming a kind of compound corymb, furnished at the divisions with very short oval bractes. Fruit small, greenish, of a bitter tafte. A native of the East Indies, and of the isles of France and Bourbon. This species has been confounded with the preceding by Miller and other authors. 7. C. mierantha, Mart. 5. Lam. 6. Hort. Kew. vol. iii. p. 437. Swartz. Prod. 53. (Muntingia, Plum. gen. p. 41. ic. vol. 6. tab. 77. Burm. amer. ic. 206. fig. 1. Rhamnus an ziziphus; Brown. jam. tab. 12. fig. 1. Rhamnus micranthus of Linnaus is usually quoted as a synonym, but we have the decifive authority of Dryander for flating, that, though the fynonyms annexed to that plant belong to this species, the specimen in the Linnæan herbarium from which the specific character, and the description in Amen. Acad. were formed, is Boemehria ramiflora. See Linn. Tranf. vol. ii. p. 226.) " Leaves obliquely heart-shaped, ovate-lanceolate, finely ferrated, rather feabrous on the upper furface." Swartz. Very nearly allied to the preceding species. A tree of a moderate fize with a cinercous bark. Branches very compound, pubefcent towards the extremity; fome vertical, others more or lefs horizontal. Leaves alternate, petioled, three or four inches long, about fifteen lines broad, green, paler underneath, befet with fhort stiffish hairs rifing from the fcabrous protuberances, marked on the under furface with projecting oblique nerves proceeding from the midrib, three of them immediately from the infertion of the petiole. Flowers small, greenith, spreading, trareely pedicelled; in fmall, axillary, twice or thrice dichotomoufly divaricated corymbs, furnished with short bractes at the divisions: fegments of the calyx oval, concave, villous on the outfide; in the centre of the male flowers there is a tuft or circle of whitish hairs. Fruit, according to Plumier, red, sleshy, not bigger than the feed of a vetch. A native of the Antilles. S. C. lima, Mart. 7. Lam. 7. Swartz. prod. 53? (Muntingia folio ulmi aspero, Plum. gen. 41? Burm. Am. ic. 206, fig. 2? Loti arboris folio angustissimo, Sloan. jam.

2, So?) "Leaves ovate-lanceclate, finely ferrated, very fea-brous; racemes axillary, fmall." Branches cylindrical, cinereous, smooth; smaller ones clothed with numerous, upright, awl-shaped, short hairs, which render their furface a little scabrous. Leaves an inch and half or two inches long, about half an inch broad, alternate, on short peduncles, narrow, acute, coriaccous, firm, light green; fprinkled on both furfaces, but especially on the upper one, with a multitude of small whitish tubercles, each terminated by a short fliff hair, which render their furface as rough as a file or the fkin of a fhark; the intervals between these tubercles are fmooth and shining, appearing as if they were varnished. Flowers very fmall, on short pedicels; in axillary, nearly fimple racemes, either folitary, or two or three together, furnished at each of their divisions with a short bracke. Fruit, when young, green, fmooth, furrounded at the base by the permanent calyx. Defcribed by La Marck from a dried specimen sent from Martinico by Joseph Martin. The identity of Swartz's plant appears dubious. According to him it is fifteen feet high. Trunk straight, with a smooth, reddish or light brown bank, and several branches spreading towards the top. Leaves alternate, half an inch diftant from each other, two inches long, and half as broad near the bafe, dark green, petioled. Flowers axillary, fmall, greenish. Fruit orange-coloured, not bigger than a pin's head, oval, inlipid, having an orange-coloured pulp and a black round stone within. 9. C. trinervia, Lam. 8. "Leaves egg-shaped, ferrated, three-nerved, nearly smooth; flowers fascicled; fertile one with a longer pedicel." Branches cylindrical, greyish, slightly villous at the extremities. Leaves two inches, or two inches and a half long, little more than an inch broad, alternate, flightly acuminate, foft, thin, of a fine green colour; petioles about two lines long, pubefcent. Flowers small, greenish; from three to fix together, on a common axillary, folitary peduncle, much shorter than the petioles; generally only one fertile flower in a fascicle: ftamens fearcely longer than the calyx; ftyles flightly villous. A native of St. Domingo. 10. C. integrifolia, Lam. 9. " Leaves roundish, ovate, acuminate, quite entire; styles bifid." Branches alternate, cylindrical, flightly villous. Leaves about two inches and a half long, an inch and half broad, alternate, firm, thickish, slightly scabrous above. green on both fides but paler underneath; with four or five elevated, branched, longitudinal nerves proceeding from their base; clothed, when young, with a few short hairs, which gradually disappear, and finally remain only on the nerves; petioles a quarter of an inch long, villous like the nerves, flightly channelled on the upper fide. Flowers small, greenish; in dichotomously branched panieles, solitary, or one or two together from the axils of the leaves; the male ones with very flort pedicels. Fruit when young villous. Brought from Senegal by Adanson. 11. C. aculeata, Mart. 6. Swartz. prod. 53. (Rhamnus iguaneus, Jacq. amer. 74. 1. ziziphus iguaneus, Lam.) "Leaves cordate-egg-shaped, blunt at the tip, almost entire, very fmooth; branches prickly; flyles bifid." An inelegant little tree. Branches very long, pliant, reclining, not much divided, frequently with alternate, diffich branches the whole length; the upper ones gradually shorter. Leaves commonly three or four, sometimes eight inches long, alternate, diffich, fmooth, petioled. Spines in the axils of the leaves and branches, awl-shaped, very fharp, ftrong, and fhort, recurved, folitary, or in pairs. Flowers small, yellow; in small axillary racemes, growing one, two, or three together; fegments, with hardly any tube and no scales; in the male flowers instead of the pittil, there is an oblong truncate body only half the length of the calyx. Fruit yellow, double the fize of a pea, containing a fweet

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pulp which is eaten by the natives; stone or nut wrinkled, thick, bony, white, one-celled. A native of the Caribbee islands, and the neighbouring continent. Swartz observes that Rhamnus iguaneus of Linnæus should be placed in this genus on account of its calyx without petal-like scales, its two styles, and its fruit; but he doubts whether it be the iguaneus of Jacquin here described. It derived its trivial name from its growing in rocky places frequented by the

Propagation and Culture. 'These trees are all propagated by feeds, and most of them are hardy enough to endure the open air in England, when they are become strong; but for the first two winters after they come up from seeds, they require to be protected from frost. It is best to sow the feeds in autumn foon after they are ripe; and they ought by all means to be fown in pots or boxes, that they may be shifted into different fituations according to the feafon. In the following fpring they may be removed into nurfery beds prepared for the purpole, in a sheltered situation, and if possible in a gentle loamy foil. If the furface of the ground be covered with old tan or rotten dung, it will keep it moift, and prevent the drying winds from penetrating to the roots of the plants. After the plants have remained in the nurfery beds two years they may be transplanted to the fituations where they are intended to remain.

CELTO-GALATIA, in Ancient Geography, a name given by Ptolemy to Celtic Gaul; and which he divided into four provinces, viz. Aquitania, Lugdunensis, Belgica,

and Narbonnensis. See Gallia.

CELTOS or CELTUS, a marsh or lake which seems to have been lost in the Euxine sea, according to Lycophron. Ortelius conjectured, that it was one of the marshes at the mouth of the Danube.

CELTS, or Celtre, in Ancient History, the name of a very ancient people, whose descendants were the aboriginal inhabitants of Gaul and Britain. It was, however, more particularly given to a part of the Gauls, whose country, called Gallia Celtica, was situated between the Scine and Marne and the Garonne.

The remoteness of their early history, and the obscurity in which it relbs, make every effort to elucidate the first origin of the Celts of no avail. The opinions both of the ancient and the modern writers who have mentioned them, are equally vague and indeterminate; and it is perhaps enough to say, they appear to have been the most ancient inhabitants who can be traced in this quarter of the globe. Herodotus (Melpomene, xlix.) speaking of the Danube, says, it commences with the Celtx, who; except the Cynetze, are

the most remote people in the west of Europe.

The little knowledge which the earlier Greek and Roman writers had of the barbarous nations round them, and the fmall pains they took to gain accurate information about their peculiar differences and dillinctions, led many of them to confound the Celts, the Goths, and the Sarmatians. Strabo (Geogr. lib. ii. p. 93.) particularly states, that the writers before his time were both ignorant and uncertain in all that they related of those countries which formed the more immediate residence of the Celts. Nor can we allow more credit to the writers of a later date, who have rather gueffed at the ancestry of the Celts, than given authentic materials for their hiltory. One of the earliest on the continent was Picard, whose work "De Prisca Celtopædia," appeared at Paris in 1556. The next writer of authority was Reineccius, who, in the second volume of the "Historia Julia," treated amply of them, as far as they were supposed to be related to the Gauls and Germans. Van Scrieck was the next, who in the early part of the 17th century wrote ex-Vol. VII.

prefsly on their origin. Another writer was Pezron. The hallucinations, reveries, and etymologies of the generality of those who followed, with the exception perhaps of Keysler, appear almost to have involved their history in fable. It was rescued by Pelloutier. Yet though some of the most authentic and curious particulars in this article are obtained from his work, we cannot acquiesce in one of its leading features. This will appear prefently.

The great fource of mistake and consustion to many learned writers on the history of Europe has been the idea that the ancient Gauls and Germans, Britons and Saxons, were originally but one and the same people; thus confounding the antiquities of the Gothic and the Celtic nations. This crude opinion was long maintained with uncommon extudition. Cluverius, in his "Germania Antiqua," and Keysler in the "Antiquitates selected Septentrionales et Celtice," incautiously adopted it, and even Pelloutier, in the last and best work which has appeared on the history of the Celts, has endeavoured to confirm it with great diligence and skill. In short, says bishop Percy (Pref. to the North. Antiq. p. iii.), so much learning and ingenuity have scarcely ever been more perversely or errontously applied, or brought to adorn and support a more groundless hypothesis.

The ancient and original inhabitants of Europe, according to these writers, consisted only of two distinct races of men; the Celts and the Sarmatians. The Sarmatians, or Sarromatæ, they make the ancestors of the Sclavonian tribes; and represent the old inhabitants of Gaul, Germany, Scandinavia, Britain, and Spain, as the uniform descendants of the Celts. These last they state were all included by the ancients under the general name of Hyperboreans, Scythians, and Celts; having all the same common language, religion, laws,

cultoms, and manners.

From Herodotus we have already shewn, that the source of the Danube, in the Black Forelt, in Suabia, was originally among the Celtus; and it seems probable that at that remote period the Sacæ and the Massagetæ, the probable ancestors of the Saxons and the Goths, had not penetrated so far westward as they did afterwards. The Figures are spoken of by the same writer as a Perssam people (in Clio.) It may likewise be worthy of observation, that, having mentioned the commencement of the Danube, he adds, "I This river passes after the centre of Europe, and by a certain inclination enters Scythia." In this passage he seems expressly to distinguish the Scythians from the Celts; although it is no proof they were not consounded by subsequent historians; or, that the sluctuations of territory might prove a consideration which would in fact reconcile the different writers.

Cluverius, Keyfler, and Pelloutier have uniformly fupported their hypotheles by obscure quotations from ancient authors, and arguments derived from etymology, leaving the precise and positive tellimony of Casar relating to the Celts, and of Tacitus, relating to the Germans, almost entirely neglected. Casar, in the very first page of his Commentaries, expressly affores us that the Celts, or common inhabitants of Gaul, in his time, differed "in language, cultom, and laws" from the Belge, on the one hand, who were a Teutonic people, and from the inhabitants of Acquitain on the other, who, from their vicinity to Spain, were probably of Iberian race. His words are remarkable: " Gallia est omnis divifa in partes tres; quarum unam incolunt Belgæ, aliam Aquitani, tertiam, qui ipsorum lingua Celtæ, nollri Galli appellantur. Hi omnes, lingua, insitutis, legibus, INTER SE DIFFERUNT. Gallos ab Aquitanis Garumna flumen, a Belgis Matrona et Sequana dividit." The text here quoted is Oudendorp's; but in a note subjoined, Cæsar stands corrected, and the theory of Cluverius admitted.

But in the fixth book of his Commentaries, Cofer is fill more particular; and his remarks are worth minute attention. He draws the charafters of both nations at length, in an exact and well-finished portrait, and states every effential difference by which the Gauls were distinguished in their laws, their customs, and their religion from the Germans; and closes with an observation, which we cannot but repeat, as we gain from it by inference that both nations had a feparate origin. There was a time, he observes, when the Gauls were superior to the Germans in valour; when through the increase of their tribes or the feareity of land they fent colonics across the Rhine. (Castar de Bello Gallico, like we colonics across the Rhine.

love of what is ancient, however, or the belief of fable, has led the historians of almost every period into the labyrinths of more remote antiquity. They have confidered Celta as the generic name of a vait people, known in different tracts of territory by a variety of names and characters. Of Cymmerians, Cymbrians, or Comarians, by which they relate them to have been fometimes called in the north of Europe, they have made Gomerians, and pretend to trace them even to Gomer, the grandfon of Noah. (See Pezron Antiquites de la Nation et de la Langue des Celtes. Ancient Univ. Hift, vol. iv. p. 1. 8vo. Davies's Celtic Refearches.) The folly and the fallacy of fuch inquiries need hardly be exposed: they are only equalled by the hiftory of their migrations from Asia to Europe; and the chronology of the Titan princes. They who would indulge their curiofity farther on the fubject may confult Mr. D. Jones's trauflation of Pezron, published in this country, 1706; whence it may not only be learnt " that Saturn, the fon of Uranus, was the first king of the Titans;" but "that the Titans were true Celta."

In the difference of opinions which has been already mentioned, it is not eafy to fix the exact boundaries which have at all times divided the Celts from the other inhabitants of Europe: it is on this account that we cannot but confider the work of Pelloutier, otherwife fo excellent, as a perpetual fource of miltake and confusion: in consonance with this idea he afferts (liv. i. ch. viii. &c.) not only the Germans, but all the people settled along the banks of the Danube to the Black Sea, the Goths, the Dacians, Baftarnes, (or Germans beyond the Vishula,) Visigoths, Herusians, and other tribes, to have been Celts. The ancient inhabitants of Greece, according to him, were either Celts or Scythians: under the same denomination he includes the Ligurians and the people between the Alps and Apennines. The Venctians, he says, were originally Gauls: and the

After fuch affertions, we shall probably err very little in confining ourselves to the testimonies of Casar, and a few of the more rational historians; who, without torturing etymology, associated as facts; and, though they may circumscribe the territory of the Celts, at least give us something which may be recied upon as history.

Mr. Pinkerton, in his "Differtation on the Origin and Progress of the Scythians and Goths," has discriminated them from the Celts in a very clear and masserly manner. Cluverius, Keyster, and Pelloutier, have undoubtedly made many quotations from the ancient classics, which seemed to give their theory indisputable countenance. To produce all their authorities would be to fill a volume. From Herodotus to Cæsar, passages may be sound with very little trouble, which shew the uncertain and confined ideas of the ancients, in regard to the nations which lay round them. Arrian (book i. ch. 1.) particularly mentions the warlike

tribes on the banks of the Danube; τα μεν πόλλα ΚΕΛΤΙΚΑ, "and more especially the Gelts." But he describes them in a manner which shews he included the Teutenic tribes; and expressly enumerates the Marcomanni and the Quadi, fo particularly spoken of by Tacitus. (De Morib. Germ. cap. xlii. xliii.) Suidas also, who lived so late as the 11th century, makes Kolton to have been the general appellation of the German tribes. There is a passage, however, in Diodorus Siculus, one of the belt informed and molt judicious of the Greek historians, (who not only wrote after Casfar, but profited by his discoveries,) which the modern autiquaries on the continent ought to have confulted. He tells us (Diod. Sicul. lib. v. p. 355, edit. Wesseling.), it is particularly necessary, in describing the Gauls, to make a distinction, of which the generality of the world were ignorant. That the people who inhabited the country from above Marfeilles, and at the Alps, and on this fide the Pyrencan mountains, were called Celts. But that those who inhabited beyond this region and the parts towards the fouth, and fituated on the ocean, and those toward the Hercynian mountains, and all onward, even to Scythia, were called Gauls; a name, he adds, which the Romans gave generally to all these nations. We give the passage in the original. Xironuov d'est diogram το παρα πολλοις αγιοθμένου" τθς γας υπές Μασσαλίας κατοικώθας εν τω μεσογείω, και τως παρά τας Αλπείς, έτι δε τως έπι τάδε των Πυξαιαίων όμεν, ΚΕΛΤΟΥΣ οπιμαζεσί τες δίπες ταιτής της Κελτικής . τα προς νόξον νευονία μερή πάρα τε τον ακεάνου και το Ερχισιού ορθη καθιδρυμένες, και σταντας της έξης μέχρι Σκυθίας, ΓΑΛΑΤΑΣ προπαγορευεσιν' οι δε Ρωμαίοι παλίν πανία ταυτά τα εδιη σελληβόην μια προσηγορία περλαμβαίεσεν, οιομαζοντές ΓΑΛΑ-

Diodorus, fays Mr. Pinkerton, (Differt. on the Scyth. p. 125,) no doubt knowing that the Celts were not those Gauls celebrated in Roman history, but quite a diffinet people, possessing the inner or further part of Gaul, with propriety puts them as different nations. Indeed Polybius, by the very enumeration of the different tribes, by which Rome was pillaged under Brennus, convinces us that those to do with any hiltory of Gallia Celtica. Cafar, observes Mr. Pinkerton, (Differt, p. 123,) by flewing the Celts to be confined to fuch fmall hounds, palpably marks that other nations had gained ground on them, fo as to confine them to fuch a contracted space. Of their carly history then, we are still in that uncertainty which we feem to have inherited from the first writers among the Greeks and Romans; and excepting what we gain from Casfar and Diodorus, we know but little of their manners. The region they retained at that period was fmall. And even in Britain, an island which may, perhaps, rank among their earliest possessions, they seem to have been in part exterminated by their Belgic neighbours. The Belgie, as Cæfar fliews, had all the fouth east of present England. (See Cæfar de Bello Gallico, lib. v. c. 12, and Pinkerton's Dif-

After these preliminaries, we proceed to their more special history, as it is detailed by Czefar. In the account of his second expedition into Germany (lib. vi. c. 7,) he draws the contrast we have already mentioned between the Germans and the Celts: a picture which, with the addition of a sew touches from the pencils of other matters, will be sound the most correct, in regard to the Celts, we are possessed of. Previous to his time we have nothing that can be called authentic information.

The Gauls, says Cæsar, are, every where, from provinces to samilies, divided into sactions. On his first arrival the Ædui, who were the Autunois, and the Sequani, who lived

in Upper Burgundy, were at variance. The latter had always been the weakest, and the former the strongest tribe: "quod summa auctoritas antiquitus erat in Æduis." .(Bell. Gall. lib. vi. c. 12.) But the Sequani, affifted by the Germans, defeated their opponents; while the Aldui fought the friendship of the Romans. Cæsar changed the face of affairs. He reffored the Ædui to their loft preponderance, and, by artfully employing one faction against another, was enabled to reduce them all. This, upon his own authority, is the introduction to the contrast.

Throughout Gaul, he fays, (and it was the fame in Britain,) there were only two orders of men in any high degree of honour or elecen: the Druids and the Nobles. The common people were nearly all upon a level: fo fubmillive to the wilt, and fo dependent on the power of the nobles, that their condition was little better than that of flaves. In the lowest rank, were such as had been taken in war, or by some other means reduced to actual flavery. These persons were the property of their respective

masters.

The Druids had the supreme and sole direction in every thing relating to religion. By them, as the favourites of the Gods, and the depositaries of their councils, the people offered all their facrifices, thanks, and prayers: they educated the greater part of the youth; were held in the highest honour; and determined all causes and controversies, whether of a public or a private nature. (See also Diod. Sic. lib. v. § 31.) If any crime was committed, or a murder perpetrated; if any disputes arose either about the divifion of inheritances, or the boundaries of effates; they alone dispensed both rewards and punishments. Whoever refused to submit to their decrees, whether tribes or individuals, were interdicted from the facrifices; and the interdict of the Druids was most dreadful. They against whom it was pronounced, were held in universal detestation, as impious and abominable; their company was avoided as dangerous and contaminating; they were declared incapable of any trult or honour; put out of the protection of the laws; and exposed to injury of every kind.

Over all these Druids, one, who had the greatest authority, prefided. On the demife of the Arch-Druid, if there was any one more eminent than the others in the ordinary class, he fucceeded: but, in general, the high priest was elected from among the remaining Druids by a plurality of votes: though fometimes this office was an object of ambition; not obtained but by the force of arms. Once in the year, at a certain appointed time, they affembled on a con-Secrated spot, in the country of the Carnutes (the Pais Chatrain), which was thought the centre of Gaul: Hither all who had law-fuits came, and implicitly submitted to the

decision of the Druids.

The doctrines of Druidism, it was the received opinion, had their origin in Britain; and were thence transferred to Gaul. And even in Cæfar's time, they who were desirous of becoming adepts in its mysteries, went to Britain for the

purpole.

The Druids were exempted from taxes and military fervices; and enjoyed many immunities. Numbers, allured by the honours and privileges of the profession, embraced the discipline of their own accord; while many more were dedicated to it by their parents. The Druids were faid to commit an infinite multitude of verfes to memory; and fome of them paifed no lefs than twenty years in becoming living repositaries of their doctrines; fince it was not lawful to entrult them to writing; though, in almost all other public transactions, and private accounts and computations, they made use of Greek letters.

The immortality of the foul, and its transmigration into other bodies, were among their leading doctrines; by which they excited an undaunted courage, and a fovereign contempt of death. Beside these, they entered into disquisitions and disputations in their schools, concerning the stars and their motions, the form and magnitude of the universe in general, and the earth in particular; on the operations of nature; and on the powers of the immortal gods.

The fecond description of men, enumerated by Cafar, were the Nobles, who, in war time, appear to have affumed the command of their respective tribes. They were skilled in the arts of fighting, and were readily followed by their

dependants into actual fervice.

From the mention of these, he proceeds to the religious principles and opinions which the Celts maintained. Gaul. as a nation, he fays, was addicted to superstition. They who laboured under difease, or expected to be called to battle, either offered, or promifed the future facrifice of human victims. For it was an article in their creed, that nothing but the life of man could atone for the life of man. For this purpose they used the ministry of the Druids. At more important times, however, they formed coloffal images of wicker, filled them with victims, fet fire to them, and destroyed the whole. On these occasions, such as had been guilty of theft, robbery, or other crimes, were deemed the most acceptable offerings to the gods. But when criminals were scarce, the innocent supplied their place.

Mercury, according to Casar, was regarded as their chief deity; they honoured him with images, and efteemed him as the inventor of arts, and as the protector both of the public ways and commerce. After him, Apollo, Mars, Jupiter, and Minerva were worshipped; of whom their notions, he fays, were much the fame with those of other countries. They confidered Apollo as the curer of diseases; Minerva as the guardian of works of art; Jupiter as the governor of heaven; and Mars as the god of war. To Mars, before they entered on a war, they usually vowed a great part of the expected spoil; and when they had facrificed all the animals taken, they deposited the rest apart. In many of their states, says Cæsar, these spoils are seen piled up in heaps in their confecrated groves. Nor did it often happen that any one neglected the performance of his vows, or fecreted his share of spoil, or having once devoted it withdrew it. Such perfons were punished with the severest tortures.

The Gauls confidered themselves as the progeny of Dis, for so the common people were told by the Druids; and on this account they reckoned time not by days but nights. In the inftitutions of ordinary life, they differed materially from other nations in this respect; that till their children arrived at a manly age they were not suffered to appear in public before their parents. It was accounted a shame for a father

to be feen in company with his fon.

Whatever fortune the wife brought, the husband was obliged to equal; and the principal and produce of both were laid up for the furvivor. The husband had power both of life and death, not only over his children but his wife. When any one of distinction died, his nearest relations were affembled, and if there appeared any cause of suspicion as to his death, they had power to put the wife to the fame torture as the meanest flave, and if found guilty, she was burnt to death in the most excruciating manner. The funerals of the Gauls, he adds, confidering their circumstances, were fumptuous and magnificent. It was their cuftom to throw into the funeral pile on which the body was burnt, those things, and even those animals, in which the deceased had most delighted; at a remoter period, however, they threw into the flaming pile fuch of his fervants and friends as had

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been his greatest favourites, and all were reduced to asses

together in the tame fire.

With those flates which were eleemed the belt adminiferred, it was a law, that whosever should receive intelligence from any neighbouring flate, of public importance, should communicate it only to a magisfrate; left they who might be alarmed by rumours, should, by rash resolutions, raise ferment. The magisfrates concealed what part of the intelligence they pleased; informing the public of the rest. Except in the general assembly, it was not allowable to talk of state affairs.

Thus far we have the direct words of Cæfar. From a few other writers we obtain additional points of information, neral. The particular hiltory of the DRUIDS will form a feparate article hereafter. Hefus, according to Boxhorn (Orig. Gall. c. i. p. 11,), was the name by which Mars was worshipped by the Gauls and Britons, although there appears Belgic Gauls. Disanswered to the Pluto of the Greeks. The fun is faid to have been worshipped under various names, prin-To this object of idolatrous worship, the circles of stones deferibed by Dr. Stukely and others, are supposed to have been chiefly dedicated. Saturn, of the worship of whom in the weitern parts of Europe we have the evidence of some of the classic writers, is stated to have been another of their deities (see Henry's Hist. of Britain, vol. i. p. 107,); and others are indiffinctly mentioned by Roman appellations, of whose history we have no clear intelligence. It is to be regretted that Cæfar did not give us the Celtic names of the feveral deities worshipped in Gaul, as well as the names in use among the Germans. In fome refemblance of the attributes afcribed to Hefus and Teutates, the Greeks and Romans faw Mars and Mercury, and thence inferred that their own modes of worship extended to barbarous nations. "The Greek and Roman travellers and conquerors," fays Mr. Hume (Hift. of Natural Religion), "without much difficulty found their own deities every where; and faid, this is Mercury, that Venus; this is Mars, that Neptune; by whatever title the ftrange gods might be denominated."

What were the hymne either of the Gauls or Britons we are ignorant. The Druids, as we have already feen, infuncted their disciples in a poetical system of divinity; but as their verses were never committed to writing, they were lost.

Their offerings, which constituted so important a part of their religion, have been described by Cæsar; and their arts of divination, with some minuteness, by Diodorus Siculus (lib. v. c. 35.). Pliny, in his Natural Hiltory (lib. xvi. c. 44), fays, the Druids held nothing fo facred as the misletoe of the oak. As it was very fcarce, when any of it was discovered they went with great pomp and ceremony on a certain day to gather it. When they had got every thing in readiness under the oak, both for the facrifice and the banquet which they made on this great festival, they began by tying two white bulls to it by the horns. Then one of the Druids, clothed in white, mounted the tree, and with a knife of gold cut the misletoe, which was received in a white fagum. This done, they proceeded to their facrifices and feastings. The Druids, he adds, had so high an esteem for the oak, that they did not perform the least religious ceremony without being adorned with garlands of its leaves. They believed that every thing that grew upon it came from heaven, and that God had chosen that tree above all others. There are, however, one or two circumstances which lead us to doubt whether Plicy here describes the Celtic Druids.

The facred groves in which their religious ceremonies were performed, were furrounded by a ditch or mound, to prevent the intrution of improper perfors. In the centre of thefe, a circular area was inclosed with one or two large rows of stones. This was the temple. Close at hand was the carnedde, or facred mount; the cromlech, on which the facrifice was prepared; and all other things which were necessary for their worship. Stonehenge, if it really was a Druid temple, is the most magnificent of all that are remain-

In regard to the state of society and government among the Celts, we find that both Gaul and Britain were divided into petty states, each composed of two, three, four, or even more clans or tribes. The king of which was commonly the head of the chief clan of which the state was composed. (See Henry's Hist. of Britain, vol. i. p. 161.) Those into which Britain was divided need hardly be enumerated here. The rule of succession to the throne is supposed to have been hereditary; as well among the Celtic as the Belgie Gauls. (Compare Cæsar de Bell. Gall. lib. v. c. 20. Sucton. Vit. Calig. c. 44. Tacitus Hist. lib. iii. c. 45. and Dio Cassius, I. Ix.) And the chief prerogative of the Celtic kings was that of commanding the forces of their respective states in time of war. In every thing essential to the pare to have been in-

ferior in their power to the Druids.

The little knowledge which we have of their theology, philosophy, and jurisprudence, is gathered with difficulty, and only from the scattered notices of antient writers. Strabo informs us, (lib. iv. p. 197,) that it was one of their physiological opinions that the universe should never be entirely dellroyed or annihilated, but should undergo a succesfion of great changes and revolutions, which were to be produced fometimes by the power and predominancy of fire, and fometimes by that of water. They were acquainted with a year, apparently exact enough for the purpoles of life, but not fitted for astronomical calculations. Pliny (Nat. Hist. lib. xvi. c. 44,) fays, "they began both their months and their years not from the change, but from the fixth day of the moon." 'The particulars and extent of their knowledge in this part of altronomy are not farther preserved. If they used Greek letters in their ordinary calculations, as Cæsar has recorded, we must conclude they were acquainted with arithmetic: and the rocking-thones alone are sufficient to evince that they had fome knowledge of mechanics. The houses of the Britons, as Cæsar saw them, are particularly described to us in the Commentaries. (De Bell. Gall. lib. v. c. 12.) They were like those of the Gauls, though little more than wretched cabins. (Zonaras, p.189.) Their clothing was ufually a skin (Bell. Gall. lib. v. c. 14), cast about the shoulders like a mantle. "Those," fays Diodorus Siculus (lib. v. p. 347) " who dwell near the promontory Belcrium (or Land's end), are very hospitable, and, by their great intercourse with foreign merchants, much more civilised in their way of living than the other Britons. They dig tin ore out of their mines, and prepare it with great dexterity and art. Though this ore is naturally of a hard substance, like stone, yet it is mixed and incorporated with much earth, from which they feparate it with great care, and then melt and calt it into blocks or ingots of a fquare form like dice." This was the only metal they were acquainted with as the produce of the island. In the art of war all the young men among the Celtic nations were regularly trained; and their troops, it should appear, were chiefly composed of infantry. The military cars of Britain (the Effede of Cæfar, and the Covini of Tacitus) feem rather to have belonged to the Belgic than the Celtic inhabitants. War-chariots, says Mr. Pinkerton, were not known among the Celts. Their early trade was

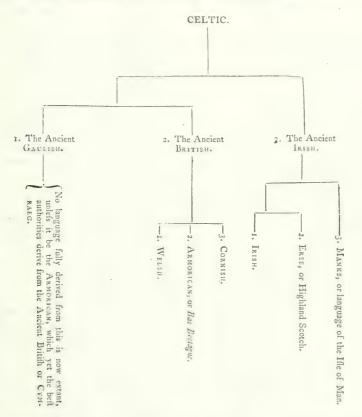
with the Phænicians (the foreign merchants spoken of by Diodorus Siculus), who appear to have laboured with a very anxious care to conceal the knowledge of their commerce. A fingular anecdote of their jealoufy of this exclusive trade is mentioned by Strabo. Afterwards, however, the Greeks, and latterly the merchants of Gaul, obtained a share, whose information finally led to the Roman expeditions. Polybius, who was by birth a Greek, and flourished near 200 years before the Christian æra, is said to have written a distinct work concerning Britain; which appears to have been first described, about 130 years earlier, by Pythias of Marseilles. What was the general medium of exchange, or what were the coins of the Celtic nations, it is impossible at this period The principal of those which are acknowledged by our antiquaries as British, are not of Celtic but Roman origin. They have almost all the Roman letters, and many

of the Roman deities. Of the manners, virtues, vices, remarkable customs, or diversions of the Celts, our information is extremely scanty. Nor are we certain that the peculiar characteristics of the Britons, spoken of by Cæsar, attach either inclusively or exclusively to the Celtic population of the island.

The last subject to be mentioned here is the language of the Celts, which is now no longer doubted to have been one of the original dialects of Europe. What it was at a remote period we have no means to ascertain, but we are assured by Tacitus that, even in his time, the ancient British differed very little from the Gaulish. Sermo haud multum diversus. (Vit. Agri. cap. xi.)

Bishop Percy, in the Presace to Mallet's Northern Antiquities (p. xxv.), has given the following genealogical table

of the languages descended from the Celtic.



The fludy of the Welsh language was first encouraged in this country by Henry VIII. But the best body of materials for the knowledge of the Celtic dialects will be found in Lhwyd's Archæologia Britannica.

CÉLYDNUS, in Ancient Geography, a river of Macedonia, in the Orestide territory. It had its source in the Cecroce-

raunian mountains, and ferved as a boundary between Orestides and Chaonia, according to Ptolemy.

CEMA, a mountain of the Gauls, forming a part of the chain of the Alps. "Amnis Varus," fays Pliny," ex Alpium monte Cemâ profusus." The mountain whence this small river flows, is at present called Gaillole.

CEMAS,

CEMAS, Cemas Acliani et Herodoci, in Zoology, fynonymous with Anti'ope Rupicapra of modern writers. Bochart, &c. Belon conceives the Cemas, or Kemas of the

Greeks to be this species.

CEMBALO, Italian, in Music, at present implies a harpfichord; but in the time of Boccaccio, it was the title given to the tambour de basque: infrumento da donne; which in the Crusca dictionary is defined, infrumento da fonare; che è un cerchio d'affe sottile alla larghozza d'un sommesso, &c.—covered with parchment like a drum, surrounded with bells or bits of tin, and beaten with the hand. Madonna, Pio avesse un Combalo, io diva, &c.

We not only meet with Arpicordo and Clavicembals in Zarlino, 1564, but among keyed infirmments, deferribed by Ottomarus Lufcinius in 1536, under the three feveral Latin names of Clavicitherium, Clavicherdium, and Clavicembalum; but in the coarfe wooden cuts by which he reprefents them, the shape frems only that of a spinet or virginal;

which fee.

In Varchi, the contemporary of Zarlino, the harpfiehord is called *Gravicembalo*. And in another Italian writer of a more early period, we are told, that Tintoyet the painter had a daughter called *Marietta*, who, befides other accomplishments, played on the *Gravicembalo*, or harpfiehord, and painted extremely well. See Organ, Harpsichord, Spiner, and Piano-Forty.

CEMBANI, in Ancient Geography, a people of Arabia Felix, who dwelt in the vicinity of the Agreeaus, accord-

ing to Pliny.

CEMBRA, in Botany. See Pinus Cembra.

CEMELANUM, CEMENCLLUM, OF CEMENALIUM, CEMELION and CEMELUM, Cimiez, in Ancient Geography, a town of Gallia Narbonnenfis, N. N. W. of Nicæa, and near it. It continued to be the capital of the Maritime Alps to the close of the 4th century, and was very confiderable for the number and quality of its inhabitants, and the beauty of its edifices. The first officers of this province made this the place of their refidence. It had three colleges, one of which was probably that of the priefts; and a fenate which allowed an affembly for deliberating on the construction of a monument in honour of M. Aurelian Masculus, president of the Maritime Alps. This Roman had supplied the city with corn in a time of famine, and re-established the ancient aqueducts, the ruin of which had occasioned a want of water. The town of Cimiez was destroyed by the Lombards towards the year 737. The inclosure of its amphitheatre is still in good preservation. It was the capital of the Vediatii, and was fituated on the Aurelian way. M. D'Anville discovered this ancient name in that of the church, called " Notre-Dame de Cimies" to the right of Paillon, and 11 mile N. of Nice.

CEMENTATION, in Chemistry. Camentiren, Germ. This term is applied to a proceds in the dry way, fimiliar to digethion in the moith, and means the exposure of any substance to a regular furnace-heat in a crucible, stratisted or otherwise covered with some kind of powder which is intended to produce a chemical change. Thus iron bars are converted into steal by being cemented with a powder of bone-afts, and other materials: copper into brass by cementation, with a powder of calamine and charcoal; and the like. The powder is, in this case, called Cement-

powder.

CEMENT-COPPER. The copper procured from the fulphat by precipitation with iron is fo called. See

COFPER

CEMENTS and LUTES. Under this article may be mentioned the receipts for preparing some of the most use-

ful fubflances of this kind, that are required in common chemical operations.

The uses of lutes and cements are either to close the joinings of chemical vessels to prevent the escape of vapours and gastles during the processes of distillation, fublimation, and the like, or to protect vessels from the action of the fire which might crack, or fuse, or calcine them: or sometimes to repair flaws and cracks, and for a variety of other smaller purposes.

The fubject of calcareous cements, fuch as mortar, tarras, and other fubitances used to close the joinings of bricks or stones in buildings, will be mentioned in the following

article.

When a lute is applied over the whole furface of a veffel, (as to a glass retort when it is intended to be heated red but the process is termed, britation or esting. Item furnaces are also lined or ecated on the inside with earth, to prevent the iron from being destroyed by the couldnut action of the fire.

From the vaft variety of receipts for lutes and cements of different kinds, the following may be felected, which will answer most of the purposes of the experimental chemist.

To prevent the ccape of the vapours of water, spirit, and iquors not corrolive, the simple application of slips of moistened bladder will answer very well for glass, and paper with good paste for nietal. Bladder, to be very adhesive, should be soaked some time in water moderately warm, till it seeks clammy; it then slicks very well. If smeared with white of egg, instead of water, it adheres still closer.

Another very convenient lute is linfeed meal, moistened with water, to a proper confiftence, well beaten, and applied pretty thick over the joinings of the vessels. This immediately renders them tight, and the lute in some hours dries to a hard mass. Almond passe will answer the same

purpofe.

The use of the above lute is so extensive, that no other is required in closing glass vessels in preparing all common distilled liquors; and it will even keep in ammonia, and acid gasses, for a longer time than is required for most experimental purposes. It begins to foorch and spoil at a heat much above boiling, and therefore will not do as a fire lute. It is still firmer, and dries sooner when made up with

milk, or lime water, or weak glue.

A number of very cohelive cements impervious to water and most liquids and vapours, and extremely hard when once folidified, are made by the union of quick-lime with many of the vegetable or animal mucilaginous liquors. The variety of these is endless. We may first mention the following, as it has been extensively employed by chemists for centuries. Take fome whites of eggs with as much water, beat them well together, and sprinkle in sufficient slaked lime, to make up the whole to the confishence of thin paste. The lime should be flaked by being once dipped in water and then suffered to fall into powder, which it will do fpeedily with great emission of heat, if well burnt. This cement should be spread on slips of cloth, and applied immediately, as it hardens or fets very speedily. While hardening it may be of use to sprinkle over it some of the lime in fine powder. This cement is often more simply and as conveniently managed, by fmearing flips of linen on both fides with white of egg, and when applied to the joining of the veffels shaking some powdered lime over it. It then dries very

Another lute of the fame kind, and equally good, is made by uting a litrong folution of glue to the lime inflead of the white of egg. It fets equally foon, and becomes very hard. A mixture of liquid glue, white of egg, and lime, makes

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the lut d'ane, which is so firm, that broken vessels united with it, are almost as strong as when found. None of these lutes, however, will enable these vessels to hold liquids for any great length of time. Milk or starch, with lime, make

a good, but lefs firm lute.

A very firm and fingular lute of this kind is made by rubbing down fome of the poorell fkimmed milk cheefe with water, to the confiftence of thick foup, and then adding lime, and applying as above. It answers extremely well. Line and blood, with a small quantity of brick-dust, or broken pottery, stirred in, is used in some places as a very good water-cement for cellars and places liable to damp.

Paris-plafter, mixed with egg, milk, glue, flarch, or any

mucilaginous liquor, also makes a good lute.

Some artists mix other earths with the above materials. Thus a very good coment is made with equal parts of clay and lime, about ½ of flour and white of egg; or, as is used by many of the aqua fortis-makers, a mixture of colcothar

lime and white of egg.

All the above-mentioned cements, with lime, become very hard, by drying, infonuch that they cannot be feparated from glafs veffels without the help of a fharp knife and fome violence; and hence delicate veffels, and long thin tubes cemented with it, are apt to break, when the apparatus is taken down, and fometimes even by the mere force of contraction in fetting. It is a great advantage, however, that they may be applied immediately to any accidental crack or failure of the lute already on, notwithflanding a stream of vapour is bursting through; and in large distillations it is of advantage always to have some of the materials at hand.

These lutes will not confine very corrosive acid vapours perfectly, for a great length of time, but will answer for other purposes, particularly where a complicated apparatus is to be kept steadily united and air tight. They will bear

nearly a red heat without material alteration.

Another kind of lute, which is the molt perfect for confining acid vapours for any length of time, and which never hardens to an inconvenient degree, is the fat lute, as it is called. This is made by taking any quantity of good clay, tobacco-pipe clay, for example, thoroughly dry, but not burnt, powdering it in an iron mortar, mixing it gradually with drying linfeed oil, and beating them together for a long time to the confiltence of thick palle. Much manual labour is required, and it should be continued till the mass no longer adheres to the pettle. Then make the edges of the glass or other vessel, where it is to be used, perfectly dry, and apply the lute carefully, and it will stand the longest process without failing. This grows firm enough to retain its place, and to hold the vessels together, but may readily be separated by a knife. This lute much improves in adhesiveness by long keeping, which should be in a covered pan in a cool cellar. When wanted, it regains sufficent dustility, merely by beating for a minute or two, or by the help of a few drops more of the oil. Good glaziers putty, which is made of chalk, beat up with drying linfeed oil, much refembles the fat lute in quality.

Another species of lute is that which is commonly applied round glass retorts, when dilillation with a full red heat is wanted, to protect them from the sudden action of the fire, and to give them firmness, and to enable them to bear this heat without slattening or falling together, when red-hot, or melting with the fuel. A glass vessel, to prepared, with a thick earthen coating, may be considered as an earthen vessel glazed on the intide. The substance used is a mixture of fand, with just sufficient clay to make it adhere together, beat up with some kind of shrous matter, so as mechanically the substance of the substance of the substance when the substance of the substance of

nically to increase the tenacity. A natural earthy mixture of the kind is Windfor loam, or an equally good one may be formed with coarse sand and clay, or better with fragments of pottery coarfely ground, (the fine part being feparated by lifting, and rejected,) mixed with more or less clay, according to the quality, fo that it will just mould together when wet. For the fibrous matter, fome use horse-dung, which appears to be the best, others chopped straw or chaff, others chopped horfe, or cow-hair, or tow, all of which answer the same purpose. A small quantity of these will fuffice. Beaumé recommends about an ounce of cow's hair to five pounds of the earthy mixture. A good deal of water should be added, when the materials are mixed, and much manual labour is required to diffuse the hair equally through the mixture. To apply it to a glafs veffel, a retort, for example, take a fufficient quantity of the lute, spread it out flat on a table, lay the bottom of the retort on the middle of the mass, and then turn up the edges of the flat cake, and bring it over the rest of the glas, pressing it down with the singers, till it applies uniformly and closely. . By this method the lute is without feam, and is much more likely to dry in the fire without cracking. Or elfe, bring the lute, with sufficient water, to the consistence of thick foup, dip the retort in, and it will come out thinly coated. Turn it round before the fire, and, when dry, dip it again in the lute, to give a fecond coating, and fo on, to the required thickness, which may be from \(\frac{1}{4}\) to \(\frac{1}{2}\) an inch. A lute similar to this is used as a lining to iron furnaces, to confine the fire, and prevent the iron from confuming by the constant heat. This lute is just fo fulible as to begin to agglutinate in a full red heat; and hence, if it remains found till thus hot, it will form an impenetrable coating to the glass within, from which it cannot afterwards be detached. The covers of crucibles and other vessels intended to bear fire may be luted with this earthy mixture. It is rendered still less liable to crack on the first heating, if, when thoroughly dry, it is fmeared with linfeed oil.

Sometimes, however, a still more fusible compound is wanted, particularly where very volatile and penetrating fubflances are distilled from an earthen vessel. These vessels are necessarily porous, to a certain degree, independent of any cafual cracks, from which the larger earthen veffels are feldom entirely free. When phosphorus, for example, is prepared, by itrongly heating charcoal and phosphoric acid in one of these retorts, the vapour of the phosphorus penetrates through the pores, when thoroughly red hot, and much of it is loft. Nor will the last-mentioned luting en-tirely prevent this, so that it is a great faving to cover the retort first with a thin coat of a fulible glazing, which will melt on the furface as foon as red-hot; and close every opening. This glazing may be made by a variety of fluxes added to the proper dose of clay and earth, and mixed into a thin paste and applied to the retort with a brush. The following management is recommended by Mr. Willis, a practical chemist, (Repertory, vol. i.) in distillation with large earthen retorts. Dissolve one ounce of borax in half a pint of boiling water, and add as much flaked lime as will make it into a thin paste. Spread it over the retort with a brush, and, when dry, apply over the whole a lute of slaked lime and linfeed oil, beaten till it is perfectly plastic. This becomes dry in a day or two, and is then fit for use. Stone retorts may thus be used several times with safety, (always renewing the oil and lime-lute); whereas, in the common way, and even with the clay and hair-lute, they generally crack when cooling, or on being heated a second time. If. during the operation, the retort should crack, Mr. Willis advifes to spread some of the oil composition thickly on the

part, and sprinkle some slaked lime over the whole, which will prevent the further cscape even of the penetrating vapour of phosphorus, and may be safely applied even when the retort is red-hot. When prepared somewhat thicker, it is very proper as a general lute for a variety of purposes,

and will never harden so as to break the vessel.

Often a fire lute is required to join the covers to crucibles, or for fimilar purpofes, fo as to keep them air-tight when hot. A very valuable composition of the kird is made of glafs of borax, brick-dult and clay finely powdered together, and mixed with a little water when used. No very great nicety is required in the proportions, but about a tenth of borax is quite sufficient to bring the earths to that state of semi-vitrification which is defired. Litharge may also be used instead of borax, but the latter is by far the best, as it promotes that thin spreading sussessing fusion which is best calculated to be equally applied over an uneven surface; and besides, if a portion of the litharge lute were to drop into the crucible it might possibly be reduced, and lead introduced into the results of the experiments.

A cement, faid to be useful to stop cracks of iron vessels intended to be strongly heated, is made of six parts of clay, one of iron silings, and linfeed oil enough for the mix-

ture.

Another species of cement is what is termed by the French Maflich chaud, and confifts of different kinds of oily and refinous substances, liquid when hot, and which become more or less folid by cooling. They are useful for a variety of miscellaneous purposes, for experiments with gasses over water or mercury, and others where only a very moderate warmth is used, and where it is of importance to keep out air and water. These will also confine acid vapours, but not the vapours of alcohol, turpentine, or effential oils, which diffolve most refinous fubstances. Most of them will flick very well to glafs. Common fealing-wax is one of the most useful of these cements. A cheaper and less brittle cement is made fimply by melting bees wax with about one eighth of common turpentine. This may be made up into flicks to be used when wanted, being first melted or spread evenly with a hot iron. A greater proportion of turpentine renders this lute fofter and more fulible, but fomewhat pliable.

A very firm cement is made by four parts of rofin, one of bees wax, and when melted, one part of fine brick duft, flirred in. This adheres with extreme firmnefs. Table knives are cemented to their handles by this mixture, and turners ufe a fimilar composition in fome fine works to fix

them to the lathe.

Chaptal found, after many trials, that the penetrating vapours of fulphureous acid in the manufacture of alumere completely confined in a wooden chamber lined very carefully with a mixture of equal parts of pitch, turpentine, and wax boiled till all the effential oil was diffipated (which was known by the ceffation of the bubbles) applied melted to the wood, and fpread with a hot trowel over the joints. Vintners ftop leaks in their cafks with melted fuet rubbed over when cooling with fiftedwood-afhes, or previously mixed with the afhes in melting.

The use of gum arabic dissolved in water, for cementing paper labels to bottles, and a great variety of miscellaneous purposes, is known to every one. A still better cement for the same use is singlass dissolved in vinegar to a pretty thick consistence when warm. This congeals on cooling, and be-

fore it is used it should be gently warmed.

Many of the varnishes and oil paints are employed in rendering vessels air and water tight. Thus when canvas bags are fastened to a stop-cock tube for air-holders, the joining

part, and fprinkle fome flaked lime over the whole, which is made perfectly tight by tying over it flips of cloth or will prevent the further escape even of the penetrating value of bladder foaked in spirit varnish.

The following cement is faid to be very ufeful in joining together glas or fleel. Take of maftich five or fix bits as big as peas, diffolve in as much alcohol as will render them liquid. In another veffel diffolve as much ifinglafs (previouly foaked in water) in brandy or rum, as will make two ounces by measure of a throng glue, warm it, and incorporate with it by rubbing two or three small bits of galbanum or ammoniacum and then the mallich folution. Keep the cement in a bottle well stopped, and gently warm it before use.

Those fusible metal compounds used to unite pieces of metal form another totally distinct species of cements. These are termed Solders, under which they will be de-

scribed. See CEMENT.

CEMENTS, calcareous. In this article it is proposed to give an account of the various cements used in building, into which lime enters as an effential conflituent part; and in order to treat the subject with a degree of clearness, in some measure corresponding to its importance, it will be advisable to arrange every kind of calcareous cement under one or other of the following three divisions: first, simple calcareous cements: secondly, water cements: thirdly, mastichs or maltha.

§ 1. Simple calcareous cements.

This fection includes those kinds of mortar which are employed in buildings on land; and generally consist of lime, fand, and fresh water.

It is well known that calcareous earths are converted, by burning, into what is called quick lime, which fublance being wetted with water falls into a powder with great extrication of heat, and then acquires the property of uniting with fand, and various other fubliances, and forming a folid mafs which becomes as hard and durable as most building stones. We have no means of ascertaining by whom or at what time this valuable property of lime was discovered; but among the nations of antiquity the Romans appear to have made the most use of, and to have been most skilled in

cementitious building

The various kinds of marble, chalk, and lime-stone, as far as regards their use in cements, may be divided into two species; the first being pure or nearly pure carbonat of lime; the fecond containing befides from 1 to 1 of clay and oxyd of iron. Previous to burning or calcination, there are no external characters by which the fimple lime-stones can be dillinguished from the argillo-ferruginous ones; but the tormer, whatever may have been their colour in a crude flate, become when calcined of a white colour, while the latter posless more or less of a light othery tinge. The brown lime is by far the belt for all kinds of cements; but the white varieties being more abundant, and allowing of a larger proportion of fand, are generally made ute of. It was an opinion of the ancients, and is flill commonly received among builders, that the hardest lime-stone, cateris paribus, furnishes the best lime; thus mortar was faid to grow as hard as the limeflone of which it was composed, and hence marble was confidered as superior to common lime stone, and this latter to chalk. The experiments of Dr. Higgins and Mr. Smeaton, however, show that this is entirely a mittake; common chalk, and the hardest Plymouth marble, when fimilarly treated, affording cements of equal firmnels.

When carbonated lime has been thoroughly burnt, it is deprived of its water, and of all, or nearly all of its carbonic acid: if, in this flate, it is plunged into water, and immediately taken out again, the water which it has abforbed

will

will occasion the mass to crack and become excessively hot, and at length to fall into an impalpable powder, much of the water being carried off in the form of fleam during the process. When lime has been thus flaked, if it is beaten up with a little water into a very stiff paste and allowed to dry, it will be found that the white limes, whether from chalk or marble, never acquire any degree of hardness, that the brown limes become confiderably indurated though not fo much fo as when mixed with fund, and that shell lime (procured by calcining fea shells), concretes into a firm, hard cement, well qualified for dry buildings, although it falls to pieces in water.

Lime-stone loses about 4 of its weight by burning, but fhrinks in an inconfiderable degree; upon quenching, when fully burnt, it falls freely, and will produce fomewhat more than double the quantity of powder or flaked lime, in mea-

fure, that the burnt lime-stone consisted of.

Quick-lime, by exposure to the air, absorbs carbonic acid with greater or less rapidity, as it is of a close and hard, or foft and spongy texture; thus it gradually loses its cementing properties and at length becomes totally unfit for the purposes of mortar. Hence, though stone-lime and chalk-lime are equally good, when perfectly burnt, and used fresh from the kiln, there is an important practical difference between them, as the chalk-lime absorbs carbonic acid with much the greatest facility.

A proper felection of fand is of great importance in the composition of mortar; the sharper and coarser it is the better; as it requires a smaller proportion of lime, and makes a stronger cement than when fine grained and round sand is made use of. Sea sand requires to be well washed in fresh water to dissolve out the falt with which it is mixed, otherwife the cement into which it enters never becomes thorough-

ly dry and hard.

The most advantageous proportions of lime and sand in the composition of mortar is a point by no means settled. The Roman builders were accustomed to allow three parts of pit fand, or two parts of river or fea fand to one of lime. In general, it may be affirmed, that it will be advantageous to use the largest quantity of fand that can be introduced, preferving the necessary degree of plasticity. Mortar, in which the fand predominates, requires less water in preparing, and therefore fets fooner; it is harder and also less liable to crack on drying than that in which lime prevails. Smeaton observes, that there is scarcely any but what, if well burnt and beaten, a load or measure of unflaked lime will take two loads or measures of fand. On pursuing this subject he foon found that, by good beating, the fame quantity of lime would take in one measure of tarras and three of clean fand, which feems to be the greatest useful proportion, for on a further increase of the quantity of fand, the mortar required so much more beating to bring it to a proper con-filtence and toughness, that the labour became of more value than the faving of materials. These observations agree very nearly with the experiments of Dr. Hutton.

The weakness of modern mortar compared to the ancient is a common subject of regret, and many ingenious men taking for granted, that the process used by the Roman architects in preparing their mortar is one of those arts which are now loft, have employed themselves in making experiments to recover it, instead of attending to the directions left us in the works of Pliny and Vitruvius, which, when illustrated by the actual practice of builders in various parts of Europe,

feem to leave little or no doubt on the subject.

The characteristic of all modern artists, builders among the relt, feems to be to spare their time and labour as much

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produce, without much regard to their goodness; and perhaps there is no manufacture in which this is to remarkably exemplified as in the preparation of common mortar, espe-

cially in London and its neighbourhood.

The peculiar badness of London mortar is to be attributed, both to the faulty nature of the materials, and the careless and hasty method of using them. The lime employed is the foft chalk-lime of Effex and Kent, which infusficiently burnt at first, is conveyed a distance of ten or twenty miles and kept many days, without any precautions to prevent the access of the external air; and thus before it is used, it has time to absorb so much carbonic acid as nearly to lose its cementing properties. It has been before observed, that though chalk, when perfectly burnt, is equally good as the hardest lime, it possesses some practical disadvantages; it will fall into a coarfe powder on the application of water, when it is only partially calcined, which stonelime will not, and the cores or unburnt lumps may be broken down by a blow with the spade, and are therefore very feldom rejected as they ought to be.

Sand, which is scarce and dear in London, is equally defective. This is pit fand, but very different from the kind recommended by Pliny and Vitruvius; instead of being clean, large grained, and floarp, it is composed of small round grains, and foiled with a large mixture of clay. Its fineness and smoothness cannot be amended, but by washing it well in running water the clay might unquestionably be got rid of, and this would be no trifling improvement, for Smeaton has shown, by direct experiment, that mortar of the best quality, when mixed with a fmall proportion of unburnt clay, never acquires that hardness and dryness which, without this addition, it would speedily have attained. Screened rubbish and the scrapings of the roads, confisting chiefly of gravel reduced to fine powder, are also used as substitutes

for fand with still greater impropriety.

The method of preparing common mortar is also extremely imperfect. The lime being staked by the addition of water, and the unburnt lime being broken down and mixed with the rest, a quantity of dirty fand is added, and the whole being incorporated by means of a fpade, is reckoned to be fit for use; thus the principal point in the making of mortar, namely, beating the ingredients together, so as to mix them thoroughly, is flurred over in a haify careless manner, and the result, as might be expected, is a crumbling mass scarcely sit for use. The Roman builders, on the other hand, after they had mixed together the materials, employing for this purpose a smaller proportion of water than is customary at prefent, put the mass into a large wooden mortar, and beat it till it ceased to adhere to the heavy wooden or iron peftle which was used on the occasion; a practice, which has long been followed by the Dutch with complete fuccefs, as will be shewn in the next fection.

Fresh made mortar, if kept under ground in considerable maffes, may be preferved for a great length of time without injury; and the older it is before it is used the better; the builder taking the precaution to beat it up afresh, previous to using it; for it not only fets sooner, but acquires a greater degree of hardness, and is less apt to crack. A fect related by Mr. Smeaton, remarkably illustrates these points. Having had occasion to take up a large slat stone of a close grain, of about five feet fquare, that had probably lain above a century at the bottom of a malt ciftern, he found that it had been well bedded in mortar, which had become coagulated to the confistence of cheese; but having never come to a perfect dryness, it so far retained its natural humidity, that as possible, and to increase the quantity of the articles they he found it might, with some pains, be beaten up to mortar

without any addition of water; and afterwards being fulfered to dry in the air, it fet to a flony hardness, and appeared as good mortar as any which that part of the country produced. Piny informs us, that the ancient Roman laws prohibited builders from using mortar that was less than three years old; and to this circumstance he expressly attributes the remarkable firmness of the oldest buildings in the city. A fimilar cuitom prevailed, and we believe fill prevails in Vienna, requiring the mortar to be a year old before it is employed. But there is nothing which shows, in so striking a point of view, the advantage and necessity of beating mortar, and that the effect produced is owing to fomething more than a mere mechanical mixture of the ingredients, as the preparation of grout, or liquid mortar. This differs from common mortar only in containing a larger quantity of water, fo as to be fufficiently fluid to penetrate the narrow irregular interflices of rough flone walls, and is generally made by diluting common mortar with water, either cold or hot. It not unfrequently happens, that this grout refuses to fet, and at all times it is a long while in acquiring the proper hardness; but if, instead of common mortar, that which has been long and thoroughly beaten is employed, the grout will fet in the space of a day, and soon after acquires a degree of hardness much superior to what is made in the common manner.

§ 2. Water Cements.

Although a well made mortar, composed merely of sand and line, if allowed to dry, becomes impervious to water, so as to serve for the lining of reservoirs and aqueducts; yet if the circumslances of the building are such as to render it impracticable to keep out the water, whether fresh or salt, a subandoned; for lime and sand, if mixed together in any proportions, and put, while soft, into water, will in a short time

fall to pieces.

Among the nations of antiquity the Romans appear to have been the only people who practifed building in water, and especially in the sea, to any great extent. The bay of Baiæ, like our fashionable watering places, was the summer refort of all the wealthy in Rome; who, not content with erecting their villas as near the shore as possible, were accuttomed to construct moles, and form small islands, in the more sheltered parts of the bay, on which, for the sake of the grateful coolneis, they built their fummer houses and pavilions. They were enabled to build thus fecurely in the water by the fortunate discovery, at the neighbouring town of Puteoli, of an earthy subtlance, which, from this circumflance, was called pulvis Puteolanus (powder of Puteoli.) Puteolan powder, or as it is now denominated puzzolana, is a light, porous. friable mineral, of a red colour, and is generally supposed to derive its origin from concreted volcanic ashes, thrown out from Vesuvius, near to which moustain the town of Puteoli is fituated. It feems to confit of a ferruginous clay, baked and calcined by the force of volcanic fire, and when mixed with common mortar, not only enables it to acquire a remarkable hardness in the air, but to become as firm as stone, even under water. The only preparation which puzzolana undergoes, is that of pounding and fifting, by which it is reduced to a coarfe powder; in this state being thoroughly beaten up with lime, either with or without fand, it forms a mass of remarkable tenacity, which speedily sets under water, and becomes at least as strong as good free-

It has been before observed, that a composition of pure lime and sand alone will not harden under water, but limes containing a portion of clay possess this property in a considerable degree, and are therefore generally used in water

building. The cement used by Mr. Smeaton, in the contraction of the Eddyttone lighthouse, was composed of equal parts by measure of slaked Aberthaw lime and puzzolana. The peculiar difficulties of this undertaking, exposed to the utmost violence of the sea, rendered these proprisons advisable; but for works that are less exposed, such as locks and basons for canals, &c. the quantity of puzzolana may be considerably diminished. A composition of this kind, which has been found very effectual, is 2 bussels of slaked Aberthaw lime, 1 bushel of puzzolana, and 3 of clean fand; the whole being well beaten together will yield 4.67 cubic feet of cement.

The Dutch have practifed building in water to a greater extent than any other nation of modern Europe; and to them is due the discovery of a cement admirably well adapted for this purpose, and called tarras or trass. This is nothing more than wakke, or cellular bafalt, and is procured chiefly from Bockenheim, Frankfort on the Maine, and Andernach, whence it is transported down the Rhine in large quantities to Holland. This substance being, by grinding and fifting, reduced to the confiltence of coarse sand, is used in the composition of mortar, with the blue argillaceous lime from the banks of the Scheldt, in the following method. They take of the quick-lime about the quantity which will be wanted during a week, and spread it in a kind of bason in a stratum of a foot thick, and sprinkle it with water. It is then covered with a ftratum of about the fame thickness of tarras, and the whole fuffered to remain for two or three days, after which it is very well mixed and beaten, and formed into a mass, which is again left for about two days; it is then taken in small quantities, as it is wanted for daily confumption, which are again beaten previous to using. Thus is composed the celebrated tarras mortar with which the mounds and other constructions for the purpose of protecting the lowlands of Holland against the fea are cemented.

Tarras is frequently used in this country, being imported from Holland for that purpose. The proportions of the materials of the tarras mortar generally used in the construction of the beth water works is the same as the Dutch practife. One measure of quick-lime, or two measures of slaked lime in the dry powder, is mixed with one measure of tarras, and both very well beat together, to the confidence of a paste, using as little water as possible. Another kind, almost equally good, and confiderably cheaper, is made of two meafures of flaked lime, one of tarras, and three of coarle fand; it requires to be beaten a longer time than the foregoing, and produces three measures and a half of excellent mortar. When the building is constructed of rough irregular stones, where cavities and large joints are to be filled up with cement, the pebble mortar may be most advantageously applied; this was a favourite mode of conftruction among the Romans, and has been used ever fince their time in those works in which a large quantity of mortar is required. Pebble mortar will be found of sufficient compactnels if composed of two measures of slaked argillaceous time, half a measure of tarras, or puzzolana, one measure of coarse sand, one of fine fand, and four of small pebbles, screened and washed.

It is only under water that tarras mo tar acquires its proper hardnefs; for if suffered to dry by exposure to the air, it never fets into a substance so firm as if the same lime had been mixed with good clean common sand, but is very triable and crumbly. As mortar is reckoned to be superior for works that are sometimes wet and sometimes dry, but tarras has the advantage when containty under water. Tarras mortar when kept always wet, and consequently in a state most savourable to its cementing principle, throws out a

lubitance

called stalactites, which substance acquires a considerable hardness, and in time becomes so exuberant as to deform the

face of the walls.

Although the cellular bafalt is the only kind admitted into the preparation of Dutch tarras, yet it appears from some good experiments of Morveau on the fubject, that the common compact bafalt, if previously calcined, will answer nearly the fame purpofe. Great Britain is at a confiderable annual expence in purchasing tarras from Holland; it may be worth while, therefore, to point out some of our domestic treasures of the fame material. The compact bafalt abounds in all the districts where coal is raised, and may therefore be procured eafily, and calcined with the refuse coal, so as to be fold at a cheap rate. The Calton hill, adjoining to Edinburgh, confilts almost entirely of cellular basalt, and being but at a fhort distance from the port of Leith, offers an inexhaustible abundance at a small cost.

In some parts of the Low Countries coal ashes are substituted for tarras with very good effect; of which the valuable cendrée de Tournay is a striking instance. The deep blue argillo-ferruginous limestone of the Scheldt is burnt in kilns with a flaty kind of pit-coal that is found in the neighbourhood. When the calcination of the lime is completed, the pieces are taken out, and a confiderable quantity of dust and fmall fragments remains at the bottom of the kiln. This refuse confisting of coal ash mixed with about one-fourth of lime dust, is called the cendrée, and is made into a mortar with lime in the following method. About a bushel of the materials is put in any suitable vessel, and sprinkled with water just sufficient to flake the lime; another bushel is then treated in the fame way, and so on till the vessel is filled. In this state it remains some weeks, and may be kept for a much longer time if covered with moift earth. A strong open trough, containing about two cubic feet, is filled about two-thirds full with the cement in the above state, and by means of a heavy iron pelle, suspended at the end of an elastic pole, is well beaten for about half an hour: at the end of this time it becomes of the confiltence of foft mortar, and is then laid in the shade from three to six days, according to the dryness of the air. When sufficiently dry, it is beaten again for half an hour as before, and the oftener it is beaten the better will be the cement; three or four times, however, are fufficient to reduce the cement to the confiltence of an uniform fmooth paste; after this period it is apt to become refractory on account of the evaporation of its water, as no more of this fluid is allowed to enter the composition than what was at first employed to slake the lime. The cement thus prepared is found to possess the singular advantage of uniting in a few minutes fo firmly to brick or stone, that still water may be immediately let in upon the work without any inconvenience, and by keeping it dry for 24 hours, it has nothing further to fear from the most rapid current.

A composition very similar to the preceding in materials, which are coal cinders and lime, though feldom prepared with any attention, is the blue mortar, commonly used in London for fetting the coping of buildings, and other works

much exposed to the weather.

Ash mortar is used in some parts of England. It is prepared by flaking two bushels of fresh burnt meagre lime, and mixing it accurately with three bushels of wood ashes: the mals is to lie till it is cold, and is then to be well beaten; in this flate it will keep a confiderable time without injury, and even with advantage, provided it is thoroughly beaten twice or thrice before it is used.

The scales of black oxyd, which are detached by hammering red-hot iron, and are therefore to be procured at the ing good tarras for water-works, for which purpose, you are

fubflance formething like the concretions in limestone caverns forges and blacksmiths shops, have been long known as an excellent material in water cements; but we believe that Mr. Smeaton was the first person who made any accurate experiments on their efficacy, compared with other substances. The scales being pulverised and sisted, and incorporated with lime, are found to produce a cement equally powerful with puzzolana mortar, if employed in the same quantity. Induced by the fuccess of these experiments, Mr. Smeaton substituted roasted iron ore for the scales, and found that this also gave to mortar the property of setting under water; it requires, however, to be used in greater proportions than either tarras or puzzolana; two bushels of argillaceous lime, two of iron ore, and one of fand, being carefully mixed, produce 3.22 cubic feet of cement fully equal to tarras mortar. If the common white lime is made use of, it will be advisable to employ equal quantities of all the three ingredients.

With respect to the water used in the preparation of water cements, that of rivers or ponds where it can be had cafily, is to be preferred to fpring water; but for works exposed to the action of the fea, fuch as piers, light-houses, &c. it is usually more convenient and equally advantageous in other

respects to use salt water.

Pumice stone, brick, and tile dust, are also recommended for water cements, but their only advantage feems to be an absorbent quality, which causes the mortar made with them to fet sooner, and therefore acquire a greater hardness in the fame time, than mortar composed of fand and lime alone, for

they have no power of hardening under water.

The Loriot mortar is a composition which has acquired confiderable celebrity in France, and has been employed in fome large works. It was invented about 40 years ago by Mr. Loriot, who imagines that he has discovered the process used by the Romans. The principle of this invention confifts in adding to any quantity of mortar made in the usual way with lime and fand, but prepared rather thinner than ufual, a certain proportion of quick lime, in powder. The lime powder being well incorporated with the mortar, the mass heats, and in a few minutes acquires a consistence, equal to the best Paris plaster, and is as dry at the end of two days, as an ordinary cement after feveral months. It also, when the ingredients are well proportioned, fets without any cracks. The quantity of lime powder to be added, varies from 1 to 6 of the other materials, according to the qualities of the lime; too much burns and dries up the mass, and with too little, it lofes its peculiar advantages; thus the proportions, a point of the utmost importance, can only be determined by experiment. It is its speedy deficeation which rendered the Loriot mortar ulcful as a water cement, for under water it has only the common properties of a composition of lime and fand of equal folidity; indeed for this purpose various substances, commonly used in cements, are recommended to be added, fuch as brick and tile powder, and forge scales. The following is an approved receipt. One measure of bricks exactly pounded, two measures of line river fand, old flaked lime in fufficient quantity to make a mortar in the usual manner and sufficiently liquid to quench the lime powder which is added in about the same quantity as the pulverifed brick.

It is sufficiently extraordinary, that a process, perfectly fimilar to that of M. Loriot, is described in a "Treatise on Building in Water, by George Semple," printed at Dublin. 1776. In difcourling on the good qualities of the roach-lime of Ireland, Mr. Semple remarks, that, "it has fome useful qualities not much known among the generality of workmen, as, for instance, our lime-stone will make exceed-

to prepare it thus. Get your roach-lime brought to you hot from the kiln, and immediately pound, or rather grind it, with a wooden maul, on a dry, boarded floor, till you make it as fine as flour; then, without lofs of time, fift it through a coarse hair or wire sieve, and, to the quantity of a hod of your fetting mortar, (which, on this account, ought to be poorer than ordinary,) put in two or three shovels-full of this fine flour of the roach-lime, and let two men, for expedition fake, beat them together with fuch beaters as the plasterer make use of, and then use it immediately. This, I can affure you, will not only fland as well, but is really preferable to any tarras." The memoir of M. Loriot was published in 1774, only two years previous to this treatife of Semple, who appears to have been a man rather of practice and experience than of reading; and, belides, in the book quoted from, he expressly, though incidentally, mentions his ignorance of the French language. We are justified therefore, in stating, that the knowledge of the advantages of mixing quick-lime powder in mortar was not confined to M. Loriot, though it might be an original invention in him, and he was the first who drew public attention to the process, and used it in any considerable works.

§ 3. Maliba, or Maflich.

Under this term we include those calcareous cements of a more complicated kind, whose hardness appears to depend on the oily or mucilaginous fubliances that enter into their composition. The use of these is at present very limited, at least in Europe, but they were highly esteemed by the ancients, especially for stucco. The maltha of the Greeks feems to have been more simple than that employed by the Roman architects; at least we are informed that Panænus, the brother of Phidias, lined the infide of the temple of Minerva at Elis with a stucco, in which the usual ingredients, fand and lime, were mixed up with milk instead of water, some saffron being also added to give it a yellow tinge. The Roman maltha, according to Pliny, was pre-pared in the following manner. Take fresh burnt lime, flake it with wine, and beat it up very well in a mortar with hog's lard and figs: this cement, if well made, is excellively tenacious, and, in a fhort time, becomes harder than stone; the furface to which it is to be applied is to be previously oiled, in order to make it adhere. Another kind, almost equally strong, and considerably cheaper, was prepared by beating up together fine flaked lime, pulverized iron-feales and bullock's blood.

In the preparation of mastichs, as well as of every other kind of mortar, fo much depends on the manipulation, and especially on the care which is taken to incorporate the ingredients by long beating, that those countries in which labour is of the leaft value poffefs, in general, the belt mortar. Hence, no doubt, principally arises the unrivalled excellence of the mortar made by the Tunifians and other inhabitants of the northern coast of Africa, which, according to Dr. Shaw, is prepared in the following manner. One measure of fand, two of woodashes, and three of lime, being previously fifted, are mixed together, and fprinkled with a little water; after the mass has been beaten some time a little oil is added: the beating is carried on for three days fuccessively, and, as the evaporation in that hot climate is confiderable, the cement is kept at the proper degree of foftness by the alternate addition of very small quantities of water and oil. The cement being completed, is applied in the usual manner, and speedily acquires a flony hardness. The last species of maltha that we shall mention is the celebrated chunam of India, where it has been used from time immemorial. The method in which it is prepared at Madras is as follows.

Take 15 bushels of pit fand, and 15 bushels of stone-lime; flake the latter with water; and when it has fallen to powder, mix the two ingredients together, and let them remain untouched for three days. In the mean time dissolve 2clbs. of molasses in water, boil a peck of gramm (a kind of pea), to a jelly, boil a peck of mirabolans also to a jelly, mix the three liquors, and incorporate part of the mixture very accurately with the lime and fand, fo as to make a very fluid cement: fome short tow is now to be beaten very well into it, and it is then fit for use. The bricks are to be bedded in as thin a layer as possible of this mortar; and, when the workmen leave off, though but for an hour, the part where they recommence working is to be well moistened with some of the above liquor, before the application of any fresh mortar. When this is used for stucco, the white of four or five eggs, four ounces of butter or fesamum oil, and a pint of buttermilk, are to be mixed up with every half bullel of cement, and the composition is to be applied immediately.

It is to be regretted, that no experiments have been inflituted to ascertain the cause of the induration of calcarcous cements. It is attributed by Dr. Higgins to the absorption of carbonic acid; but feveral circumstances contradict this fuppolition. In numerous instances the cement hardens long before the lime is faturated: in the different kinds of maltha the lime combines with the albumen, mucilage and oil with which it is in contact, and in all probability takes up little or no carbonic acid; and, if it be true, that the lime in old mortar cannot by burning be re-converted into quick lime, this would imply a chemical union of the ingredients; and it may reasonably be questioned whether, even in the simple calcareous cements, carbonic acid acts so important a

part as is usually attributed to it.

CEMETERY, Cameterium, a dormitory, or facred place

fet apart for the burial of the dead.

Chorier observes, that under cameterium, resuntreson, from κοιμαω, I sleep, anciently was comprehended, not only the thrick dornitory, or place where the dead were disposed; but all the lands which encompassed the parish churches, and were contiguous to the real churches. Perhaps it might be added, that all the church domains were comprifed under cameterium. This will best account for that confiscation

of the cemeteries, charged on Valerian.

In the early ages, the Christians held their affemblies in the cemeteries, as we learn from Eusebius and Tertullian; the latter of whom calls those cemeteries where they met to pray, area. Valerian feems to have confiscated the cemeteries and places deflined for divine worship, which were restored again to the Christians by Gallian. In the rescript of that emperor, which is preserved by Eusebius, cemeteries and places of worship are used as synonymous terms. It being here the martyrs were buried, the Christians chose those places to have churches in, when leave was given them by Constantine to build. And hence some derive that rule which still obtains in the church of Rome, never to confecrate an altar without putting under it the relics of some faint. See BURIAL.

The heathen writers frequently upbraid the primitive Christians for their meetings in cemeteries; as if they served other purposes besides those of religion. The council of Elvira prohibits the keeping of tapers lighted in cameteria, during the day-time; and by another canon, the women

from passing the night, watching in cameteria.

The practice of confecrating cemeteries is of some antiquity: the bishop walked round it in procession, with the crozier, or pastoral staff, in his hand, the holy waterpot being carried before, out of which aspersions were

CEMMENUS, in Ancient Geography, the name of a

mountain.

mountain, which, branching from the Pyrenées, advanced far into Gaul, according to Strabo. It was the mass of mountains which Ptolemy calls "Cemmeni montes," and which, he fays, was inhabited by the Segusiani, found in that chain which formed the Cevennes.

CEMPSI, a people of Spain, who occupied the foot of

the Pyrenées, according to Dionysius Periegetes.

CENA, a fmall river of Sicily, which at prefent bears the name of "Fiume delle Cane."

CENABUM. See GENABUM.

CENÆUM, a promontory of the island of Eubœa towards the west and opposite to Thermopylæ, according to Strabo, Pliny, and Ptolemy, feated on the Maliac gulf; now called Cabo Litar, or Canaia. It had a temple of Jupiter Ceneus.

CENAPATAM, in Geography, a town of Hindooftan, in the country of Myfore; 34 miles N.E. of Seringapatam,

and 28 S.W. of Bangalore.

CENCHRÆ, a town of Asia Minor, in the Troade. Suidas says that it was the country of Homer.—Also, a town of Italy: Steph. Byz.

CENCHRAMIDIA, in Botany, Pluk. See CLUSIA

rosea, and Bubroma Guazima.

CENCHRAMUS, in Ornithology, one of the names given by authors to the fnow bunting, Emberiza nivalis.

CENCHREA, in Ancient Geography, a port of Corinth, fituate on the bay of Saron. This was a fortress built on the frontiers of Arcadia, towards the fource of Phryxus, and S.W. of Argos. It defended the way that led from Argos to Tegea. Near this place, towards the fouth-east, lay the tombs of those Argians, who, according to Pausanias, challenged an army of Lacedæmonians near Hysiæ, under the archonate of Pisistratus.

CENCHREA, a port town of Corinth, which lay towards the east upon the gulf. It derived its name from Cenchrias, the pretended fon of Neptune, when his brother Leches had given his name to Lecheum. These were the only two havens; and indeed the only two cities of any note, next to Corinth, that belonged to this territory. They were fo well fituated for naval commerce, and fo near the metropolis, that they made ample compensation for the barrenness of the soil. These two naval roads, which opened a way into the Ionian and Ægean feas, might eafily have gained them a superiority, if not a command over all Greece, if this advantageous fituation had not inclined them more to commerce than war. That Cenchrea was a distinct city from Corinth, at least in St. Paul's time, we may infer from Acts xviii. 18, and from his epiftle to the Romans, ch. xvi. 1.; though it had the epithet of Corinthiaca in the poets, from its being one of the havens of that little state, as Corinthus had that of Bimaris, from its being fo conveniently fitnated between two feas. Upon the road from Cenchrea across the isthmus there was a temple of Diana, and at Cenchrea a temple of Venus, with a fine statue. At the end of this road was a Neptune in bronze; and on the other fide of the port were two temples, one of Neptune, the other of Isis. In the vicinity was a fpring of hot water, faid by Paufanias to be falt, and called the bath of Helena. The water fell from a rock, and precipitated itself into the sea. Along the coast, towards the north-east, there was another port, mentioned by Strabo and Ptolemy. Pliny and Strabo fay, that it was fituated in the most fecure place of the ifthmus.

CENCHREA was also a name given generally to the isthmus of Corinth, distant 70 furlongs from it, where were celerated the Isthmian games; whence the apostle in his epistle to the Corinthians so frequently alludes to these games.

See 1 Epift. ix. 2 Epift. iv. 7, 8, 9.

CENCHREIS, a finall ifland of Greece, towards the bottom of the Saronic gulf, according to Pliny.

CENCHRIS, in Ornithology, a name given by Gefner, Aldrovandus, and others, to the kind of hawk known in England by the title of Keltril, Stannel, or Windhover bawk, Falco Tinnusculus of Linnæus.

CENCHRIS, in Zoology, the name of a species of Box that inhabits South America, and which is distinguished by having 265 abdominal plates, and 57 caudal. Linn.—Eco

flavescens ocellis albidis, iride grifea, Boddacrt.

Boa cenchris is a ferpent of large fize, though inferior in this refpect to either the boa confirictor, or the fpotted boa. The prevailing colour is yellowish-ferruginous, darkest on the back, where it is marked by a continued feries of very large blackish circles extending from the head to the tail: the sides are marked with a number of kidney-shaped blackish fpots, many of which are ocellated with whitish: the head is of a lengthened form, and is marked by a black longitudinal and two lateral bands.

CENCHRIUS, in Ancient Geography, a river of Afia Minor, in Ionia, which had its course through the territory of the city of Ephesus, according to Tacitus and Pausa-

11128.

GENCHRUS, in Botany, (xvyxyo;, Theophraft. Diofcor.) Linn. gen. 1149. Schreb. 1574. Willd. 119. Gært. 503. Juff. p. 30. Vent. vol. ii. p. 102. (Panicaftrella; Mich. 31. Racle, Fr.) Clafs and order, polygamia monacia, Linn. Triandria monogynia, Willd. Nat. ord. Gramina, Linn. Gra-

mineæ, Juff. Vent.

Gen. Ch. Cal. involucre variously divided, often echinated, containing from two to four flowers; or, if wanting, the defect compensated by echinated calyx-glumes; calyx-glumes lanceolate, concave, acute, shorter than the corolla; generally about two-flowered; one of the flowers often male. Cor. Glumes concave, lanceolate, acuminate, awnless; one shorter than the other. Stam. filaments three, capillary, the length of the corolla; anthers arrow-shaped. Pist. germ roundish; style shifterm, the length of the stamens; styles two, hairy, oblong, spreading. Seeds roundish, enclosed in the permanent corolla.

Est. Ch. Involucre variously divided, often echinated; or, if wanting, the defect compensated by echinated calyx-

glumes; style one, bisid.

* With an involucre. Sp. I. C. echinatus, Linn. Sp. Pl. 4. Mart. 5. Poir. 2. Willd. 3. Pluk. Alm. tab. 92. fig. 3. Schreb. gram. 9, tab. 23. fig. 1. Gært. tab. 80. Lam. Illuf. tab. 838. fig. 1. (Panicastrella americana major, Mich. gen. 36. tab. 31. Elymus caput. Medufæ, Forsk. Flor. Ægyp. p. 25.) "Spike oblong, conglomerated." Root annual. Stems from eight to ten inches high, bent at the lower joints, smooth, striated, compressed, almost angular. Leaves from four to five lines broad, long, fmooth, striated: sheaths loofe, finooth, flightly tomentous at their orifice. Spike two or three inches long; fimple, upright; fpikelets on fhort peduncles, feattered or alternate, at a finall diftance from each other; involucre large, entire at the base, cut at the edge into several stiff, awl-shaped, sctaceous, yellowish or somewhat violet segments; slowers from two to four in each involucre, very fmall. Seeds almost elliptical, flat, a little convex, without a fur-A native of Jamiaca and the coalt of Barbary, described by Poiret from a living plant in the botanic garden at Paris, cultivated in England by Doody, in 1601. It is one of the most common graffes in the open paltures of Jamaica, and is effeemed a wholesome and pleasant food for all forts of cattle. 2. C. tribuloides, Linn. Sp. Pl. 5. Mart.

(Panicaftrella minor, Mich. Gen. 37. Ox. tab. 5, fig. 4, Sloan. J.m.,
"Brike glomarated; female glumes glod with fpines, histore." Linn. Root annual.
jointed, finouth, firiated. Leaves often . . . , two or three lines broad, ftriated, theath a little pubefeent at its upper part; orifice . I wish a tuft of ince, tetaceous, whitish hairs. Spile of the little of the state of the second party 1 de la companya de l on the industry to be edge in a charef, very hard. sharp-pointed." Root annual. Stems from eight to ten inches high, procumbent, branched. Leaves of a moderate fize, foft, enveloping almost the whole of the culm by their sheaths. Spikes on long filiform peduncles, slender, naked, almost unilateral, very close; rachis zig-zag, jointed, furnished on each side with a rather large membrane. Flowers feifile, fearious; involucres composed of various scales, large, stiff, sometimes a little twisted, oval or lanceolate, smooth, hard, awl-shaped or mucronate; calyxglumes ciliated at the edges, containing one or two flowers. The disposition of the flowers gives it the habit of a tripfacum. It is also in some respects allied to panicum, under which Retz and Willdenow have placed it. A native of the East Indies. 4. C. hordeiformis, Willd. 5. Thunb. prod. 24. (C. asperifolius; Poir. 7. Desfont. flor. Atl. vol. ii. p. 388. Alopecurus hordeiformis; Linn. Sp. Pl. Mart. and of this work.) " Leaves rough backwards; involucres briftle-shaped, four times as long as the flower, villous towards the bottom, white, enclosing one or two flowers." Desf. Root perennial. Stems two or three feet high, upright. Leaves about a line broad, rolled in, smooth, awl-shaped, fliff. Spikes five or fix inches long, whitish, not interrupted; involucres composed of numerous filky filaments. Flowers feffile; rachis villous. A native of the East Indies, of the Cape of Good Hope, and of mount Atlas near Bugie. Nearly allied to C. rufescens, and C. ciliaris. 5. C. rufescens, Poir. 10. Desf. Flor. Atl. vol. ii. p. 388. " Leaves smooth; fpike clongated; involucres crowded, briftle-shaped, rufefcent, villous towards the bottom, three times as long as the flower; calyxes about two-flowered." Desf. Stens almost procumbent, firm, jointed, rush-like. Leaves smooth, rolled in, rough at their edges; orifice of the sheaths surnished with a lacerated membrane. Spike four or five inches long, close; briftles of the involucre filky; calyx-glumes membranous; those of the corolla violet-coloured. A native of Sandy foil in Barbary near Mascal. 6. C. ramosissimus, Poir. 11. "Stem frutescent; branches dichotomous; involucres briffle-shaped, soft, naked; spikelets about four flowered." Poir. Stems very high, feveral times branched, smooth. Leaves smooth, long, acute, striated, a little scabrous; fheaths naked and ferrated at their orifice. Flowers terminating the branches and forming cylindrical spikes two or three inches long : spikelets, sessile, scattered, alternate, involucres composed of numerous, fine, filky, almost filvery hairs, a little longer than the flowers; calyx-valves obtufe. A native of Ægypt, described from a dried specimen in the herbarium of La Marck. 7. C. ciliaris, Linn. Mant. 302. Mart. 7 Poir. 12. Willd. 5. Gifeke ic. tab. 23. Lam. Illus. tab. 838. fig. 3. "Involucres brittle-shaped, ciliated, enclosing four calyxes." Root perennial. Stems a foot and halt high, flender, a little bent at their joints, naked at their upper part. Leaves narrow, femewhat villous; theaths firiated,

ciliated. Spike two or three inches long, cylindrical, a little interrupted; spikelets alternate, fessile, involveres composed of fine filky hairs, of a purple colour, ciliated at their base, two or three times longer than the valves of the calyx; calyxes two-flowered, one male, the other hermaphrodite; glumes membraaous, unequal; ftigmas violet-coloured; ra-chis zig-zag. A native of the Cape of Good Flope, of Barbary and Ægypt. 8. C. parviflorus, Poir. 13. "In-volucies brille-finaped, naked; fpikelets generally one-flowered, very finall." Store from one to two feet high, flender, filiform, finooth. Leaves long, narrow, very acute, rough to the touch; fheaths fmooth, rather loofe, naked at their orifice, furnished with a short reddish membrane, a little torn at its fummit. Spike lanc olate, fomewhat compressed, greenish or purplish; spikelets sessile; involucre composed of long, fliff hairs. A native of Porto Rico. 9. C. purpurafeens, Mart. 11. Poir. 15. Willd. 9. Thunb. Linn. Tranf. vol. ii. p. 329. (Panicum hordeiforme 7: Thunb. Jap. 38.) "Spike fimple; florets furrounded with very long awns; flem erect." Stems about two feet high. Leaves longer than the culm. Spike fix or feven inches long, loofe; spikelets in two rows; peduncles as long as the spikelet; brilles of the involucre purple, five or fix times longer than the flowers. A native of Japan. 10. C. fetosus, Mart. 10. Willd. 6. Swartz. prod. 26. "Spike linear-oblong; involucres brille shaped; interior brilles with ciliated hairs at the base; glumes even." A native of the West Indies. 11. C. geniculatus, Willd. 7. Thunb. prod. 24. " Raceme fpiked, simple; involucres many-leaved, scabrous; culm geniculated." A native of the Cape of Good Hope. ** Without an involucre.

12. C. inflexus, Poir. 6. " Leaves lanceolate, villous; racemes lateral, inflexed, on long peduncles; fpikelets feffile, florets in a fingle row." Stems branched, cylindrical. Leaves entirely covering the stem, an inch and half long, about four lines broad at their base, lanceolate, almost heart-shaped, finely thriated, most villous on the sheath and at the edges. Peduncles from the axils of the upper leaves, fix or feven inches long, fimple, smooth; each terminated by a spike of fessile flowers, so curved at its insertion as to make nearly a right angle with the stem; spikelets lanceolate, narrow, very acute; calyx one or two-flowered; outer valve echinated with spiny points, ciliated at its edges, very acute; inner one short, villous; corolla one-valved, much shorter than the calyx, flat, smooth, obtufe. Seed naked, shining, oblong, cylindrical. A native of Cayenne. Described by Poiret from dried specimens in the herbarium of Justieu and La Marck, but not so perfect as to make him quite certain that the plant may not more properly be referred to some other genus. On account of its one-valved corolla, it appears to us to be truly an alopecurus, and might have been placed very conveniently next to A. monspelientis of Linnæus, if that plant had not been determined by Schreber and Dr. Smith to have really a two-valved corolla, and therefore removed to phleum. Its rachis resembles that of paspalum. 13. C. ovatus, Poir. S. Lam. Ill. 838. fig. 2. " Leaves quite fmooth, rather firm; spike densely egg shaped." Stems stiff, smooth, cylindrical. Leaves stiff, acute, rolled in at their edges; sheath cylindrical, long, narrow, furnished at its orifice with a small tuft of fine whitish hairs. Floruers in a thick branched spike; outer calyx-valves echinated with stiff, whitish hairs; florets smooth, oval, mucronate; two or three in each calyx. Gathered by Sonnerat at the Cape of Good Hope, preserved in the herbarium of La Marck. 14. C. tomentofus, Poir. 9. "Leaves tomentous-woolly on their upper turface, thriated underneath; fpikes obtong-egg fhaped." Stems upright, Imooth. Leaves stiff, narrow, flat, a little

a little rolled in at their edges; Theaths cylindrical, firiated. Spike very close, sometimes interrupted at its base; outer valves of the calyx echinated with short, stiff, unequal points; florets three or four in each calyx, oblong; valves very acute. A native of the Cape of Good Hope, preserved in the herbarium of La Marck. 15. C. carolinianus, Walt. Flor. Car. p. 79. " Spike glomerated; glumes globular, muri-

cated with spines, even."

Obf. In conformity with Poiret's ideas on the fubject, we have extended the generic character fo as to include the last four species, which would be excluded by it, as it was originally constructed by Linnæus; without, however, being perfectly fatisfied that they may not be better otherwise difposed of. 16. C. frutescens, Linn. Sp. Pl. 6. Mart. 9. Willd. 10. (Arundo graminea aculeata; Alp. exot. tab. 104. Gramen orientale, spicatum fruticosum, spinosum; spicis echinatis in capitulum congestis; Tourn. cor. 39.) " Heads lateral, festile; leaves mucronate; stem shrubby." Linn. Root perennial. A native of Armenia. La Marck afferts, on the authority of Tournefort's specimen preserved in the herbarium of the museum at Paris, that its leaves have no fheaths, and that therefore it cannot be a gramineous plant. He has no doubt, notwithstanding the fingularity of its habit, of its being really an eryngium. See Encyc. vol. iv. p. 756, and vol. vi. p 53. Cenchrus capitatus; Linn. Mart. Willd. Poir. See

ECHINARIA.

CENCHRUS lappaceus; Linn. Mart. Willd. Poir. See PANICUM lappaceum.

CENCHRUS racemofus; Linn. Mart. Poir. See LAP-

CENCHRUS granularis; Linn. Mantissa. Mart. See MA-

As these four plants are destitute of an involucre, they were improperly placed by Linnæus under his cenchrus; and as they have not an echinated calyx glume, they are equally excluded from our fecond iection.

CENDEVIA, in Ancient Geography, a marsh of Asia, in Phœnicia; placed by Pliny at the foot of mount Carmel.

CENEDA, in Geography, a town of Italy, in the Trevilano, belonging to the state of Venice, the fee of a bishop, fuffragan of Udina, destroyed by the Huns and Goths; 20 miles N. of Trevigno.

CENDRILLARD, in Ornithology, the name given by Buffon to the St. Domingo Cuckow. Cuculus dominicus,

Gmeliu.

CENDRILLE, the cinereous Lark, Alauda cinerea of Gmelin, is so named by Buffon in his Nat. Hist. des Oif.

CENEGILD, in the Saxon Antiquities, an expiatory mulct, paid by one who had killed a man to the kindred of the decrafed. The word is compounded of the Saxon cinne, i. e. cognatio, relation, and gild, folutio, payment.

CENEONTLATOTI, in Ornithology, the name by which Nieremberg described the Polyglot or American mocking Thrush; a bird celebrated for the different modula. tions of its notes, which excel those of the nightingale in melody.

CENERIUM, in Ancient Geography, a small town of the Peloponnesus, in the Elide, according to Strabo.

CENESPOLIS, a name given by Polybius to a town of

CENESTAM, a town placed by Ptolemy towards the middle of the island of Corsica; which was an episcopal see. CENETÆ, a town of Venetia, N. of Tarvifium.

CENGOTTO, in Geography, a fmall island in the Mediterranean; 24 miles N.N.W. of Candia. N. lat. 36°1'. E. long. 41°.

CENIA, in Dolany, (xeros, empty), a genus formed by Jufficu for Cotula turbinata of Linnaus, with the following character: Flowers radiate; florets four-cleft, tetrandrous; ligulate ones about twenty, very fhort; calyx top-shaped, empty under the receptacle; border short, eight-cleft; seeds compressed; receptacle convex. See LANCISIA.

Cenia, in Geography, a river of Spain, which runs into the Mediterranean, 8 miles N.E. of Pegnifcola, separating in its course the provinces of Catalonia and Valencia.

CENION, a river of Britain, the mouth of which is fupposed to be Falmouth haven; so called from the British word "gene," a mouth; and of which there is fill fome veilige in the name of a neighbouring town, Tregonny.

CENIS, in Entomology, Phalana Cenis of Cramer, is the species described by Fabricius as Phalana cenaria, which see.

CENIS, in Geography, a fummit of the Wellern Alps, which feparates the marquifate of Sufa from Maurienne, and over which is the famous passage from Savoy to Piedmont. At Lasnebourg on the Savoy side of the mountain, preparations are made for croffing it, which is usually performed in about 5 hours. The inns at La Ramasse and La Grand Croix, so called from the cross near it, which is a boundary between Savoy and Piedmont, affording but very uncomfortable entertainment, in case, by any accident, persons were obliged to fpend the night on the mountain, the baggage and chaifes which are here taken to pieces are forwarded upon mules and affes. The Vetturini, or carriers, have generally their chaifes standing on each side of the mountain, which fave the trouble and expence of taking their carriages to pieces. The horses which they take with them become by degrees as well acquainted with the road over the mountains, as the mules of the country; fo that betwixt Lasnebourg and Novalese in Piedmont, one may safely give them the reins. From La Grand Croix to Novalese travellers take those carriers whom they hire at Lafnebourg. In coming from Piedmont, the journey up the steep mountain from Novalese to La Grand Croix, and likewife across to La Ramasse, where the Novalese carriers take up the travellers, and forward them to Lasnebourg, is performed on mules. Down hill the mules are not so fure-footed, neither does the rider sit so well upon them as upon an afcent, which renders it necesfary to be carried by men. From Lasnebourg to the summit of mount Cenis is a league, the climbing of which takes up a full hour: the two leagues from thence to La Grand Croix, being over a plain, are travelled in an hour and a half: here commences a declivity of two leagues more; one to Fertiere, and another to Novalele. In winter, when the snow is on the ground, the plain on the top of mount Cenis is croffed on fledges, drawn by a horse and a mule. The defcent from La Grand Croix to Novalese mult, at all times, and even in winter, be passed in chairs; the large stones, the winding ways full of holes, and the dangerous precipices not admitting of fledges. But the descent from mount Cenis to Lainebourg is performed in another manner. On the fpot where the declivity begins is a house called la Ramasse, from whence one is carried in a fledge down to Lasnebourg, which is about a league further, in feven on eight minutes; the rapidity of the motion almost taking away, the breath. These sledges hold only two persons, the traveller, and the guide who fits forward fleering with a flick. On each fide he has an iron chain; which he drops like an anchor, either to flacken the course of the sledge, or to stop it. This, like the carrying in chairs, is called "Ramasser les gens, aller a ramasse." The horse-road from Lasnebourg up to the Ramasse-house is very serpentine; the mules and asses are so used to it, that they are at no loss in selecting the best tracks and avoiding the stones, so that the rider may trust

Arangers, the king has iffued an order to regulate the price, which is generally fluck up in the post-houses. From Lafnebourg to Novalefe are two roads, the old and new; the laft is the worst, but the shortest, and always chosen by those who travel on mules or in chairs. The Lafnebourg chairmen are very active and expeditious in performing their labour; but notwithstanding their alertness and the extreme fatigue that feems to attend it, they attain, in the use of the most fimple diet, a considerable longevity. In order the better to fecure their footing, their shoes are without heels, and the foles are rubbed with wax and rofin. The machines in which travellers are carried down hill are a kind of ftraw chairs, with low backs, two arms, and inflead of feet a little board hanging down by a cord for refling the traveller's legs. The feat, which is made of bark and ropes twifted together, is fastened to two poles, and carried, like

a fedan, with broad fraps. On the fummit of mount Cenis is a plain, of rather a long uneven valley betwixt very high mountains, whose tops, even in fummer, are covered with fnow; and in winter and fpring, when vall quantities of fnow fall from the hill into the valley, the journey over mount Cenis is rendered not a little dangerous. There are huts built up and down along the mountain for the herdsmen, who come hither in summer with their cattle: fine grafs and feveral forts of flowers being produced here, in the months of July, August, and September. This mountain, like fome other parts of the Alps, abounds with chamois, wolves, marmottes, and hares. Halfway up the mountain is a lake about a league in circumference, which is faid to be in the middle almost unfathomable. In this lake is fine trout, some of which weigh 16 pounds. It is constantly supplied with water from springs issuing from the adjacent eminences, which are always covered with fnow, and often with clouds; and out of it flows a river, which being augmented by other springs falls down in very delightful cascades: this river is by some called Semar, by others St. Nicholas; and near Susa it loses itself in the Petite Doire or Dura. Keysler erroneously afferts, that the mountain of Roche-melon, on the left hand of Cenis, betwixt Fertiere and Novalese, is reckoned the highest of all the Italian Alps; it is 11,977 English feet above the lea; and little mount Cenis is 9956; whereas mount Rosa exceeds 15,500; and mont Blanc is, according to fir George Shuckborough, 15,662, and according to De Luc 15,304. Keysler's Travels, vol. i.

CENNABA, in Ancient Geography, a mountain of Afri-

ca, in Mauritania Cæsariensis.

CENNING, CENNINGA, or Kenninga, in our Ancient Books, denotes notice given by the buyer to him of whom he had bought, that the thing purchased was claimed by another, that he might appear and avow, or warrant his

The word is formed of the Saxon cennam, authorem advo-

care, to call an author. Du-Cange. CENO, or ZENO, in Geography, a river of Italy, which runs into the Taro; 8 miles S.S.W. of Parma. CENOBITE. See COENOBITE.

CENOMANI, in Ancient Geography, a people of Transalpine Gaul, belonging to the Aulerci, whose country cor-responded to the diocese of Mans. The Cenomani also were a people who originally came from Gaul, where they inhabited the country called by moderns le Maine, and fettled themselves in Italy, a little after the year 600 B.C. Their principal towns in Italy were Brixia, Cremona, Mantua, and Verona.

CENOTAPH, compounded of xord, empty, and Tages,

himself to them. That the inhabitants may not exact upon tomb, an empty tomb, or a monument without a body under it; erected only by way of honour to the deceafed; and diftinguished from fepulehre, in which a corpse is actually de-

> Cerotaphs are honorary tombs, creeded either to perfons buried in another place, or to those who have received no burial, and whose relies cannot be found, as being killed in battle, loft at fea, or the like. Among the ancients the same privileges and religious regard were allowed to these tumuli inancs & honorarii, as to real ton bs. Card. Norris has a treatife express on the cenotaphs of the Cæfars, Caius and Lucius, which are still feen at P.fa. Lamprid. in Alex. cap. 63.

> CENSAL, in the Mediterranean parts, denotes a regular or established broker, authorised to negociate between mer-

CENSER, in Antiquity, a kind of veffel where incense

was burnt to the gods.

Cenfer is chiefly used in speaking of the Jewish worship. Among the Greeks and Romans it is more frequently called

thuribulum, Alexonic, and accera, which fee.

The Jewish censer was a small fort of chasing-dish, covered with a dome, and suspended by a chain. Josephus tells us, that Solomon made twenty thousand gold censers for the temple of Jerufalem, to offer perfumes in, and fifty thousand others to carry fire in.

CENSER, the same with ARA.

CENSIO, in Antiquity, the act or office of the cenfor. See CENSUS. Cenfio included both the rating or valuing of a man's estate, and the imposing of mulc'ts and penalties.

CENSIO bastaria, a punishment inflicted on a Roman foldier for some offence, as laziness or luxury, whereby his hasta, or spear, was taken from him, and consequently his wages, and hopes of preferment stopped.

CENSITUS, a person censed, or entered in the censual

tables. See CENSUS

In an ancient monument found at Ancyra, containing the actions of the emperor Octavius, we read,

> " Quo lustro civium Romanorum Censita sunt capita quadragies Centum millia & fexaginta tria."

CENSITUS is also used in the Civil Law, for a servile fort of tenant, who pays capitation to his lord for the land he holds of him, and is entered as fuch in the lord's rent-roll. In which fenfe, the word amounts to the fame with capite census, or capite censitus. See CAPITE Censi.

CENSOR, in Antiquity, one of the prime magistrates in ancient Rome; whose business was to survey and rate the

people, and to inspect and correct their manners.

The word is derived from cenfere; because he affested and valued every man's estate; registering their names, and placing them in a proper century, that the Romans might know their own strength; though others fay, the centors were fo called on account of their other office; viz. as being comptrollers or correctors of manners and policy. The cenfors had all the enfigns of the confuls, except the lic-

There were two cenfors first created in the year of Rome 311, upon the fenate's observing, that the consuls were too much taken up with matters of war, to be left at leifure for looking near enough into private affairs; so that the census had been intermitted for 17 years. The two first were Papirius and Sempronius: their authority extended over every person; and they had a right to reprehend the highest. At first they were taken out of the senate; but after the plebeians had got the confulate open to them, they foon ar-

cived at the cenforship. M. Rutilias was the first; who, having been twice consultand once dictator, in the year 402 demanded the office of cenfor. The custom was to elect two; the one of a patrician family, the other a plebeian; and upon the death of either, the other was dicharged from his office, and two new ones elected; but not till the next lustrum. In the year 414, a law was made, when Publilius Philo was dictator, appointing one of the cenfors to be always elected out of the plebeians; which held in force till the year 622, when both cenfors were chosen from among the people, viz. Q. Czecilius Metellus, surnamed Macedonicus, and Q. Pompeius; after which time, it was shared between the senate and the people.

The laft cenfors, viz. Paulus and Planeus, under Augustus, are faid to have been private persons; not, indeed, that they had never borne any public office; before, but by way of diffinction from the emperor; all besides him being so

called.

This office was fo confiderable, that none afpired to it till they had passed all the rest :, so that it was looked on as surprifing, that Craffus should be admitted censor, without having been either conful or prætor. The term of this office was at first established for five years; but that institution only lasted nine; Mamercus Æmilius the dictator, in the year 320, made a law, restraining the censorship to a year and a half; which was afterwards observed very strictly. Thus, Rome was regularly without cenfors 31 years; for the luftrum did not take place till the end of the lifth year. But this order was often interrupted, either by wars abroad, or domettic divisions, or some other particular reasons. Sometimes five years expired without the creation of any cenfors; on other occasions censors were created more than once during the space of a lustrum, if those who had been first chosen had not been able to complete the cenfus.

The power of the census was at first very limited; but afterwards it became very extensive. All the orders of the state were subject to them. Hence the censorship is called by Plutarch (in Cat. Maj.) the summit of all preferments, "omnium honorum apex, vel sastigium;" and by Ciccro sin Pis. 4.) "magistra pudoris et modestiæ." The title of censor was esteemed more honourable than that of consul; as appears from ancient coins and statues; and it was reckoned the chief ornament of nobility to be sprung from a

cenforian family.

The fentence of cenfors only affected the rank and character of persons; and it was therefore properly called " ignominia," and in later times had no other effect belides putting a man to the blush, or, as Cicero expresses it, "nihil fere damnato afferebat præter ruborem." It was not fixed and unalterable, like the decision of a court of law; but might either be taken off by the next cenfors, or rendered ineffectual by the verdict of a jury, or by the fuffrages of the Roman people. Thus we find C. Gæta, who had been excluded the fenate by the cenfors, A.U. 639, the very next lustrum made himself censor. Sometimes the senate added force to the feeble fentence of the cenfors, by their decree, which imposed an additional punishment. When the confors acted improperly, they might be brought to a trial, as they fometimes were, by a tribune of the commons. Two things were peculiar to the cenfors: 1. No one could be elected a fecoud time to that office, according to the law of C. Martius Rutilius, who refused a second conforthip when conferred upon him, hence firnamed " Cenforinus." 2. If one of the cenfors died, another was not substituted in his room; but his furviving colleague was obliged to reggn his office. The death of a cenfor was deemed ominous, because it had happened that a cenfor died, and another was choice Vot. VII.

in his place, in that luftrum in which Rome was taken by the Gauls. Defore the cenfors began to exercife their office, they fwore that they would do nothing through favour or hatred, but that they would act uprightly; and when they refigued their office, they fwore that they had done fo. Then going up to the treafury, they left a lift of those whom they had made "errarii." A record of their proceeding was kept in the temple of the Nymphs, and is also faid to have been preserved with great care by their descendants.

The business of the cenfors was, to register and value the effects, &c. of the Roman citizens; and to impose taxes, in proportion to what each person possession. Cicero reduces their functions to the numbering of the people; the correction and reformation of manners; the estimating of the effects of each citizen; the proportioning of taxes; the uperintendance of tribute; the exclusion from the temples, and the care of the public places. They had also a right, fenatu effect, to expel from the senate such of the members as they judged unworthy of the dignity; as well as to break and eashier the knights who failed in their duty, by taking from them the public horse, equum adimere.

There are many examples of fenators expelled by the cenfors, generally for good reafons, yet fometimes through mere peevilhnels, envy, or revenge: but in fuch cafes, there was always the liberty of an appeal to the final judgment of the people. So that the cenforian power, properly fpeaking, was not that of making or unmaking fenators, but of enrolling only those whom the people had made; and of inspecting their manners, and animadverting upon their vices; over which they had a special jurisdiction delegated by the people. Their rule of censuring seems to have been grounded on an old maxim of the Roman policy, enjoining, "that the senate should be pure from all blemish; and an example of manners to all the other orders of the city;" as we find it laid down by Cicero in his "Book of Laws," which were drawn, as he tells us, from the plan of the Roman constitution.

Besides the talk of enrolling the senators, and inspecting their manners, it was a part likewise of the censorian juridiction to let out to farm all the lands, revenues, and customs of the republic; and to contract with artificers for the charge of building and repairing all the public works and edifices, both in Rome, and the colonies of Italy. Now in this branch of their office it is certain that they acted merely under the authority of the people, and were prohibited by law to let out any of the revenues, except in the rostra, under the immediate inspection and in the very

presence of the people.

In the general census and review of the city, held by them every five years, though every fingle citizen was particularly fummoned and enrolled by name in his proper tribe, as a freeman of Rome, yet that solemn enrolment, as Cicero tells us, did not contirm any man's right to a citizenship, but fignified only that he had passed for a citizen at that time; because the proper power of determining that right resided always in the people. (Cicer. pro Arch. 5. Liv. x. 52. Middleton of Rom. Sen. p. 59. 68, 70. 83, &c.)

When Rome had extended her conquelts, and founded many colonies, or given the freedom of the city to many of her neighbours, the functions of the cenfors became proportionably more extentive. Officers, who were also called cenfors in those colonies, and municipal cities, gave the sentences of Rome an account of the condition of these cities, of the number of their inhabitants, and of their riches; and their reports were registered in the books of the cenfors. The power of the cenfors continued uninepaired to the tribunching of t

buneship of Clodius, A. U. 695, who procured a law to kind, under the title of licencer of the prefi; but since the be enacted, ordering that no fenator should be degraded by the cenfors, unless he had been formally accused and condemned by both centors; but this law was abrogated, and the powers of the cenformip reflored foon after by Q. Me-

The office continued to the time of the emperors, who affumed the authority of it to themselves, but without the name, calling themselves, instead of censors, morum prafecti; though Velpasian and his sons took a pride to be called cenfors, and put this among their other titles on their coins. Decius attempted to reflore the dignity to a particular magistrate. After this we hear no more of it till Constantine's time, who made his brother censor: the last

The necessity of appearing at certain times before the tribunal of the cenfors, to give an account of their conduct, imposed universally on all the citizens, and from which neither birth, fervices rendered to the state, nor the most important offices previously exercifed, as those of conful and dictator, exempted any one, must have been a powerful check upon licentiousnels and disorder. There are, fays the author of "Confiderations upon the Caufes of the Greatness and Declension of the Romans," bad examples, which are more pernicious even than crimes, and more states have been ruined by corrupting their manners than by violating their laws. At Rome, whatever might introduce dangerous innovations, change the featiments or inclinations of the good citizen, and prevent their perpetuity; in a word, all diforders of a public or private nature were reformed by the cenfors. If luxury and avarice, the ufual caufes of the ruin of states, were introduced so late at Rome; if poverty, trugality, fimplicity, and moderation in the table, buildings, furniture, and equipage, were fo long in honour there, this extraordinary felicity ought, without doubt, to be afcribed principally, or in a great degree, to the inexorable feverity of the cenfors, rigidly attached to the ancient manners of their country, from which they well knew how important it was not to depart. The autherity of the cenforship produced at Rome the same effect, in respect to manners, as the feverity of the military discipline did in the armies with respect to the support of subordination and obedience. And these were the two principal causes of the Roman greatness and power. Whatever victories are gained, whatever provinces are subjected, if purity of manners do not prevail in the different orders of a state; if the administration of justice, and the power of the government, be not founded upon invariable equity and a fincere love of the public good, however powerful an empire may be, it cannot fubfiit long. (Val. Max. l. ii. c. 9.) The fanctity of oaths was no where so much respected as at Rome. This was, as Cicero remarks, (Offic. l. iii. c. 3.), because no crimes were fo feverely punished by the cenfors, as breach of faith and contempt of oaths. Upon the whole, we may observe, that upon the office of censorship depended, in a great degree, the good order, regulation, discipline, confervation of the manners, and administration of the revenues of the commonwealth. See on the subject of this article, Dion, Hal. Dion. Cassius. Livy. Cicero. Val. Max. Suetonius. Tacit. Annal. &c. &c.

The republic of Venice has at this day a cenfor of the manners of their people, whose office lasts fix months.

CENSORS of books are a body of doctors, or other officers, established, in divers countries, to examine and give their judgment of all books, before they go to the prefs; and to fee they contain nothing contrary to the faith, and good manners. In England we had formerly an officer of this revolution the press has been open.

At Paris, the faculty of theology claimed the privilege of cenfors, as granted to them by the pope; and it is certain they have been in possession of it for many ages: but in the year 1624, a new commission of four doctors was created, by letters patent, the fole public, and royal cenfors, and examiners of all books; and answerable for every thing contained therein. The faculty, however, still maintained their claim, by taking occasion, now and then, to give their approbation to books.

In the year 1050, when public cenfors were appointed without their confent, whom the faculty opposed, they stated the antiquity of their right to be 200 years. For they faid, "It is above 200 years fince the doctors of Paris have had a right to approve books without being subjected but to their own faculty, to which they affert they are alone responsible

for their decisions."

Many centuries before the invention of printing, books were forbidden by different governments, and even condemned to the flames. See Burning of Books. Authors, at this early period, fubmitted their works, before they were published, to the judgment of their superiors. This was principally done by the clergy; partly to fecure themselves from centure or punishment, and partly to manifest respect for the pope or bishops. This, however, does not appear to have been, on their part, a duty, but a voluntary act. In 768, Ambrofius Autpert, a Benedictine monk, fent his exposition on the book of Revelation, to pope Stephen III. and begged that he would publish the work, and make it known. On this occasion, he fays expressly, that he is the first writer who ever requested such a favour; that liberty to write belongs to every one who does not wish to depart from the doctrine of the fathers of the church; and he hopes that this freedom will not be leffened on account of his voluntary submission. Soon after the invention of printing, laws began to be made for fubjecting books to examination; a regulation proposed even by Plato; and which has been wished for by many since. It is, indeed, very probable, that the apprehensions of the clergy, lest publications should get abroad prejudicial to religion, and confequently, to their power, contributed not a little to hasten the establishment of book-cenfors. The earliest instance of a book printed with a permission from government is commonly supposed to occur in the year 1480; but professor Beckmann mentions two books, which were printed almost a year fooner than 1479, with the approbation of the public cenfor. The oldest mandate for appointing a book cenfor, that has occurred to him, is that iffued by Berthold, archbishop of Metz, in the year 1486. In 1501, pope Alexander VI. published a bull, which contains feveral prohibitions and regulations, with regard to the printing of books, and decrees all catalogues and books before that period to be examined, and those which contained any thing prejudicial to the Catholic religion to be burned. In the council of Lateran, held at Rome in 1515, it was ordered, that in future no books should be printed but such as had been inspected by ecclesiastical censors. Beckmann's Hist. of Inventions, vol. iii.

CENSORIAL, CENSORIUS, fomething that relates to the office of cenfor. In which fenfe we meet with cenforia nota, or animadversio, censoria virgula, &c .- censoria len, denoting a law passed or enacted by the censors: - homo censorius, a person who has borne the dignity, and served the office of cenfor :- virgula cenforia, which, among the ancient Grammarians and Critics, denoted a note or mark of reprobation, affixed to those passages of a book or writing, which the critic

disapproved or condemned.

Supposed to have been of the Martian family, and to have been eminent at Rome in the times of Alexander Severus, Maximian, and Gordian. In the first year of the emperor Gordian, A.U.C. 991, A.D. 238, he wrote his famous book "De Die Natali," which has been of great use to chronologers by connecting the principal æras of various events of antiquity. It was dedicated to Q. Cerellius, of the equestrian order, and has been often cited with commendation by Sidonius, Cassiodorus, Priscian, and others. This work has passed through a great number of editions. It was printed at Hamburgh, in 1614, with a perpetual commentary, by Lindenbrog; at Leyden, with additional notes, in 1642; at Cambridge in 1695; and by Havercamp in Cenforinus alfo wrote a book "On Accents." Fab. Bib. Lat. vol. ii.

cenfus was taken down.

CENSUALES, in a fubstantive fense, denoted the clerks

or public feribes who wrote the cenfual books.

CENSUALES, in Ecclefiastical Antiquity, denoted also a class of the oblati, or voluntary flaves of churches or monafteries; or those who, for procuring the protection of the church, bound themselves to pay an annual tax or quit-rent out of their estates to a church or monastery. Besides this, they fometimes engaged to perform certain services. Robertson's Ch. V. vol. i. p. 326. CENSURE, CENSURA, is popularly used for a judgment,

whereby some book, person, or action is blamed or condemned; more particularly for a reprimand made by a fupe-

rior, or person in authority.

CENSURE is also a custom, in feveral manors in Cornwall and Devon, whereby all the refiants above the age of fixteen are called to fwear fealty to the lord, to pay two-pence per poll, and a penny per annum ever after, as cert-money, or common fine.

CENSURES, ecclefiaflical, are the public menaces which the church makes, or pains and penalties incurred by difobeying what the enjoins; or rather the pains and punishments themselves; as interdiction, excommunication,

Till the time of the Reformation, the kings of England were subject to the censures of the church of Rome; but the kings of France have always maintained themselves exempt from them.

The canonilts diftinguish two kinds of censures; the one de

jure, and the other de facto, or by sentence.

CENSUS, among the Romans, was an authentic declaration made upon oath by the feveral fubjects of the empire, of their respective names, and places of abode, before proper magistrates in the city of Rome, called cenfors; and in the provinces, censitors, by whom the same were regis-

This declaration was accompanied with a catalogue, or enumeration, in writing, of all the effates, lands, and inheritances they possessed; their quantity, quality, place, wives,

children, tenants, domestics, flaves, &c.

Those who neglected to conform to this regulation were deprived of their estates, beaten with rods, and publicly fold for flaves, as perfons who had deemed themselves unworthy of liberty.

The cenfus was instituted by king Servius Tullius; to be held every five years: and this prince took the cenfus four tines during his reign. Tarquin the Proud neglected this useful institution. After the expulsion of the kings, the confuls were charged with this care till the establishment of

· CENSORINUS, in Biography, a learned grammarian, is the cenfors. Each cenfus terminated with a ceremony called lustrum, which fee.

There had been ten cenfus, or luftra, before the first taken by the cenfors, which was the eleventh. See CENSOR. Servius, having by this regulation afcertained the valuation of the estates of the citizens, divided them into fix classes, and each class into a certain number of centuries. See CEN-TURY. By thus afcertaining the number of citizens and the value of their estates, Servius undertook to ease the poor by increasing the burdens of the rich, and, at the same time, to pleafe the latter, by augmenting their power and influence. The census was taken anciently in the forum; but after the year 320, in the villa publica, which was a place in the Campus Martius; but the census was sometimes held without the concluding ceremony of the lustrum. The cenfus comprehended all the ranks of people, though under CENSUAL BOOKS, libri cenfuales, those wherein the different names; that of the common people was called census, or lustrum; that of the knights, census, recensio, recognitio; that of the fenators, ledio, reledio. Hence, alfo, census came to fignify a person who had made such a declaration: in which sense it was opposed to incensus, a person who had not given in his estate, or name, to be re-

The cenfus among the old Romans was held, as is commonly thought, every five years; but this must not be taken to be precifely true: on the contrary, Dr. Middleton has shewn, that both the census and lustrum were for the most part held irregularly and uncertainly, at very different and

various intervals of time. See LUSTRUM.

The census was an excellent expedient for discovering the strength of the state: by it they learnt the number of the citizens, how many were fit for war, and who for offices of other kinds; how much each was able to pay of taxes towards the charge of the war.

The census, according to Salmasius, was peculiar to the city of Rome. That in the provinces was properly called profession and απογραφη. But this distinction is not every where

observed by the ancients themselves.

In the provinces, the census not only served to discover the substance of each person, but where, and in what manner

and proportion, tributes might be belt imposed.

CENSUS was also used for the book or register wherein the professions of the people were entered. In which fense the census was frequently cited and appealed to, as evidence in the courts of justice. CENSUS is also used to denote a man's whole substance or

CENSUS fenatorius, the patrimony of a fenator, which was limited to a certain value; being at first rated at eight hundred thousand sesterces, but afterwards, under Augustus, enlarged to twelve hundred thousand. Sucton. in Cæf. cap. 41.

CENSUS equeffer, the effate or patrimony of a knight, rated at four hundred thousand sesterces, which was required to qualify a person for that order, and without which no virtue or merit was available. Suet. in Cxf. cap. 33. Hor. lib. i.

cp. 1. ver. 57, 58, 59.

CENSUS was also used for a person worth an hundred thoufand fellerees, or who was entered as fuch in the cenfus tables on his own declaration. In which fenfe, cenfus amounts to the fame with clafficus, or a man of the first class; though Gellius limits the effate of those of this class to an hundred and twenty-five thousand affes. By the Voconian law no cenfus was allowed to give by his will above a fourth part of what he was worth to a woman. Aul. Gell. Noct. Att. lib. vii. cap. 13. Cic. in Verr. .

CENSUS was also used to denote a tax or tribute imposed on persons, and called also capitation. See CAPITS

CENSUS dominicatus, in Writers of the Lower Age, denotes

a rent due to the lord.

CENSUS duplicatur, a double rent or tax, paid by valids to their lord, on extraordinary or urgent occasions; as expeditions to the Holy Land, &c..

CENSUS ecclefix Romana, was an annual contribution, vobintarily paid to the fee of Rome by the feveral princes of

Europe.

CENSUS ficcus, that paid in money.

CENT, in Commerce, an abbreviation of the Latin centum, which properly fignifies a hundred. It is applied when ex-

preffing the profit or lofs upon any commodity.

CENT is also used in the trade of money, and signifies the benefit, profit, or interest of any sum of money which is laid out for improvement. Thus we say money is worth 4 or 5 per cent, upon exchange; that is, it brings four or five pounds profit for every 100l. laid or lent out

Cent is also used with regard to the draughts or remittances of money, made from one place to another. Thus we say it will cost 2½ per cent. to remit money to such a

city

CENTA, in Ancient Geography, a town of Africa, in

Mauritania Tingitana. Ptol.

CENTALLO, in Geography, a town of Italy, in the

principality of Piedmont; 4 miles N. of Coni.

CENTAUREA, in Botany, (xertagues, or xertaugua fortam, herb centaury; xertaugua, Theophr. Diofeor.; xertaugus, Theophr. Diofeor.; xertaugus, Theophr. fo called from Chiron the Centaur, who is fail to have employed one of its species to cure himself of a wound accidentally received by letting one of the arrows of Hercules fall upon his foot.) Linn. gen. 984. Schreb. 1331. Willd. 1548. Class and order, spranch polygamia frustranea. Nat. Ord. Composita capitate, Linn. Cinarocephale, Just. Vent.

Gen. Ch. Cal. common, imbricated, roundish: scales varioufly terminated. Cor. compound, flofcular; florets differing in form; those of the disc hermaphrodite, numerous; those of the ray fewer, loose, larger, funnel-shaped, constantly abortive; tube of the hermaphrodite florets filiform; border bellying, oblong, erect, terminated by five linear erect fegments: tube of the abortive florets flender, gradually enlarging, recurved; border oblong, oblique, unequally divided. Stam. of the hermaphrodite florets: filaments five, capillary, very fhort; anthers united into a hollow cylinder, the length of the petal; of the abortive florets none: Pifl. of the former: germ small; ftyle filiform, the length of the flamens; fligma very obtufe, projecting in a point, in many species bifid; of the latter, germ very fmall; thyle fearcely any; fligmas none. Seeds of the fertile florets folitary; down in most species feathered or capillary; recept. brittly.

Eff. Ch. Receptacle briftly. Florets of the ray funnel-

Chaped, longer, abortive.

This extensive genus was formed by Linnaus as a kind of common receptacle for such plants as would have been placed under some other genus of compound capitate flowers, if they had not had a ray of abortive florets, which, by the principles of his system, obliged him to place them in his third artificial order, at a distance from their natural congeners. It contains centaurium majus of Tournefort; jacca and cyanus of Tournefort and Vaillant; calcitrapa, calcitrapoides, rhaponticum, rhaponticoides, amberboi, and crocodilum of Vaillant. Most of these have been revived by Justieu as separate genera, with some alterations, and are retained by Ventenat.

I. Jacen. Scales of the calyx even, neither ciliated nor spinous.

(Centaurea, Juff.)

Sp 1. C. crupina, Linn. Sp. Pl. 1. Mart. 1. Lam. 8. Willd. 1. (Jacca annua, Tourn. Inft. 444. Chondrilla foliis laciniatis, Bauh. Pin. 130. Barrel. Ic. 1136. Centaurium ciliare, Morsi. tab. 25. tig. 3.) "Calyx-scales linear-awl-shaped; leaves pinnated, serrated." Linn. "Calyxes oblong; feales lanceolate, acute; leaves pinnated, finely ferrated." pinnules linear, acute, finely ferrated." Willd. Black-feeded centaury, bearded creeper, Ray. Root annual. Stem three feet high, ftriated, almost fimple. Flowers terminal; one or two feeds ripened in a flower, crowned with a black down, fo stiff as to make the feeds creep when held in the cruypen, to creep. A native of the fouth of Europe, the coult of Barbary, and the Levant. 2. C. crupinsides, Willd. 2. Desfont. Atl. ii. p. 293. "Leaves pinnated; pinnules lanceolate, fanooth, obtuse, toothed; down chasfy." Root annual. A native of Barbary. 3. C. arenaria, Willd. nules linear, quite entire; upper ones linear, fimple." Root annual. Stem angularly furrowed, panicled. Leaves and calyxes cloathed with a flight, woolly, pubercence. A native of Ruffia, on the banks of the Volga. 4. C. glauca, Willd. 4. "Calyxes pubefcent; fcales roundtoothed." A native of mount Caucafus. 5. C. mefehata, Linn. 2. Mart. 2. Lam. 6. Willd. 5. (Cyanus mofehatus, Gært. C. orientalis. Morif. tab. 25. fig. 5. C. floridus major, Park. 481. Tourn. 445. Rai Hist. 322.) Purple fweet fultan. "Calvxes roundish, fmooth; scales egg-shaped; leaves lyrate-tooted," Linn. "Calyxes roundill, fmooth; leaves long, pinnatifid, fomewhat lyrate; flower purple, with a fmell of musk." Lam. "Calyxes pubeftivated in 1629. 6. C. Juaveolens, Willd. 6. Yellow sweet fultan. (C. moschata, B. amberboi, Lian. Sp. Pl. C. amberboi, Lam. 5. C. orientalis flore luteo, Morif. tab. 25. fig. 9.) "Calyxes roundish, fmooth; lower leaves broad, fomewhat spatulate, toothed; upper ones lyrate at the base; flower yellow, fweet-scented." Lam. "Calyxes smooth; feales roundish-egg-shaped, rather obtuse, sphacelated at the tip; leaves lyrate-pinnatifid." Willd. Root annual. Stem a foot and a half high. Flowers bright yellow; barren florets larger than those of the preceding species; calyxfcales very fmooth and even. A native of the Levant. 7. C. verbajeijolia, Willd. 7. Vahl Symb. i. p. 75. (C. C. verbajčijolia, Willd. 7. Vahl Symb. i. p. 75. (C. maxima, Forsk. Def. 152.) "Leaves elliptical, tomentous; flem shrubby." Roct perennial. Whole plant white, with down. Branches cylindrical. Leaves about feven inches rigid point, veined, ribbed; petiole an inch long, dilated at the bafe. Flowers violet-coloured, terminal, peduncled, two brown at the tip. A native of Arabia Felix. S. C. crucifolia, Linn. Sp. Pl. 3. Mart. 3. Willd. S. (Jacea foliis crucæ, Bauh. Pin. 273.) "Calyx-scales lanceolate; leaves lanceolate, fomewhat toothed, woolly." Root annual, Stem a

foot high; furrowed, rough, with hairs. Branches nume. (Jacea orientalis cyani folio, Tourn. Cor. 32.) "Leaves rous, erect. Leaves near the bottom pinnatifid; fegments about fix. Flowers bright purple, axillary, and terminal; peduncles long, rough with hairs, two or three-flowered; calyxes pubefcent. Native country unknown. 9. C. Lippii, Lin. Sp. Pl. 4. Mart. 4. Lam. 7. Willd. 9. (Amberboi minus, Ifn. Act. 17. 9, tab. 10.) "Calyx-feales mucronate; leaves formewhat decurrent, lyrate-toothed. Root annual. Stem a foot high, flender, much branched, with the habit of C. cyanus. Leaves angular, few. Flowers faint purple, terminal, fmaller than those of C. cyanus. Sent to Juffieu from Grand Cairo by Dr. Lippi: cultivated by Miller in 1759. 10. C. africana, Lam. 4. Willd. 10. Desfont Atl. ii. p. 264. (Centaurium majus laciniatum, Tourn. Inft. 449. Rhapontocoides, Vail. Act. 17. 8. p. 180.) "Calyx-scales egg-shaped, obtule; scaves almost bipinnated; pinnæ pinnarind, laciniated." Lam. Root perennial. Stems feveral, four feet high, upright, smooth, a little branched. Root-leaves pinnated ; pinnæ large, toothed, cut fmooth; stem-leaves almost bipinnated, quite smooth. green. Flowers bright yellow, large, terminal; calyx-scales very smooth, convex. A native of the north of Africa : cultivated at Paris. 11. C. alpina, Linn. G. Mart. 5. Lam. 2. Willd. 11. (Centaurium alpinum luteum, Bauh. Pin. 117. Tourn. 449. Morif. Hitt. tab. 25. fig. 5. Barrel. Ic. 514.) "Calyx scales egg-shaped, obtuse; leaves pinnated, fmooth, quite entire; odd one ferrated." Linn. Root perennial. Stem two or three feet high, cybndrical, smooth. Leaves rather glaucous. Flowers yellow, large, terminal. A native of mount Baldo. 12. C. centaurium, Linn, Sp. Pl. 7. Mart. 6. Lam. 1. Willd. 12. (Centaurium majus, folio in lacinias plures divifo, Bauh. Pin. 117. Tourn. 449.) "Calyx-scales egg-shaped; leaves pinnated; leassets decurrent, ferrated." Linn. " Calyx-scales egg-shaped, obtuse; leaves pinnated, smooth; leastets harply doubleferrated, decurrent ; terminal one lanceolate." Willd. Root perennial, long, large, reddish within. Stems four or five feet high, upright, cylindrical, smooth, branched. Leaves large, green. Flowers yeliow, large, terminal. A native of the Alps, supposed to be the triffia centaurea of Lucretius, the thessala centaurea of Lucan, and the graveolentia centaurea of Virgil, by all which authors it is expressed in the plural number of the neuter gender. 13. C. ruthenica, Lam. 3. Willd. 13. Gmel. Sib. ii. p. 81. tab. 41. " Calyx-scales egg-shaped, obtuse; leaves pinnated, fmooth; leaflets cartilaginous, fharply ferrated; terminal one oblong-egg-thaped." Willd. Root perennial. Stems har one women egg-indepen. What Rose perentials structure or four feet high, in ooth. Leaves numerous. Flowers pale yellow. 14. C. nana, Wild. 14. Desf. Atl. ii. p. 296. tab. 241. "Stemles; calyx-feales egg-fhaped, rather acute; leaves trate-toothed, imooth." Rose perential. Leaves pinnated; leaflets egg-fhaped. Scapes very fhort, one-flowered. Flowers yellow; barren florets short, trifid, or quadrifid. A native of mount Atlas, near Tlemfen. II. Rhapontica. Calyx-feales fearious or dry; neither cili-

ated, nor fpinous. (Raponticum, Juff.).

15. C. Behen, Lian. Sp. Pl. 26. Mart. 28. Lam. 12.
Willd. 60. (Behen album, Rauw. Itin. tab. 288 Garf. Exot. tab. 6. Serratulæ affinis, Bauh. Pin. 235. Jacca orientalis patula, Tourn. Cor. 32.) "Calyxes conical; scales quite entire; leaves ceriacrous, reticularly veined; root ones lyrate; frem ones embracing the flem, decurrent." Root perennial. Stem a foot and a half high, smooth, leafy, with fimple branches. Root-leaves long, petioled; flemleaves small, smooth, obtuse. Flowers yellow, terminal, folitary; calyx a little coloured, but fearcely fearious. A native of Syria, about mount Lebanon. 16. C. repens, Linn. Sp. Pl. 28. Mart. 29. Lam. 13. Willd. 61.

lanceolate, toothed, fomewhat petioled; peduncles filiform. leaflefs." Root perennial. Stem angular, tmooth, branched. Leaves smooth, rough at their edges, narrowed into a petiole. Peduncles the length of the leaves; calyx-scales acute, entire. A native of the Levant. 17. C. ficris, Willd. 62. Pallas. "Calyxes cylindrical; feales roundiff, quire entire: leaves lanceolate; lower ones fomewhat toothed at the base; stem panicled; branches leafy, one-flowered." Stem a foot and a half high, furrowed, upright; branches falligiate. Leaves broad-lanceolate, rather acute, feabrons at the edges. Flowers purple. Found by Pallas about the Cafpian fea. 18. C. Jacca, Linn. Sp. Fl. 29. Mart. 30. Lam. 17. Willd. 63. Flor. Dan. tab. 519. (Jacca ngra pratenfis, latifola, Bunh. pin. 271.) B. Jacca, nigra angulifolia. Calyx-scales egg-shaped, lacerated at the tip; leaves lanceolate, quite entire; root-leaves fometimes toothed; branches angular." Root perennial. Stems from eight inches to three feet high. Leaves scattered, acute, often a little cottony, and whitish. Flowers purple, terminal, folitary; florets of the ray long, two-lipped; two inner divisions erect; three lower ones pendulous; florets of the dife unequally cut; down of the feed confilling of a few fhort, deciduous brillles. A native of the fouth of Europe. 19. C. amara, Line. Sp. Pl. 27. Mart. 31. Willd. 64. (C. jacea y. Lam. Cyanus repens: Lob. ic. 548.) "Stems decumbent; leaves lanceolate, quite entire." Root perennial. Stems. two or three from the fame root; fimple, angular, hoary with down, one-flowcred. Root-leaves petioled, lanceolate, toothed and pinnatifid, tomentous; item-leaves feffile, linear, usually falcate. Flower only half as large as that of C. jacea. A native of Italy, and the fouth of France. 20. C. alba, Linn. Sp. Pl. 30. Mart. 32. Willd. 65. (C. jacca B, Lam. Jacea calyculis argenteis minor, Tourn. 444. Stæbe n. 6. Bauh. pin. 273.) "Calyx-scales entire, mucronated; leaves pinnate-toothed; flem ones linear, toothed at the base." Very nearly allied to C. jacea. Root perennial. Stem panieled. Leaves acuminate, those nearest the top quite entire. Calynes terminal, egg-shaped, small; scales loofe, fnow-white. A native of Switzerland and Spain. 21. C. Splendens, Linn. Sp. Pl. 31. Mart. 33. Lam. 14. Willd. 60. (Stæbe calyculis argenteis major, Tourn. 414. Stabe, Bauh. pin. n. 5. Rhaponticum, Hall, helv. n. 5.) " Calyxes egg-shaped; scales mucronated; lower leaves bipinnatifid, linear; upper ones pinnated; pinnæ linear, fometimes toothed." Ract biennial. Stems two or three feet high, angular, hard, smooth, many-slowered. Leaves farooth, or flightly tomentous. Flowers purple, with a beautiful filvery calvx. A native of Switzerland, Spain, and Siberia; cultivated by Gerard in 1597. 22. C. nitens,. Willd, 67. (Jacea, Buxb. cent. 2. p. 22. tab. 15. fig. 1.) "Calyxes cylindrical; fcules mucronated; leaves pinnated; pinnæ linear, n.ucronated, quite entire." Nearly alhed to the preceding, but differs in having longer branches befet with minute leaves; leaves not bipinnatifid, longer pinace, and calyxes twice as large. Root annual. A. native of mount Caucalus. 23. C. tagana. Willd. 68. Brot. Phytog. Lufit. tab. 3. (Centaurium, Bach, pn. 117. n. 2.) root-ones ferrated; them-ones femetimes thightly out at the base." Root perennial. A native of Portugal. 24. C. rhapentica, Liun. Sp. Pl. 32. Mart. 34. Willd. 69. (Centaureum, Hall, helv. n. 160 Rhaponticum; Lob. 1c. 288. Bauh. pin. 1:7. u. 5 and 6.) " Calyx-feales lacerated; leaves ovate-oblong, hnely toothed, tomentous un derneath." Root perennial, thick, round, black, wrinkled, and irregular, striking deep into the ground, aromatic when dry. Stem from a foot and a half to four feet high. Root-leaves name-

rous, fomewhat heart-shaped, on long petioles; stem-leaves few, on thort petioles, fometimes pinnatifid. Flower purple, folitary, large, without any barren florets; La Marck on that account has discarded it from this genus, and Gærtner has referred it to Serratula. 25. C. babylozica, Linn. Mant. 460. Mart. 35. Lam. 9. Willd. 70. (Serratula Babylonica, Linn. Sp. Pl. Jacca Babylonica, Bauh. prod. 129. pin. 272. Centaurium Helenii folio, Tourn. cor. 33. Morif. hist. tab. 28. fig. 10.) "Calyxes conical, hard; feales ending in a patulous point; leaves formewhat tomentous, decurrent, undivided; root-ones lyrate." Root perennial. Stems fix or feven feet high, fimple, upright, winged, a little woolly. Rost-leaves very large, a foot and a half long, upright, petioled; stem-leaves diminishing in size from the bottom to the top, giving the plant a pyramidal form, rough to the touch. Flowers yellow, nearly feffile; in a very long, upright, terminal raceme, growing in bunches three or four together along the raceme; calyx almost smooth, made rough by the little expanding points which terminate the feales. A native of the Levant. 26, C. alata, Lam. 10. Mart. 69. Willd. 58. Vahl. fymb. 2. 93. "Calyxes egg-shaped, smooth; scales somewhat scarious at the tip; leaves greenish, decurrent, undivided; radical ones lyrate." Root perennial. Stems four feet high, smooth, a little angular, branched near the top, forming neither a spike, nor a raceme. Root-leaves confiderably less than those of the preceding species, nerved, very little downy; stem-leaves narrow. Flowers bright yellow; calyx feales flightly fearious at the tip. Willdenow attributes to it ferrated; and Vahl, ciliated calyx-scales. Described by La Marck from a living plant, in the royal garden at Paris, where it had long been cultivated, supposed to be a native of Tartary. 27. C. glaslifolia, Linn. Sp. Pl. 33. Mart. 36. Lam. 11. Willd 71. Curt. Bot. mag. 62. (Centaurium majus orientale, glasti folio, flore luteo, Comm. rar. tab. 30. Tourn. cor. 32.) " Leaves undivided, quite entire, decurrent." Root perennial, striking deep into the ground. Stems four feet high, greenish, a little winged with the decurrent leaves, branched at their top. Root-leaves shaped like those of Woad, upright, on long petioles, with prominent veins on both fides; ftem leaves oblong, narrow. Flowers bright yellow, terminal; barren florets less than the others; calyx-scales loofe, filvery, transparent. A native of the Levant. 28. C. conifera, Linn. Sp. 34. Mart. 37. Lam. 15. Willd. 72. (Centaureum majus incanum humile, capite pini, Tourn. 449. Jacea incana capite pini, Bauh. pin. 272. Morif. hilt. tab. 26. fig. 19. Chamæleon non aculeatus; Lob. ic. 2. p. 7. Stæbe, Barr. ic. 38.) " Leaves tomentous; root ones lanceolate; stem ones pinnatifid; stem simple." Stem fix or eight inches high, upright, striated, cottony. Leaves greenish above, very white and cottony underneath. Flower very large, purple, terminal, bracteated; calyx shaped like a pine-cone, very taper at the top, where it closely furrounds the florets which rife only a little above it; scales shining, transparent, the upper ones reddish. A native of the fouth of Europe. 29. C. membranacea, Lam. 16. Cnicus uniflorus, Linn.? "Calyxes membranous; leaves pinnatifid, toothed." Nearly allied to the preceding, Stem a little taller. Leaves deeply pinnatifid. Flower large, purple; calyx shorter than in C. conifera; scales whitish with a pale brown tint, rounded at their fummit, lacerated at their edges. A native of Siberia.

III. Rhaponticoidea. Calyx-feales dry and fearious, ciliate-

fernated. (Rhaponticum; Juil.)
30. C. fulcherrima, Willd. 50. "Calyx feales egg-shaped, acuminate, ciliate-ferrated; leaves hoary undermeath; root ones pinantifid; them ones lanceolate." Root perennial.
Stem a foot high, quite simple, one-showered, cylindrical,

upright, tomentous. Root-leaves two inches long, petioled ;. fegments lanceolate, entire, terminal one very large: stem leaves an inch and half long, entire. Flower purple; the ray twice the length of the difc; lower calyx-scales snow-white; upper ones brownish. A native of the East. 31. C. Bulfanita, Lam. 26. Willd. 51? (Carduus orientalis cotti horten-fis folio; Tourn. Cor. 32. Itin. 2. p. 439.) "Calyxes ciliate-fringed with ftraight, rigid, white brilles; leaves oblong, a little toothed; flower yellow, without a ray." Lam. " Scales egg-shaped, ciliate-ferrated, awned; leaves oblong, undivided, nearly entire, feabrous, mucronated." Willd. Stem two feet high, ftriated or angular, flightly villous, leafy; branches upright, one-flowered. Root-leaves oblong, acute, petioled; ftem leaves feattered, feffile, lanceolate, a little toothed, whitish green. Flowers yellow, terminal; barren florets smaller than the fertile ones; calyx globular; scales beautifully fringed with rather long, ftraight, whitish briftles. La Marck, from a living plant, in the royal garden at Paris, raifed from feeds gathered by M. André in Svria or Armenia. Stem erect, cylindrical, fmooth, a little feabrous. Leaves feabrous, green; higher ones a little hoary; root ones oblong, acute, petioled; frem ones oblong-lanceolate; lower ones fomewhat toothed, rather acute; upper ones quite entire, ending in a long brillefhaped point. Flowers yellow, without a ray; calyx-scales yellowish, terminated by a long brillle, ciliate-ferrated at the edges. Willd. from a dried specimen. He quotes La Marck; but it appears dubious whether they have not deferibed different plants. 32. C. macrocephala, Willd. 52. "Calyx-scales roundish-egg-shaped, ciliated; leaves oblonglanceolate, undivided, very feabrous, acute, ferrated."

Branches the thickness of a fwan's quill. Leaves three inches long, an inch and a half broad at the base, embracing the stem. Flowers yellow, without a ray. A native of Iberia. 33. C. calendulacea, Lan. 31. "Calyxes ciliate-hairy; inner scales ligulate, scarious, serrated at the tip; item-leaves pinnated; those on the branches simple." Stem a foot and a half high, angular, striated, much branched, panicled. Flowers yellow, terminal; fertile florets few, fmall; barren ones large, ligulate, flat, four or five toothed; inner calyx-feales long, narrow, toothed at the fumnit; the other shorter, ciliated with long reddish hairs. A native of Armenia; discovered by M. André; described by La Marck from a living plant. 34. C. atropurpurea, Willd. 53. Waldit. and Kitaib. pl. rar. Hung. 2. p. 121. tab. 116. " Calyxfcales ovate-lanceolate, ferrate-ciliated; leaves bipinnatifid; fegments lanceolate." Flowers dark purple; calyx-scales black, fringed with white. A native of Hungary among calcareous rocks. 35. C. orientalis, Linn. Sp. Pl. 23. Mart. 27. Lam. 44. Willd. 54. (Cyanus; Hall. Act. Angl. 1745. vol. 43. p. 94. tab. 4.) "Calyx-scales pectinate-ciliated; leaves deeply pinnatifid; segments linear-lanceolate." Lam. Nearly allied to C. scabiosa, but distinguished from it by the colour of the flower, and the flructure of the calyx. Rect. perennial. Stem a foot and a half or two feet high, thriated, branched, downy near the fummit. Leaves petioled, large, green. Flowers bright yellow, large, terminal; calyx scales yellowish white, roundish, downy at the base, ciliated with long pectinated hairs. A native of Siberia and Tartary. 36. C. firebilacea, Mart. 72. Scop. inlubr. 38. tab. 17. "Calyxes ferrate ciliated; leaves dotted underneath, pinnated; pinnæ lanceolate, fa'cated, erect." Nearly allied to the preceding. Rost perennial. Rost-leaves entire-Flowers pale yellow, fcentless; calyx-scales twice as large as in C. orientalis, not at all downy at the base; laciniated all round; down of the feeds very apparent. 37. C. fibirica, Linn. Sp. Pl. 20. Mart. 21. Lam. 41. Willd. 55. Pallas it. vol. i. p. 43. Gmel. Sib. vol. ii. tab. 42. fig. 2. (Cyanus

fibirious; Gært, vol. ii, p. 383.) "Calyx-feales egg-fhap- downy; ftem one-flowered," Lam. "Calyxes ferrated, ed, obtuse, ciliated; leaves downy on both fides, pinnatifid and undivided : stem declining." Root perennial. Stem from fix to nine inches high, quite fimple, rarely furnished with a fingle branch, fomewhat furrowed, pubefeent. Leaves lanceolate; root ones generally pinnatifid; lobes turned upwards, entire, terminal one very large; stem-leaves mostly five or fix, the uppermost generally undivided. Flower purple or flesh-coloured, often single, with a large ray of barren florets; calyx swelling. A native of Siberia. 38. C. seffilis, Willd. 56. "Calyx-scales ciliate-ferrated; flowers fessile; leaves all pinnatifid, hoary; stem none." Root perennial. Leaves an inch and a half long, petioled; fegments lanceolate, rather obtuse, quite entire in the upper part, auricled towards the base with an obsolete tooth; terminal one larger, egg-shaped, somewhat toothed. Flowers purple, five or fix, fessile on the crown of the root, not at all peduncled; calyxes oblong. A native of Armenia. 30. C. elongata, Willd. 57. Schousboe Moroc. p. 199. "Calyxscales scarious at the tip, serrated; leaves scabrous at the edge; root-ones oblong toothed; stem-ones lanceolate, fomewhat decurrent, quite entire." Root perennial. Flowers pale violet; disc twice the length of the ray; calyx eggshaped; lower scales toothed at the tip, mucronated; upper ones encreased with a searious toothed scalelet. A native of Barbary. 40. C. trinervia, Willd. 59. "Calyx scales ciliated; leaves linear, downy, three-nerved, quite entire; stem erect." Stem downy; branches few, fastigiate, oneflowered. Leaves an inch or an inch and a half long. Flowers purple. A native of Siberia. 41. C. nigrescens, Willd. 28. "Innermost calyx-scales scarious; root-leaves obsoletely pinnatifid; lower stem ones somewhat toothed at the base, upper ones undivided, quite entire." Root perennial. It differs from C. nigra, in having a radiate flower, and calyxfeales ciliated, not feathery; from C. jacea in having a ciliated calyx, root-leaves often obscurely pinnatifid, and the lower stem ones often deeply toothed at the base. A native of Hungary and Austria.

IV. Cyani. Calyx-scales ciliate-serrated, not scarious.

(Cyanus and Jacea; Juff.)

42. C Triumfetti, Mart. 67. Willd. 29. Allion. ped. n. 579. (Cyanus; Triumf. Obf. 26. Misc. taur. 5. p. 68.) "Calyxes ferrated; leaves sessile, downy, lanceolate, finnatepinnatifid." Willd. "Calyxes ferrated, with white ciliæ; leaves decurrent, deeply pinnatifid; pinnæ generally two." Allion. Root perennial. Stem fimple or branched; branches one-flowered. Leaves two inches long. Flowers purple. A native of mount Cenis. 43. C. cheiranthifolia, Willd. 30. Phytog. 12. n. 42. tab. 7. fig. 2. (Cyanus orientalis, anguftifolius, incanus; flore magno, citrino; Tourn. Cor. 32.) " Calyxes ferrated; leaves downy; root-ones pinnatifid; ftem ones feffile, linear, fomewhat toothed; stem one-slowered." Root perennial. Flowers yellow, with a large ray; calyx-scales sphacelated at the edges. A native of Armenia. 44. C. ochroleuca, Willd. 31. (Cyanus orientalis, flore maximo, citrino, Tourn. Cor. 32.) "Calyxes ferrated; leaves oblong, ferrated, decurrent, and undivided." Root perennial. Flowers pale yellow, twice as large as those of C. montana. A native of mount Caucasus. 45. C. atrata, Willd. 32. (Cyanus orientalis folio virescente dentato; slore magno; Tourn. Cor. 32.) "Calyxes ferrated, fphacelated; leaves lanceolate, fessile, smooth, toothed." Root perennial. Stem seven or eight inches high. Leaves an inch and a half long, green; younger ones woolly at the edge. Flowers blue; calyx-scales black, with white teeth. A native of Armenia. 46. C. variegata, Lam. 29. (C. axillaris, Willd. 33. C. feufana, Villars delph. 3. p. 52. Suter helv. 2. p. 205.)
"Calyxes ciliated, variegated; leaves fessile, linear,

leaves hoary, lanceolate, decurrent; lower ones finuatetoothed at the base; peduncles axillary and terminal," Willd. Root perennial. Stem from five to feven inches high, quite fimple, cottony. Leaves about three inches long, two lines broad, entire, a little undulated, cottony and whitish on both sides; lower ones a little sinuated; upper ones shorter, more distant from each other. Flower fine blue, large, terminal; calyx scales smooth, green at their bafe, blackish at their edges, furnished with large, palmated, brilliant, filvery cilie. Lam. A native of mountains in the fouth of Europe. 47. C. montana, Lian. Sp. Pl. 13. Mart. 14. Lam. 28. Willd. 34. Eot. Mag. t. 77. (Cyanus, Bauh. pin. p. 273. n. 1. Bocc. muf. 2. p. 20. tab. 2. Hall. helv. n. 190.) "Calyxes ferrated; leaves smoothish, lanceolate, quite entire, decurrent; stem fimple." Root perennial. Stems upwright, fimple, when cultivated often a little branched, entire, decurrent, foft. Flower blue, purple, or white, refembling that of the next species, but larger, terminal; calyx-scales light green, black at the edges, with fhort, black ciliæ; those at the tip longer, brownish, a little recurved. A native of mountains in Germany, Switzerland, and the fouth of France. 48. C. Cyanus, Linn. Sp. Pl. 14. Mart. 15. Lam. 30. Willd. 35. Eng. bot. 277. Curt. Flor. Lond. Tab. 62. Mart. Flor. rust. tab. 3. (Cyanus segetum, Bauh. pin. 273. n. 2. Tourn, p. 446. Cyanus vulgaris, Lob. ic. 546. Brackw. tab. 270. Hall. helv. n. 191.) Corn blue-bottle. "Calyxes ferrated; leaves linear, quite entire; lower ones toothed; ftem branched, many-flowered," Lam. Root annual, fibrous, black. Stem erect, much branched, somewhat woolly. Leaves linear-lanceolate, acuminate, fomewhat woolly; root-leaves entire; lower stem-leaves often pinnatifid or toothed; upper ones always entire. Flowers terminal, folitary, peduncled; florets of the disc purplish, regular; anthers black; florets of the ray funnel-shaped, always blue when wild, but when cultivated it varies with almost all colours except yellow; calyx egg-shaped; scales lanceolate. Seeds even; down many-leaved, unequal, scabrous, reddish. A well known weed growing in corn fields in the fouth of England and many other parts of Europe, and for its beauty often cultivated in gardens. A blue water-colour is eafily prepared from the expressed juice of the neutral florets, mixed with a little cold alum water; but it is not durable if exposed to the action of light. A water is also distilled from them in France, which is faid to remove inflammations of the eyes. 49. C. virgata, Lam. 37. Willd. 36. "Calyxes ciliated, fmall, fomewhat cylindrical; fcales narrow-lanceolate, coloured at the tip; branches slender, long, rod like," Lam. Branches fomewhat scabrous, striated. Leaves small, cinercousgreen; lower ones half an inch long; fegments narrow, linear, revolute at the edges, fometimes with one or two teeth; upper ones linear, entire. Flowers purple, small florets of the ray shorter than those of the disc. A native of Armenia. 50. C. ovina, Willd. 37. Pallas. " Calyxes ciliated; fcales ovate-lanceolate, fpreading at the tip; lower leaves bipinnatifid, lanceolate-linear; upper ones pinnatifid; stem branched, divaricated." An intermediate species between the preceding and following. Whole plant green, woolly-pubefcent. Florets of the ray longer than those of the disc. A native of Mount Caucasus. 51. C. paniculata, Linn. Sp. Pl. 15. Mart. 16. Lam. 36. Willd. 38. Jacq. Aust. tab. 320. (C. micranthus, Gmel. it. 1. tab. 23. fig. 1. Stæbe, Bauh. pin. p. 273. n. 3. Jacca foliis candicantibus, Tourn. Inft. p. 444. Morif. hift. tab. 28. fig. 15.) "Calyxes ciliated, egg-shaped; scales slat, closepressed; lower leaves bipinnatisid; upper ones pinnatisid: item panicled." Rost annual. Stem a foot and a half high,

angular, hard, flender. Flowers fmall, purple; pistils white. A native of the couth of France, Auffria, Italy, Spain, and Siberia. 52. C. maculofa, Lam. 35. Gmel. Sib. 2. p. 99; 1. 79 and 80. Tab. 44. fig. 1, 2. "Calyxes ciliated, ovate-roundish, beautifully spotted; leaves slender, bipinnatifid; flem a little panieled." Stem from eight to ten inches high, flriated, whitifh. Leaves whitish, more finely cut than thefe of the preceding species; lower ones oblong, bipinnatifid; upper once fmaller, fimply pinnatifid; fegments linear. Floreers purple; calyxes large, thort; feales marked with brown spots at their tip. A native of the fouth of France, 53. C. (pinofa, Linn. Sp. Pl. 16. Mart. 17. Lam. 38. Willd. 39. (Jieca cretica aculeata incara, Tourn. 445. exot. tab. 162.) "Calyxes ciliated; root-leaves undivided and pinuatifid, fmooth; flem-leaves downy, pinnatifid; branches spinous." Root perennial. Stem from fix to eight inches high, cottony, whitish, much branched, panieled; branches diverging, stiff, terminating in stiff thorns. Flowers Aeth-coloured, fmall, oblong; feales of the calyx acute, flightly ciliated. A native of Candia. 54. C. ragufina, Linn. Sp. Pl. 17. Mart. 18. Lam. 32. Willd. 40. Bot. mag. 494. (Cyanus ragufinus, Gært. Jacea Epidavirica, Tourn. 4;5. I. ragutina, Zan. hill. tab. 43. Stabe, Bar. ic. 30%) 6 Calyxes ciliated; leaves downy, pinnatifid; fegments obtule, egg-shaped, quite estire; outer ones largest." Root perennial. Stem perennial, near 3 feet high, commor ly fimple, cortony. Leaves remaining all the year alternate, cottony, very white, foft; terminal lobe large, roundifh. Flower yellow, large, terminal; barren florets not larger than the others. Calyx cottony; feales acute, a little ciliated; inner ones terminated by a scarious, lacerated, ciliated appendage. A native of Ragusa and the ille of Candia. 55. C. cineraria, Linn. Sp. Pl. 18. Mart. 19. Wild. 41. (C. candidiffima, Lam. 33. Jacea montana candidiffima, Bauh. pin. 272. Tourn. 444. Morif. hift. 3. tab. 26. fig. 20.) " Calyxes ciliated; leaves downy, very white, all compound; the lowest bipinnatifid; the highest pinnate-laciniated." Lam. Root percunial. Stem about a foot high, cottony, with two or three foort branches near the fummit. Leaves petioled, foft; fegments acute. Flowers purple, large, terminal, folitary; calyx roundish; apparently sessile, the stem being leasy to its base. According to La Marck it is the C. Triumfetti of the royal garden of Paris. Is it specifically different from our n. 42? A native of Italy. 56. C. cinerea, Lam. 34. Willd. 42. (C. cineraria, β. Linn. Jacea cineraria laciniata, flore purpureo, Trium. Obf. 72. Tourn. 444. Morif. hift. 32. p. 141. n. 21. Jacq. hort. 72. Stæbe, Barr. ic. 347?) "Calyxes ciliated, leaves fomewhat downy, einercous; ·lower ones pinnate-laciniate; upper ones fimple." Lair. Root perennial. The whole plant less white than the preceding species. Stem near a foot and a half high, angular, a little panieled in its upper part. Root-leaves on long petioles, fmoothish above, cinereous underneath; fegments oblong-lauceolate, obtufe. Flowers purple, only half the fize of those of the preceding species. A native of Italy. 57. C. dealbata, Willd. 43. " Calyxes ciliated; leaves downy underneath; root-leaves bipinnatifid; fegments lanceolate, acute; flem-leaves pinnavifid." Willd. Root perennial. Root-leaves a foot long and a more, on long petioles, fmooth and deep, green above, fnow-white with down underneath; them-leaves an inch and a half or two inches long. Flower purple, large. A native of Iberia. 5S. C. argentea, Linn. Sp. Pl. 10. Mart. 20 Lam. 39. Willd. 44. (Jacea erctica laciniata, Tourn. Cor. 2. Barr. ic. 218. Argentina, Alp. exot. 116.) " Calyxes ferrated; leaves downy; root-ones pinnated; leaves oneeared." Root perennial. Whole plant cottony, very white.

Stem scarcely a foot high. Root-leaves with nearly equal eggthaped leaflets, having only one lobe on the lower fide of the bale; flem-leaves fimple, wedge-shaped, with an obtuse tooth on one fide at the base. Flowers yellow, only half the fize of those of C. ragusina. A native of Candia. 59. C. abrotani-"Calyxes critated, pale-leaves bipinnatifid, linear-brittlestriated, angular, leafy its whole length; branches simple, forming a corymb. Leaves numerous, finely cut, like those pinnated. Piococis terminal, folitary, refembling those of C. pawculata, but smaller. Communicated to La Marck by Justieu, supposed to be a native of Spain. 60. C. semperwiren, Linn. Sp. Pl. 21. Mart. 22. Lam. 46. Willd. 45. (Jacca lufitanea fempervirens, Tourn. 444. Morif. Hill. tab. 28. fig. 9. Bocc. Sicc. tab. 39. fig. 3.) "Calyxes ciliated; leaves lanceolate, ferrated; lowest tooth elongated, fo as to appear like a tlipule." Root perennial. A kind of evergreen thrub, a foot and a half or two feet high. Stem cylindrical, greyith; branches pubefcent, thick fet with leaves. Leaves greenith, a little pubelcent, foft, toothed, and narrowed at their base. Flowers purple, terminal, solitary: peduncles thickened towards the base of the calyxes; calyxfeales fmooth, ciliated at the tip. A native of Portugal. 61. C. intylacea, Lam. 47. Mart. 70. Hort. Kew. 3. 259. (Jacea rubra folis intybaceis, Barr. Ic. 1229?) (3 Centaurea fegments linear." 3. "Leaves narrower, downy underneath, fomewhat hoary." Root perennial. Stem near two feet high, upright, hard, firiated, branched. Leaves large, almost without hairs, rough to the touch. Flowers purple, fleshcoloured, or white, terminal. A native of the fouth of Europe, on the borders of fields, and in dry pattures. 62. C. Jeabiofa, Linn. Sp. Pl. 22. Mart. 23. Lam. 45. Willd. 47. Eng. Bot. 56. (Scabiofa, Bauh. Pin. p. 269. n. 2. Jacea vulgaris laciniata flore purpureo, Tourn. 443. J. nigra laciniata. Morif. Hit. tab. 28. fig. 10. Cyanus, Hall. Heiv. n. 186.) Greater knapweed. " Calyx-scales ciliated, pubescent. egg-shaped; leaves pinnatifid; fegments lanceolate, sometimes toothed, a little hairy." Root perennial. Stem two three feet high, creet, branched, furrowed. Flowers purple, large, terminal, folitary, peduncled; florets of the ray elongated; fegments linear, narrow; down unequal, rather Icabrous. Smith. A native of England, and other parts of Europe, chiefly on a calcareous foil. 63. C. Kartfebiana, Mart. 68. Scop Car. n. 1027. tab. 55. " Calyxes chiated with spines; leaves pinnated; pinnæ tessile. Ianceolate, decurrent, ending in a point. Stem angular, fmooth, branched. Leaves all pinnated; pinnæ two or three pairs; terminal one larger than the reft. Flowers reddith; calyx-feales yellowish-green, thriated, egg-shaped, smooth, ciliated with spines above the middle. A native of the fouth of Europe. 64. C. coriacea, Willd. 46. Waldit. and Kitaib. pl. rar. Hung. " Calyxes ciliated, fmooth; leaves pinnatifid, feabrous; fegments oblong, lanceo ate, acute; higher of the root ones fometimes cut at the bale." Root perennial. Very nearly allied to C. scabiosa, but the leaves are much broader and coriaceous, the flowers larger, and the calvxes fmooth. A underneath, pinnatifid; fegments ianccolate, fometimes toothed. Nearly alied to C. scabiosa. Rost p-rennial. Rootleaves oblong, entire, or toothed, petioled; lower them ones pinnated; leathets petioled, lanceolate, toothed towards the base ; upper ones pinnatistid ; segments lanceolate, quite entire, termical, one-toothed; uppermost lanccolate, quite entire. Flowers yellow; calyx-scales smooth, yellowish. A native of Tartary. 66. C. flooke, Linn. 24. Mart. 25. Lam. 42. Wild. 40. (Stebe, Banh. Pin. 273. n. 7. C. austriaca humilis, Clust. His. 2. p. 10.) "Calyxes ciliated, oblong; leaves pinnatishd, linear, quite entire." Root perennial. Stemear three feet high, branched; branches slender. Leaves some pinnatishd, others entire and linear. Flowers solitary, terminal. A native of Austria. 67. C. acaulis, Linn. 25. Mart. 26. Lam. 43. Willd. 110. (Jacea, Shaw As. 342.) "Calyxes ciliated; leaves lyrate; stem scarcely any." Flower yellow, oblong, solitary; calyx-scales with white cilies. A native of Arabia. The root is sweet and esculent, and called toss by the Arabs.

V. Cyanoidea. Calyx-scales bristly-ciliated; tristles recurved

or ered. (Cyanus & Jacea, Juff.)

68. C. phrygia, Linn. Sp. Pl. 8. Mart. 7. Lam. 19. Willd. 15. (Jacea, n. 7, 8, 9. Bauh. Pin. Cyanus, Hall. Helv. n. 188.) " Calyxes recurved-feathery; leaves oblong, undivided, scabrous, mucronate-ferrulated." Root perennial. Stem a foot and a haif high, fomewhat fhrubby, angular, friated, pubefcent, branched towards the fummit. Leaves greenish, rough to the touch; root-oves long, lauccolate, toothed, narrowed into a petiole towards the bale; flemones embracing the stem, lanceolate, toothed, with a longer tooth, appearing like an ear, at the base. Flowers purple, terminal, folitary; calyx-feales oblong, fmooth, yellowith; ending in a brown, lanceolate lamina, twice or thrice as long as the scales themselves, with two rows of rusous cilia, having the appearance of a reflected feather. A native of Germany, Switzerland, and the fouth of France. 69. C. falicifolia, Willd. 16. " Calyxes recurved-feathery, top-shaped; leaves oblong, undivided, fcabrous, mucronate-ferrulated; ftem fimple." Root perennial. Stem a foot or a foot and a half high, furrowed, angular, woolly-pubefcent above. Leaves with white veins; root and lower item ones long, egg-ihaped, petioled; upper ones oblong, feffile. Flowers few, generally two, terminal; lower scales of the calyx ciliated; upper ones recurved-feathery. It differs from C. phrygia chiefly in the itructure of the calyx. 70. C. austriaca, Willd. 17. (C. phrygia, Jacq. Rind. 167.) " Calyxes recurved-feathery; leaves egg-shaped, undivided, scabrous, grossly toothed." Root perennial. Eafily diftinguished from C. phrygia by its grossly toothed egg-shaped leaves; and by its roundish, scarious, inner calyx feales. 71. C. pedinata, Linn. Sp. pl. 9. Mart. 11. Lam. 24. Willd. 18. (Jacea montana incana afpera, capitulis hispidis.) "Calyxes recurved feathery; leaves mucronateferrated; lower item ones finuate pinnatifid; upper ones, and those of the branches undivided." Root perennial. Stem scarcely a foot high, angular, branched, a little woolly. Leaves oblong, embracing the stem, auricled at the bate, lyre-shaped, slightly cottony, whitish. Flowers purple, terminal, folitary. A native of the fouth of France and Hungary. 72. C. capillata, Linn. 10. Mart. 8. Lam. 22. Will. 19. (Cyanus, Act. Gott. 1. 202. tab. 6.) " Calyxes recurvedfeathery : lowest leaves pinnated, toothed ; upper ones lanceolate." Stem four or five feet high, hard, angular, branched. A native of Siberia. 73. C. puliala, Linn. Sp. Pl. 12. Mart. 13. Lam. 27. Willd. S5. (Cyanus humilis hieracii folio, Tourn. 446. Cyanus puilatus, Gært. Jacea humilis alba, Bauh, Pin. 271. Morif. hif. tab. 28. fig. 18. Lob. Ic. 542.) "Calyxes ciliated, furrounded by a whorl of long leaves; leaves lyrate, toothed, obtule." Root annual. Leaves from the root, oblong, lyre-shaped, green, slightly villous, spreading on the ground; fegments short, obtuse; terminal one almost round. Flowers pale purple, three or four in the centre of the leaves, at first almost fessile, but having their peduncles gradually lengthened into simple stems, a Vol. VII.

little villous, declining, and longer than the root-leaves; calyx-scales green, bordered with black : terminated, by long yellowish, recurved-feathery ciliæ. When cultivated, the flem becomes two feet high, branched, and leafy. A native of the fouth of France, Spain, and the Levant. Willdenow has inferted this species in the next division. 74. C. involucrata, Willd. 20. Desfon. Atl. 2. 295. " Calyxes recurved-feathery, leafy at the base; leaves slightly toothed; root-leaves pinnatifid; flem ones lanceolate, petioled.' Stems a foot high, feveral, fimple, or branched, itriated, pubefcent, fome erect, others decumbent at the bafe. Leaves pubefcent; them ones obtule. Flowers yellow, folitary, terminal, fometimes axillary and feffile; barren florets larger, three or four-cleft; calyx oblong, with an involucre of lanceolate leaves; feales pale yellow, linearlanceolate, acute, fometimes brown at the edge. Seed oblong, even; down briftly. Receptacle briftly. A native of mount Atlas. 75. C. uniflora, Linn. Mant. 118. Mart. 9. La Marck 20. Willd. 21. (Cyanus alpinus; Tourn. 445. Hall, helv. n. 189. Bocc. Muf. 2. tab. 2.) "Calyx recurved-feathery; leaves lanceolate, fometimes toothed; downy." Root perennial. Stem near a foot high, simple, cottony, one-flowered. Leaves parrow lanceolate, cottony, whitish, fost to the touch, some entire, others thinly toothed. Flower purple, large, terminal, fessile, surrounded by bractes at its base. A native of the South of Europe. 76. C. flofculofa, Willd. 22. " Calyxes recurved-feathery; flowers without a neutral ray; leaves hairy, lanceolate, remotely toothed." Roct perennial. Stem simple, one-flowered, hairy. Leaves an inch and a half long, not downy, but cloathed on each fide with numerous, short, erect hairs. Flowers purple. The habit of the preceding species, but differs in the leaves and flowers. A native of Italy. 77. C. trichocephala, Willd. 23. Gmel. Sib. tab. 45. fig. 1, 2. "Calyxes recurved-feathery, pubefcent; leaves linear-lanceolate, quite entire, scabrous." Root perennial. Stem scabrous. Nearly allied to the next species, but larger. A native of Russia about the Volga. 78. C. linifolia, Linn. Mant. 117. Mart. 10. Lam. 21. Willd. 24. (C. linarifolia; Lam. 23. Jacea hispanica pumila, linariæ folio; Tourn. 445. Bar. ic. 162.) "Calyxes recurved-feathery, fmooth, leaves linear; quite entire, hairy." Root perennial. Stems several, from fix to eight inches high, more or less upright, much branched, panicled, hairy. Leaves acute, small, numerous, sessile, whitish, rough to the touch. Flowers purple, terminal, fessile, folitary. A native of Spain and Italy. The linifolia and linarifolia of La Marck appear to be the same plant. He described the former from a living, the latter from a dried specimen, and was doubtful to which the synonym from Tournefort (hould be referred. 79. C. hyffopifolia, Willd. 25. Vahl. Symb. 1. p. 75. (Stæbe, Barr. ic. 306.) "Calyxes recurved-feathery, pubelcent; flowers without a neutral ray; leaves linear, quite entire; fiem fomewhat fhrubby." Root perennial. Stem about half a foot high, cylindrical, fomewhat scabrous, branched from the bottom. Leaves sessile, crowded, half an inch long, stiff, pale green, spreading at the tip, ending in a white point. Flower purple, egg-shaped, nearly fessile, terminal. A native of Spain. 80. C. cerono-pifelia. Latn. 25. Willd. 26. (Jacea orientalis anana coronop. folio flore lutco, Tourn. Cor. 32.) " Calyxes erect-feathery; flowers without a neutral ray; lower leaves pinnatind; upper ones linear; all quite entire; stem panieled." Root annual. Stem about a foot high, upright, flender, nearly smooth. Leaves cloathed on both sides with short hairs. Flowers yellow, terminal, folitary; calyx-scales lanceolate, briffly-ciliated, ending in a long, stiffish, expanding awn. A native of Spain. 81. C. nigra, Linn. Sp. Pl. 11.

Mart. 12. Lam. 18. Willd. 27. Eng. bot. tab. 178. Mart. much branched. Root-leaves lyrate; terminal lobe very large. Flor. Ruft, tab. 130. Flor. dan. 996. (Cyanus niger, Gært. tab. 161. fig. 4. Jacea nigra laciniata, Bauh. pin. 271. Tourn. 443. Lob. ic. 541.) Common knap-weed, knobweed, horfe-knops, or hard-heads. "Calyxes erect-feathery; leaves oblong; root ones fometimes pinnatifid, stem ones entire or flightly toothed." Root biennial. Linn. Lam Willd, but in England it is certainly perennial, woody, and fomewhat creeping; whole plant rigid, hard, fcabrous. Stem branched, angular. Lower-leaves often lyrate-angular or toothed, upper ones egg-shaped, often entire. Flowers purple, terminal, folitary, fessile; calyx globular; scales black, unguiculated; florets most generally equal, regular, all fertile. Seeds hairy; down thort, confitting of numerous scales. Dr. Smith. In the north of England it is almost always without by Ray and other botanists, to be frequently found with it. According to La Marck it has always, in France, an evident ray of barren florets larger than the others. Are there not two diffinct species, one biennial with a ray, the other perennial without one?

VI. Stabe. Calyn-scales with palmated spines at the tip.

(Seridia; Juff.)

S2. C. fonchifolia, Linn. 35. Mart. 38. Lam. 49. Willd. 3. (Carduus maritimus, Tourn. 441. Jacea laciniata fonchi folio, Bauh. pin. 272. Pluk. tab. 39. fig. 1. B. Pluk. tab. 94. fig. 1.) "Calyxes palmate-spinous; spines reflexed; leaves •blong, fmoothish, embracing the stem, half-decurrent, repand-toothed; teeth prickly." Root perennial. Stem a foot high, fimple or fometimes a little branched, green, flightly downy near the top. Lower-leaves petioled, undivided, lanceolate-egg-shaped; upper ones sessile, toothed towards the base; uppermost somewhat decurrent, lanceolate. Flower purple, large, terminal, folitary; calyx-scales green; spines yellowish. A native of the coast of the Mediterranean. 83. C. feridis, Linn. 36. Mart. 39. Lam. 50. Willd. 74. (Carduus hispanicus, Tourn. 442. Jacea foliis seridis, Bauh. pin. 272. J. latifolia, Pluk. tab. 38. fig. 1.) "Calyxes palmate-lpinous; fpines reflexed; leaves oblong, hoary, embracing the ftem, half decurrent, toothed, cut at the base; teeth rather prickly." Root perennial. Stems about a foot high, inclining, a little branched. Leaves thick, fleshy; lower ones near a foot long, sinuated like those of dandelion. Flowers very large, with a purple ray and whitish disc; calyx-spines nine or more, yellowish. A native of Spain. 84. C. romana, Linn. 37. Mart. 40. Willd. 75. (Jacea, Zan. hift. tab. 42. Cyanus, Barr. rar. tab. 504.) "Calyxes palmate-fpinous; leaves decurrent, not prickly; root ones pinnatifid, terminal lobe very large." Linn. "Calyxes palmate spinous; spines reflexed; leaves lanceolate, feffile, decurrent, hairy, scabrous, not prickly, finely toothed; root-leaves lyrate." Root annual, Linn. biennial, Miller; perennial, Willd. Stems three feet high. Flowers large, red; calyxes strongly armed with spines. Mill. A native of the Campania of Rome. Cultivated by Miller in 1768. S5. C. napifolia, Linn 40. Mart. 43. Lam. 51. Willd. 86. (Cyanus napifolius, Gært. Jacea, Herm. par. tab. 189. Pluk. tab. 94. fig. 2. Morif. hilt. tab. 26. fig. 20.) " Calyxes palmate-spinous; leaves decurrent, sinuated, somewhat prick'y; root-leaves lyrate." Linn. " Calvacs palmate-spinous; stem-leaves lanceolate, toothed, decurrent; root-leaves lyrate, obtufe." Willd. Root annual. Stem three feet high, branched. Lower-leaves not much unlike those of a turnip, rounded at the end, cut at the base into many fegments, diminishing gradually to the top of the ftem, and winged. Miller. Stem a foot and a half high, weak,

roundish-oval, finely toothed; stem-leaves small, oblong, narrow. Flowers purple, terminal; barren florets loofe, large; calyx-spines small, very weak, always reflexed. Lam. from a living plant. A native of Candia. Cultivated by Miller in 1759. La Marck is of opinion that this and the preceding are the fame species, and that one is not even a variety of the other. But as both are faid to have been cultivated by Miller; and as Willdenow appears to have formed his specific characters of both from living plants, we apprehend that this eminent French botanist must have fallen into an error, from having feen only one of them. 86. C. ferox, Willd. 76. Desfont. Atl. 2. tab. 242. "Calyxes palmate-fpinous; fpines reflexed, larger than the calyx; leaves hoary, oblong, feffile, decurrent, pinnatifid; teeth not prickly." Root perennial. Stem procumbent. A native of the coast of Barbary. 87. C. folstitalis, Linn. 46. Mart. 50. Lam. 59. Willd. 77. Eng. Bot. tab. 243. (Carduns stellatus, Bauh. Pin. 387. n. 4. Tourn. 440. n. 7. Rai Syn. 196. n. 16. Jacea, Morif. tab. 34. fig. 29. Calcitrapa, Hall. Helv. n. 193.) St. Barnaby's thiftle. " Calyxes palmare-spinous, terminal, solitary; spines ftraight; leaves lanceolate, decurrent, not prickly; root ones lyrate." Root annual. Stem near two feet high, alternately branched, winged by the decurrent leaves. Leaves flightly cottony, whitish; stem ones small, narrow, a little finuated or toothed; root-ones four or five inches long, deeply finuated or pinnatifid; with a large, more or lefs triangular terminal lobe. Flowers bright yellow, terminal, fearcely rayed; calyx, like the rest of the plant, cloathed with a cotton-like web; fpines yellowish; the middle one confiderably longer and stronger than the others. A native of the fouth of Europe, very rare in England. 68. C. verutum, Linn. 52. Mart. 56. Lam. 60. Wild. 111. Gouan Illust. 73. Jacq. Ic. Rar. i. tab. 178. "Calyxes palmate-fpinous; middle fpine very long; lateral ones fhort; root-leaves finuate-pinnatifid; ftem ones lanceolate, quite entire, decurrent." Root annual. Stem from one to three feet high, upright, winged, with a few simple branches near the top. Lower flem-leaves lyrate. Flowers yellow, large, terminal, folitary; calyx pubefcent; fpines yellowish. La Marck is inclined to confider it as only a variety of the preceding, although placed by Linnzus and most other authors in a different division. 89. C. melitensis, Linn. 47. Mart. 51. Lam. 62. Willd. 78. (Cyanus meliteniis, Gært. Carduus meliteniis capitulis conglobatis, Tourn. 442. Jacea, Bocc. Sic. tab. 35. Morif. Hift. iii. p. 145.) " Calyxes palmate-spinous; terminal ones clustered, sessile; spines straight; leaves lanceolate, scabrous, decurrent, not prickly; lower stem ones a little toothed; root ones sinuated." Root annual. Stem from five to ten inches high, a little woolly, fimple, or with only a few short branches. Leaves oblong, finuated, their terminal lobe obtuse, not angular, as in C. folfitialis; lower stem-leaves not decurrent. Flowers yellow; axillary ones fingle; terminal ones cluftered, two or three together, nearly fessile; calyx-scales brownish; the middle one not above one-third the length of that in folltitialis. A native of Malta and the fouth of France. This species was cultivated in the English gardens under the name of folititialis, till Dr. Smith pointed out the mistake in the Linnaan Transactions, vol. ii. p. 236. 90. C. Adami, Willd. 79. "Calyxes palmate-fpinous, folitary; fpines straight; inner scales scarious at the tip; leaves downy, lanceolate, decurrent; lower ones finely toothed, pinnatifid at the base." Root annual. Stem a foot high, branched, near the top, hoary. Leaves hoary on both fides. Flowers yellow, terminal; calyx-scales egg-shaped, green;

middle spine longer than the others; florets of the ray thorter than those of the dife. A native of Iberia. 91. C. Sieula, Linn. 48. Mart. 52. Lam. 63. Willd. 80. (Carduus melitenfis erucæ folio, Tourn. 442. Jacea cichorii folio, Bocc. Sic. 15. Morif. Hift. tab. 28. fig. 26.) " Calyxes palmate-spinous; spines spreading; leaves scabrous; stem-leaves lanceolate, a little embracing the stem, finely toothed; root ones lyrate." Root perennial. Stem a foot and a half high, angular, branched, flightly villous. a foot and a fiast flight, anguar, bratefied, flightly vineues. Flowers yellow, terminal; middle fpine of the calyx longer than the others, brown. A native of Sicily. 92. C. fpkerecephala, Linn. 38. Mart. 41. Lam. 53. Willd. 81, Clacea, Morif. Hilt. tab. 27. fig. 9.) "Calyxes palmate-spinous; leaves ovate-lanceolate, petioled, toothed." Linn. Root annual. Stem from one to two feet high, feeble, distinct the top line a few hypothes. Leaves wellly viding at the top into a few branches. Leaves woolly; root ones petioled, a little finuated or laciniated, Rem ones feffile, oblong, simply toothed. Flowers purple, terminal, folitary, often with one or two bracles. A native of the coalt of Barbary and Spain. 93. C. cafpitofa, Mart. 75. Cyril Rar. Neap. tab. 8. Vahl Sym. ii. 93. " Calyxes palmate-spinous; leaves sinuate-toothed; lower ones petioled; upper ones half embracing the stem." Root perennial, woody, dry, perpendicular, black on the outfide. Stems from one to two feet high, thickish, round, pubescent, striated; dividing from the bottom into numerous procumbent branches. Leaves flightly pubefcent; teeth mucronate, but not prickly. Flowers purple, terminal, folitary, of a strong disagreeable smell; surrounded at the base of the calyx with an involucre of from four to fix concave inflexed leaves, irregularly toothed, lanceolate-egg-shaped at the tip. A native of Italy, on the fea-coast near Naples, forming thick tusts in the fand. Willdenow supposes this and the preceding to be one and the same species. 94. C. Ifnards, Linn. 39. Mart. 42. Lam. 52. Willd. 82. (Calcitrapoides, In. Paris, 1719. Lam. 52. Willd. 82. (Calcitrapolues, Allie Adult) tab. 9.) "Calyxes palmate-fpinous, folitary, feffile; leaves lanceolate, a little embracing the tlem, pinnatifid-toothed." Root perennial. Stems ascending, about a foot long, commonly square, hairy, furrowed, branched. Lower leaves four or five inches long, fcabrous, especially at the edges; lobes rather prickly; upper ones smaller, often entire, or a little toothed. Flowers purple, terminal; calyx egg-shaped, fmooth. A native of the ifle of Jersey, and other parts of the fouth of Europe. 95. C. Iraminea, Willd. 84. (C. prolifera, Vent. Hort. Celf. tab. 16. C. glomerata, Vahl Sym. ii. 94. C. acaulis, Forsk. Descrip. 152.) "Calyxes palmate-spinous, terminal, sessile, glomerated; leaves petioled, pinnatisid, cut-toothed." Root annual. Stemless in its natural wild state; but when cultivated it has a short item. 96. C. polyacantha, Willd. 83. Calyxes palmatespinous; leaves embracing the stem, runcinate, pinnatifid, prickly toothed; root ones lyrate." Reof annual. Stem fix or feven inches high, ercet, flightly villous. Root-leaves hispid-scabrous, lyrate; segments oblong, toothed; terminal one large, roundish. Flowers purple; ray twice the length of the difc. Native country unknown. 97. C. Beterophylla, Wild. 87. "Calyxes palmate spinous; spines three; stem-leaves linear-filiform, quite entire; root ones lanceolate, toothed towards the base." Root probably annual, fimple, perpendicular. Stem fix or feven inches high, erect, scabrous, pubescent ; branches simple. Leaves hispid-scabrous; root ones rather acute, lessening into a petiole; ftem ones alternate, rather crowded, revolute at the edges. Flowers purple, rayed, terminal, folitary; calyx-fcales egg-shaped, close; spines yellow, awl-shaped, spreading, equal. A native of Spain. 98. C. aspera, Linn. 41. Mart. 44. Lam. 48. Willd. 88. (Stæbe squamis asperis,

Bauh. Pin. 273. Jacea, Bocc. Muf. ii. tab. 26.) " Can lyxes palmate-spinous; spines three or five; leaves lanceulate, sessile, toothed. Rost perennial. Stems from one to two feet long, procumbent when young, reddish, striated, rough to the touch, branched, diffuse. Root-leaves oblong, sinuated; stem ones small, narrow, rough. Flowers bright purple, fmall; calyx-spines very small, yellowish, or reddish. A native of the fouth of France, Italy, Spain, and Por-

VII. Calcitrapa. Calyx-spines compound or branched.

(Calcitrapa, Juff.) 99. C. Lenedica, Linn. 42. Mart. 45. Lam. 54. Willd. 89. Woodv. Med. Bot, tab. 42. (Cnicus benedictus, Gært. tab. 162. fig. 5. Cnicus fylvestris hirfutus; sive carduus benedictus, Bauh. pin. 378. Tourn. 450.) Bleffed thiftle. " Calyxes doubly fpinous, woolly, involucred ; leaves half-decurrent, toothed-spinous." Root annual, cylindrical, whitish. Stems feveral, a foot and a half high, reddith, woolly, branched. Leaves oblong, toothed, villous, bright green, with a white nerve; lower ones finuated; almost runcinated. Flowers yellow, terminal; involucre of ten leaves; five outer ones larger; calyx-spines pinnated; yellowish; storets of the ray small, trifid. A native of the south of France, Spain, and the Levant, flowering from June to September. This plant obtained the name of benedictus, or bleffed, from its supposed extraordinary medicinal virtues. It has an intenfely bitter tafte, and difagrecable fmell; and exclusive of the qualities attributed to other bitters, was thought, when taken internally, to be peculiarly efficacious in malignant fevers, and applied externally to heal cancers and carious bones. It has now lost much of its reputation, and does not feem to be effentially different from other simple bitters. An infusion of it was formerly employed to affift the operation of emetics, but the flowers of chamomile are now substituted for it with equal advantage. In loss of appetite, where the stomach has been injured by irregularities, its good effects have been frequently experienced. Cold water poured on the dry leaves extracts in an hour or two a light grateful bitterness; by standing long upon the plant the liquor becomes difagreeable. Rectified spirit in a short time extracts the lighter bitter, but does not take up the naufeous fo eafily as water. See Woodville's Medical Botany. 100. C. apula, Lam. 61. Willd. 90. Desfont. Atl. 2, 300. (Carduus stellatus luteus, capitulo minus spinoso; Tourn. 441.) " Calyxes doubly fpinous, globular, small; spinos small; root-leaves lyrate, obtuse; stem winged." Lam. Root annual. Whole plant pubescent. Stem about a foot high, branched. Root-leaves lyrate-pinnatifid; terminal lobe oval-obtuse; stem-leaves decurrent, oblong, rather narrow, entire or toothed. Flowers yellow, terminal; calyx-spines three; middle one longer, branched. A native of Italy and the coast of Barbary. 101. C. eriophora, Linn. 43. Mart. 46. Lam. 55. Willd. 91. (Carduus lusitanicus canescens, Tour. 441. Calcitrapa, Vaill. Act. 1718, p. 212. Cyanus eriophorus, Gært. 2, 3 42. tab. 161. fig. 4.) "Calyxes doubly fpinous, woolly; leaves half decurrent, entire and finuated; ftem proliferous." Linn. Root annual. Stem eight or nine inches high, with feveral branches on its upper part, which often rife higher than itfelf. Leaves light green, obtufe, with a spine-like point Flowers yellow, terminal, fomewhat globular; barren florets four-cleft, shorter than the others; inner scales of the caly:: fimply acuminate; outer ones ending in a yellow, fpreading fpine, half an inch long, armed with prickles on each fide. A native of Portugal. 102. C. agyptiaca, Linn. Mant. 118. Mart. 47. Lam. 56. Willd. 92. "Calyxes doubly fpinous, fomewhat woolly; leaves fessile, lanceolate, entire and toothed; stem proliferous." Root annual. Stem a foot high,

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diffusc, proliferously branched, spreading; branches alternate, flore minimo, Tourn. 31.) " Calyxes ciliate-spinous, eggfrom the axils of the upper leaves. Leaves alternate, feffile, or embracing the flem, fomewhat feabrous; lowest pinuatifid; middle ones lyrate; highest lanceolate. Flowers white, florets of the ray four-cleft, smaller than the others; calyxfpines purplish, slender, with two brittle-shaped small spines on each fide. A native of Ægypt. 103. C. calcitrapa, Cardung ttellatus, feliis papaveris erratici, Bauh. pin. 387.
Tourn. 440. Calcitrapa, Hall. helv. n. 194. Hippophæltum, Col. phyt. tab. 24. Calcitrapa hippophæltum, Gært. tab. 163. fig. 2.) Common star-thiltle. " Calyxes doubly spinous, sessile; leaves pinnatifid, toothed; stem divaricated, fpreading, hairy." Smith. Root annual. Stem low, much branched, furrowed. Leaves pale green, fometimes alternate, teeth fomewhat prickly. Flowers purple or white, lateral, feffile; florets of the ray fearcely longer than those of the dife, nearly regular; calyx-spines yellowish, divaricated, polished, three times the length of the scale, pinnated at their bafe with smaller spines. Seeds with searcely any down. A native of England and other temperate parts of Europe. The plant and root are both bitter, and are faid to be fometimes used by brewers instead of hops. The leaves are eaten by the Jews with their paschal lamb. They are given by the French physicians in the way of extract, decoction, or powder in agues and fevers. A decoction of the root in the proportion of from half an ounce to an ounce in fix ounces of water, is faid to be ufeful in diforders of the bladder and kidneys. 104. C. calcitrapoides, Linn. 45. Mant. 49. Lam. 58. Willd. 94. (Carduns stellatus, foliis intigris ferratis, Magn. Monfp. 292. Tourn. 440.) "Calyxes fomewhat doubly ferrated; leaves embracing the stem, lanceolate, undivided, ferrated." Nearly allied to the preceding, if not merely a variety. A native of the fouth of France, and of Syria.

VIII. Calcitrapoidea. Calyx-feales ciliated, terminated by a

simple spine. (Calcitrapa; Just.)

105. C. diluta, Mart. 71. Hort. Kew. 3. 261. "Calyxes ciliated; feales acuminate, fomewhat thorny; leaves oblong, pinnatifid; florets of the ray longer than those of the dife. A native of the fouth of Europe. 106. C. nicaenfis, Mart. 74. Willd. 95. Allion. ped. tab. 74. "Calyxes ciliate-fpinous at the tip; leaves oblong, embracing the stem, scaed." Root biennial. Stems a foot and a half high, firiated, angular, alternately branched. Flowers yellow; calyx-fcales dilated at the tip; fpine fliort, stiff. A native of the neighbourhood of Nice. 127. C. fufcala, Willd. 96. Desfort. Atl. 2. tab. 244. "Calyxes cil:ate-fpinous at the tip; leaves of the ftein lyrate-pinnatifid; of the branches pubefcent, lanccolate, formewhat toothed." A native of the coast of Barbary. 105. C. hybrida, Mart. 73. Willd. 97. Allion. ped. n. 5 /;. " Calyxes ciliate-spinous at the tip; leaves hoary, pmnatifid, quite entire; upper ones linear-laneco-late." Root biennial. Whole plant hoary-pubefeent. Rootyellow; of the ray violet; calyx-spines rigid, yellow. A native of hills about Turin. It has been supposed to be a mule between C. folstitialis and C. paniculata. 109. C. Squarrofa, Willd. 98. "Calyxes ciliate-spinous, cylindrical; scales reflexed at the tip; leaves of the stem pinnatifid; of the branches linear." Stem a foot high or more, erect, branched, panicled; branches fpreading. Flowers violet, folitary, or two together at the top of the branches. A native of the Lewant. 110. C. parviflora, Willd. 99. Desf. Atl. 2. 301. (C. diffufa, Lam. 70. Cardous orientalis calcitrape folio,

fhaped; feales reflexed at the tip; leaves hoary; root ones A native of the Levant, and of the coast of Barbary. 111. C. carulefeins, Willd. 100. (C. virgata; Cavan. ic. 3. tab. 320?) " Calyxes ciliate-spinous; leaves of the stem pinnated linear; of the branches linear." Stem a foot high, erect, smooth, pubescent near the top, surrowed, branched; lyxes oblong; feales egg-shaped, obtuse, with a long spine; inner ones scarious at the tip. A native of Spain. 1:2. C. jacobeafolia, Lam. 68. Willd. 101. "Calyxes ciliate-spinous: Flower yellow. Described by La Marck from a specimen in the herbarium of Juffieu. 113. C. reflexa, Lam. 67. Willd. 102. (Cardnus orientalis, calcitrapæ folio, flore flavescente odoratisimo) "Calyxes ciliate-spinous at the tip; spines obtuse; root-leaves bipinnated." Stem about three feet high, ercet, angular, deeply furrowed, branched. Leaves large. Flowers yellow, large; calyx-scales egg-shaped, ending in a long, Itill, thraight ipine; fpines of the lower ones thorter, weaker, reflexed. A native of Armenia. 114. C. ornata, Willd. 103. " Calyxes ciliate-spinous; spines of the lower feales reflexed; leaves very feabrous, pinnated, linear; pinnæ linear, mucronate; root-leaves bipinnated," Nearly allied to ciliated; inner ones with a fearious ciliated little feale at the tip, acute. A native of Spain. 115. C. eryngioides, Lam. 66. Willd 104. (Carduns eryngoides, capite ipinofa, Alp. the tip." Root perennial. Stem a foot and a half high, upright, simple, furrowed. Flowers purple, large, terminal; calyx-scales egg-shaped, with a strong spine half an inch long; inner ones with a fmall ciliated appendage at the tip. A native of the Levant. 116. C. centauroides, Linn. 49. Mart. 53. Lam. 64. Willd. 105. (Jacea lutea spinosa centauroides, Bauh. Pin. 272. Carduus centaurii majoris facie, feet high, angular, branched, cloathed with thort hairs. fouth of France, 117. C. collina, Linn. 51. Mart. 54. Lam. 272. Carduus luteus centauroides fegetum, Tourn. 441.) "Calyxes ciliate-spinous; stem-leaves pinnatifid; root ones bipinnatifid; fegments lanceolate." Root perennial. Stem two or three feet high, angular, nearly smooth, branched. Leaves large, greenith. Flowers yellow, rather large, termiand their terminal lobe is smaller. A native of Italy, Spain, and the fouth of France. 118. C. ruf-ylris, Linn. 50. Mart. 55. Lam. 69. Willd. 107. (Jacea lacinista lutea, Bauh. Pm. 272. Col. Eephr. 1. tab. 35. fig. 2. Morif. tab. 28. fig. 25.) "Calyxes ciliate-spinous; stem-leaves pinnated; root-leaves bipinnated; pinnæ linear-filiform." Root perennial. Stem fearcely angular, but little branched. Calyx-spines weak, shorter than the scale; inner scales scarious. Nearly allied to the preceding. 119. C. pubefeens, Willd. 108.

at the tip; ftem-leaves pinnatifid, linear-lanceolate; root ones bipinnatifid; fegments lanceolate, terminal one toothed." Root perennial. Stem a foot high, erect, furrowed, woolly, pubefeent, a little branched. Root-leaves about feven inches long, rather smooth, segments short, acute, entire; stemleaves three inches long; fegments linear-lanceolate, an inch long, quite entire, acute; upper ones shorter, undivided, linear-lanceolate, quite entire. Flowers yellow; calyx the fize of C. eriophora; scales pubescent, brownish at the tip. Described by Willdenow from a living plant. Native country unknown. 120. C. fordida, Willd. 109. "Calyxes ciliatedspinous; stem-leaves pinnated, quite entire; root-leaves bipinnatifid." Root perennial. Stem a foot high, erect, furrowed, branched at the base. Root-leaves three inches long, pubefeent; fegments fhort, lanceolate, acute: pinnæ of the ilem-leaves linear, acute, quite entire. Flowers dull purple, the fize of those of the preceding species. Willdenow, from a living plant. Native country unknown.

IX. Crocodiloidea. Calyx-scales not ciliated, terminated by a

fimple spine. (Crocodilium, Juff.)

121. C. falmantica, Linn. 54. Mart. 57. Lam. 71. Willd. 112. (Stæbe, Bauh. Pinax. p. 275. n. 1. Jacea foliis cichoraceis flore purpureo, Tourn. 444.) "Calyxes globular, fmooth; fpine very fmall, weak, a little reflected; leaves lanceolate, ferrated, root ones lyrate; stem divaricated." Root perennial. Stem three feet high, a little villous towards the base; branches simple, long, slender, striated. Lower leaves foft, very hairy, runcinate-pinnatifid; terminal lobe lanceolate, large, toothed; lower ones narrow, almost linear, toothed, fmooth, acute. Flowers purple or white, of a moderate fize, terminal, folitary; barren florets four-cleft, not larger than the others. A native of the fouth of France and Spain. 122. C. elegans, Mart. 76. Allion. Ped. tab. 49. fig. 1. "Stem fimple; leaves undivided, linear; flowers folitary, axillary, and terminal." Root annual. Stem a foot and a half high, cylindrical. Leaves linear, elliptical, hoary beneath, flightly toothed, ending in a fmall spine; lower ones opposite the others, alternate. Flowers blue. A native of Piedmont, in the vineyards. 123. C. aurea, Mart. 77. Willd. 113. Hort. Kew. 3. 265. Bot. Mag. 421. " Calyxes simply fpinous: spines spreading; florets equal; leaves hairy; lower ones pinnatifid." Root perennial. Stem two feet high, hairv. Leaves fessile. Flowers bright yellow, large, terminal. A native of the fouth of Europe; cultivated by Miller in 1758. 124. C. cichoracea, Linn. 53. Mart. 58. Lam. 72. Wild. 114. (Jacea, Rai. Sup. 203. Till. Pif. tab. 27.) "Calyxes briftly fpinous; leaves decurrent, undivided, terrated-spinous." Flowers small; calyx-spine recurved. A native of Italy. 125. C. muricata, Linn. 55. Mart. 59. Lam. 73. Willd. 115. (Jacea evanoides, echinato capite, Bauh. Pin. 272. Morif. Hitt. 3, tab. 26. fig. 18.) "Calyxes fimply fpinous, villous; lower leaves lyrate, toothed; upper ones lanceolate; peduncles very long." Root annual. Stem a foot high, or more, inclining, flightly vilious, a little branched. Flowers purple, rayed; calyx-scales lanceolate, black at the edges; spine brown, very sharp. A native of Spain. 126. C. peregrina, Linn 56. Mart. 60. Lam. 74. Willd. 116. (Centaureum, Boerh. Lugd. I. p. 44.) " Calyxes brittlyipinous; leaves lanceolate, petioled, toothed near the base." Root biennial. Flower yellow, large. A native of the fouth of Europe, 127. C. radiata, Linn. Syit. 65. Mart. 61. Lam. 75. Wild. 117. (Xeranthemum erucifolium, Linn. Sp. Pl. Ed. 2. Gmel. Sib. 2. tab. 47. fig. 1. Pal. It. 3. p. 682.) " Calyxes fearcely spinous, somewhat awned, rayed; leaves pinnatifid." Stem branched towards the fummit. Leaves as well as the flem furnished with white hairs,

(C. incana, Desfont, Atl. 2, 301?) "Calyxes ciliate-spinous toothed. Flowers white, almost cylindrical, terminal; inner calyx-scales long, forming a small ray. A native of Rushia, on the banks of the Don. Linnaus was at a lofs where to place this plant; and, after all, doubted whether it be not a species of Zægea. 128. C. nudicaulis, Linn. 58. Mart. 62. Lam. 76. (Carduns cerinthoides, Willd. 35. Jacea folio cerinthes, Tourn 445. Herm. Parad. tab. 190. Barrel. ic. 1258. Bocc. mus. 2. tab. 48.) "Calvxes brifflyfpinous: leaves undivided; upper ones fomewhat toothed; ftem fimple, nearly naked, one-flowered." Root perennial. Stem a foot high, upright, smooth, thriated; furnished near the base with two or three narrow, distantly toothed leaves. Root leaves egg-shaped, entire, petioled, a little hairy at the bale and along the petiole. Flower purple, terminal; calyxfeales smooth, blackish at the tip. A native of the fouth of France, Spain, and Italy. 129. C. Grocodilium, Linn. 57. Mart. 63. Lam. 77. Willd, 118. (Crocodilium, Vaill. Act. 1719. 183. Cyanus, Barr. 503. good.) " Calyxes fearious, fimply-spinous; leaves pinnatifid, quite entire; terminal fegment larger, toothed." Root annual. Stem a foot and half high, angular, rough to the touch; branches spreading; loofe. Flowers on long peduncles; barren florets large, purple; fertile ones whitish; calyx-scales whitish or filvery green; with a brown appendage, terminated by a sharp spine. A native of Candia and Syria. 130. C. pumila, Linn. 59. Mart. 64. Lam. 78. Willd. 119. (Crocodilium acaulon, Vaill. Act. 1719. 163.) "Calyxes fimply-fpinous; leaves pinnated, toothed, villous; stem none. Similar to C. acaulis (n. 66.) but the calyx-scales are not ciliated. Leaves fpreading on the ground. Flowers about three together, close to the root; barren florets scarcely longer than the others; calyx-scales smooth, membranous at their edges; spine short, yellowish. Found by Haffelquist in Egypt. 131.C. tingitana, Linn. Co. Mart. 65. Lam. 79. Willd. 120. (Cyanus, Hall. Goett. 370. Linn. Goett. 393. Cnicus, Herm. Ludgb. tab. 163.) "Calyxes spinous at the edge; leaves lanccolate, undivided, ferrated, somewhat spinous; stems one-flowered. Diftinguished, according to Linnæus, from Carthamus tingitanus and caruleus by its ray of barren florets; but La Marck suspects that the same plant has been affigned to two different genera. A native of the coast of Barbary about Tangier. 132. C. galadites, Linn. 61. Mart. 66. Lam. 80. Willd. 121. (Carduus tomentofus, capitulo minore, Bauhin. pin. 382. Carduus galacites, J. Bauh. hift. 3. 54. Tourn. 441.) "Calvxes brittly-spinous; leaves decurrent, finuated, fpinous, downy underneath." Entirely the habit of a thillle. Roct perennial. Stem a foot and a half high, branched, cottony, whitish. Leaves long, rather narrow, deeply pinnatifid, toothed, deep green, often variegated with white, milky veins or spets. Flowers purple or white terminal; barren florets large, cut into very narrow fegments. A native of the fouth of Europe, and the coatt of Barbary.

CENTAUREA fruticofa, Linn. See STEHELINA fruticofa. CENTAUREA majus, Tourn. See CENTAUREA.

CENTAUREA minus, Tourn. Sec GENTIANA, CHIRO-NIA, and CHLORA.

CENTAUREA minus, Rai. Sup. See ERANTHEMUM

Capenfe.

CENTAUREA, in Gardening, contains plants of the herbaceous annual and perennial kinds. It has been feen that the species are very numerous, but those most commonly cultivated are: the great purple centaury, (C. centaurium;) the perennial blue bottle, or blue batchelors button (C. montana;) the annual blue-bottle, or bottles of all forts (C. Cyanus;) the purple sweet centaury, or sweet Sultan, (C. moschata)...

The first fort has a strong perennial root, and a great number of long pinnate leaves, of a lucid green colour, spreading wide on every side proceeding from it; the peduncles are strong with the term of the peduncles. These together with the stakes, rise five or six feet high, having at each joint one small pinnate leaf of the same form with the others; each of the peduncles is terminated by a single head of purple flowers, considerably longer than the calyx, which come out in July, and in warm scasons, produce ripe feeds in this climate.

The fecond fort has a perennial root, running deep into the ground; the ftem is commonly, fingle, upright, oneflowered; fometimes, especially in a cultivated flate, it puts forth a branch or two; the leaves are quite entire, tomentofe; and the flower large and spacious. And there are varieties, with broad leaves, with narrow leaves, and the

dwarf perennial blue-bottle.

In the third the stem is from one to two feet high, angular, slightly tomentofe, branched at top; the leaves are numerous, white underneath, with three parallel ribs; the branches are one-flowered, flowering from June to August. It varies with blue flowers, with blue and white flowers, with purple flowers, with purple and white flowers, with flesh-coloured flowers, with helb-coloured flowers, with violet and white flowers; with violet-coloured flowers, with violet and white flowers, with red flowers, with double blue flowers, with double purple flowers, and with double purple and white flowers.

The laft fort is annual, and fends up a round channelled dalk near three feet high, which divides into many branches with jagged leaves, of a pale green colour, fmooth, and clofe to the branches; from the fide of the branches come out long naked peduncles, each fuftaining a fingle head of flowers, which have a very flrong odour, fo as to be offenfive to many people, but to others very grateful; they are purple, white, or flesh-coloured. It varies with purple flowers, with white flowers, with fish-coloured flowers, with purple fishulous flowers, with white fiftulous flowers, with fringed flowers and fawed leaves, and with bright yellow fishular flowers.

Method of Gulture.—These are plants which are raised with little trouble or difficulty. The first fort is capable of being increased by parting the roots, and planting them out in the early spring months or in the autumn, in beds or borders where they are to remain. And it, as well as the annual forts, may likewise be raised from seed, which in it and the second kind should be sown in the borders or clumps in March or the following month, the young plants being kept clean from weeds, and removed into other situations,

when necessary, in the following autumn.

The two last forts and varieties are also propagated by sowing the seeds in the open ground, where the plants are to flower, in the above season. They should be put in patches of fix or seven seeds in a place, covering them lightly in to the depth of half an inch. The latter of which may also be sown in the autumn as soon as the seeds are fully ripened, by which means they will slower at a much more early period in the following year. And the last or sweet sulfar kind, especially the yellow, which is rather tender, may also be rendered more forward by sowing the feeds under frames or glasses on gentle hot-beds in the early sping, removing the plunts to the open ground when of sufficient growth, with balls of earth about their roots or in pots. They are all proper for ornamenting the clumps and borders of pleasure-grounds; the two first being placed more backward in them, as growing to the largest fize.

CENTAURIUM minerale, among Chemifts, a name given by fome to the PANACEA of antimony, called also by Glau-

The first fort has a strong perennial root, and a great ber, purgans univerfule; the preparation of which is given tumber of long pinnate leaves, of a lucid green colour, spread-by Juncker.

CENTAUROIDES, in Medicine and Pharmacy, the fame with GRATIOLA. Others give the denomination to

the greater and are

CENTAUROPOLIS, in Ancient Geography, a fortrefs of Greece in Thesitaly; seated on Mount Ossa, near Tempe. The emperor Justinian is faid to have repaired its ruined

CENTAURS, in Alythology, a kind of fabulous monsters, half men, half horfes. The poets feign that the centaurs were the fons of Luion and a cloud. The reason of which faucy was, that the castle to which they retired was called National which signifies a cloud. Pind. Pyth. Od. 2. This

rable is differently interpreted.

The centaurs, in reality, were a tribe of Lapithæ, who inhabited the city Pelethronum, adjoining to mount Pemated by Virgil. Georg. lib. iii. ver. 115. Homer and Henod speak of centaurs. The first of these poets in his Iliad (l. i. v. 268, and l. ii. v. 740) and in his Odyssey (l. xxi. v. 205) calls them favages, or monthers covered with whereas the former fought without any defensive armour. represented the centaurs as half men and half borfer. "These monthers (says he) were the fruit of the amours of they refembled their father in the upper part of their body. racters were written in the year 778 B. C. in the boultrohalf horse, but represented as a man sultained upon two human legs and feet, with the croup-flanks and two hinder man leading a horse by the bridle rather than a cavalier mounted on horseback. M. Freret (Mem. Liter. t. 23.) fuggests, that the centaurs were herdsmen, who for a long time occupied with their herds the value of The Calv. The name feems evidently to be derived from xxxlew, flimulo, I who, having been driven away by Pirithous, fought a retreat in the country of the Œthici. Didymus, upon this and the the centaurs of mount Pelion were of the fame nation with herdsmen of Thesialy. The more ancient sculptures reprefent them as perfons who flood near horfes to hold them; and in process of time, and by means of a poetic or picturesque licence, they came to be represented as half men and

CENTAURUS, CENTAUR, from ZETZEUPS, formed of ZETTES, fungo; and ZEUPS, bull; q. d. bull-pricker, in Affronomy, a part or moiety of a fouthern conflelation, being one of the 48 old conflelations, in form, half man, half horfe; ufually joined with the Wolf. See Lupus. According to the fable of the Greeks, this was Chiron the centaur, who was the tutor of Achilles and Æfculapius, reprefented as half man and half horfe, because he had applied the art of medicine to the benefit both of men and of horfes. Others pretend that it is the symbol of pleasure, which reduces men to the similitude of beafts: but the origin of the allegory which has

placed

His hands hold a bottle full of wine, as a fymbol of the vintage, which occurs when the fun is near this confellation; and the feventh labour of Hercules is represented by his triumph on a furious animal, because the sun in the fign of Aquarius causes the minotaur monster or this constellation to disappear.

The stars of this constellation, in Ptolemy's Catalogue are 37; in Tycho's 4; and in the Britannic Catalogue, with Sharp's Appendix, 35. Among a great number of itars in the catalogue of La Caille, there is one, besides others of the first magnitude, which in 1750 had 215° 42' 29" of right ascension, and 59° 47' 8" of fouth declination. For an account of the comparative luftre of fome of the stars in this constellation by Dr. Herschel, see the Phil. Trans. for

1797, p. 314.

See CHLORA, GENTIANA, and CEN-CENTAURY. TAUREA.

CENTAURY, in Agriculture, is the name of a weed or plant, abounding in arable or other lands, and generally called blue-bottle. It is often very troublesome to extirpate from the lands on which it has established itself.

CENTELLA, in Botany, Linn. See HYDROCOTYLE

!labrata, and villofa.

CENTENARIENSIS, in Ancient Geography, an epif- arch above.

copal fee of Africa in Numidia.

CENTENARIUS, or CENTENIER, in the Middle Age, was an officer who had the government or command, with the administration of justice, in a village, or division, containing an hundred freemen. The centenarii were under the jurisdiction and command of a superior officer, called the count or comes. We find them among the Franks, Germans, Goths, Lombards, &c. On account of the diforders that prevailed in the ninth century, and the acts of violence that were fo commonly committed, as to be hardly confidered as criminal, the centenarii were required to take an oath, that they would neither commit any robbery themselves, nor protect such as were guilty of that crime. Before the time of Charles the Bald, the titles of count, duke, vicar, centenier, or thungin, were not hereditary in families. They had the management of the revenue and administered juffice in the provinces. They were at the fame time magistrates and military men. They convoked the ban and arrière-ban, affembled and conducted the troops to the places of general rendezvous.

CENTENARIUS is also used for an officer who had the command of a hundred men, more frequently called centu-

RION.

CENTENARIUS, in Monasteries, was an officer who had the fuperintendance of a hundred monks.

thousand sesterces; otherwise called CENSUS. CENTENIER. See CENTENARIUS.

CENTENINUM ovum. See Egg.

CENTER, or CENTRE, in a general fenfe, denotes a point equally remote from the extremes of a line, figure, or body; or the middle of a line, or plane, by which a figure or body is divided into two equal parts; or the middle direction of their length, the joints ought to be itrapped.

The beauty of every truss is to have as few quadrilaterals effects are equal on all fides of it. The word is x07700, as possible. All the openings should be triangles: the inwhich primarily fignifies a point; being formed from the verb xertur, pungere, to prick.

CENTER, in Architecture. This term is used to denote a frame of timber constructed for the purpose of supporting the stones or bricks forming an arch or vault during the erection. Thus the center ferves as a foundation for the arch to be built upon, which, at the completion of the

placed Centaurus among the confiellations is unknown, work, is firuck or taken down, and then the arch will fland of itself from its curved figure.

> The center of a large vault, fuch as that of a bridge, confids of truffed ribs, framed like thole of a roof, fet in parallel vertical planes, at the diffance of 5, 6, 7, or 8 feet, bridged over with horizontal purlines. In great works, a bridging is laid for every course of arch stones, with blockings between to keep them at proper distances. The vault-flones do not always immediately rest upon these bridgings: planks are fometimes put between that they may afterwards be cut away, in order to separate the center from the vaults, which must now support itself by the reciprocal preffure of its parts.

> If a center is truly confiructed, every point of the vault to be built ought to be supported, without giving any transverse thrain to the incumbent part of the center: but this is impracticable, for, as it would require fuch a multiplicity of joints, and, from the shrinking of the timber, it would be less sufficient than if composed of few pieces, supporting, only a certain number of points disposed at judicious diflances, leaving the intervals to be supported by timbers in which the fuperincumbent part of the arch will act transverfely, but will still present a sufficient resistance so as not to be materially bent or put out of form by the load of the

If the river over which a bridge is to be built is not navigable, the manner of constructing the center is so easy, that it would be unnecessary to give any examples here; but where the river is navigable, the center requires an opening in the middle for vessels to pass: this renders the construction more intricate by interrupting the horizontal tie, in-Read of which a number of ties are therefore disposed around the polygon, forming the interior part of the center; but as in many practical cases the most judicious and wellskilled theorist might be deceived as to the equilibrium of the arch to be supported, or the points on which it has the most tendency to fall in, it would, therefore, be difficult to fay what are ties and what are strutts; and even if the true pressure of the arch could be ascertained, the knowledge of this alone would not be fufficient; for the same parts of the vaults, in the process of execution, vary their pressure in every fucceeding additional part, and what was a tie at one time, becomes fometimes a strutt, and a strutt, on the contrary, a tie at another, either in building, or at the completion of the vault. This ought to be well confidered; and, where the preflure is doubtful, or any of the lengths of timber forming the center be ascertained to be in the two different states above mentioned, such timbers should be made to act in either cafe.

Though the timbers upon which the vault immediately CENTENARIUS was also used for a person worth a hundred rests cannot be supported transversely throughout, the other pieces, which support the arch from the several pressing points, may all be made to act by a judicious arrangement, in a direction of their lengths. The abutting joints, which are pressed, will be sufficiently resisted, when their shoulders are made perpendicular to the direction of their force, and with a very small tenant; but if the timbers are drawn in a

> terfection of the timber should be as direct as possible. Oblique pressures exert prodigious strains, which require timbers of very large fections to withstand them, and which prefs upon the abutments fo much as to make the whole truss sag by the compression of the intermediate

If proper attention be paid to these circumstances, and

the bearings of the timbers well afcertained, a center, confructed upon fuch principles, mult answer its intended purpole, provided that a proper estimate be taken of the communicating forces during the execution of the vault, and

that the center be well fecured at its abutment.

There are feveral principles of conftructing the ribs of centering; one of these may be that of a large truss, spanning the whole opening, having its vertex supporting the summit of the arch, and its rafters, or principal braces, supporting other subordinate trusses which resist the pressure of the arch

at other intermediate points.

Of this kind is that of the bridge of Orleans, by Mr. Hupeau, one of the boldest centers ever executed in Europe. Another principle is that of two independent truffes, one supporting the fides or haunches of the arch, and the other the crown. Of this conflruction was the centering of the nave and transepts of St. Peter's church at Rome, by Michael Angelo, and two centers by Pitot. Another principle of centering is that of infcribed equilateral polygons, that is, the exterior beams, supporting the curve, are of equal lengths, and joined together in the form of a polygon: another polygon is formed within this, having its angles in the middle of the fides of the former, and fo on, alternately until there are as many polygons inscribed as will make the centering fufficiently firong or ftiff: this mode of centering may be of two kinds. One, when the angles are fixed at their junction to the fides of the last, with bolts : double king-posts are put over the angles to prevent transverse strain at that section of the beams where the two pieces meet, and to support the curve above. The other kind is, when the polygons act independently of each other: these polygons are brought into action by kingposts, which support the curve, and act upon the angular points of each other's polygon. Of this kind were the centering of the bridges of Cravant, Nogent, Mayence, and Neuilly, constructed by Perronet. Though these centerings have been executed to very large spans, the last mentioned being 120 feet, their equilibrium is by no means fo fecure as when the angles of the inner polygon are fastened to that immediately preceding, as is evident from the information given of the erection of these bridges by the ingenious architect who has favoured the world with a treatife on this subject. Another principle of centering is that of Westminster and Blackfriars bridges, London. They confift of a feries of truffes, each supporting a point in the arch, the principal braces having their lower extremities abutting below at each end of the centering, on the ftriking-plates, and at the upper end, upon apron-pieces, which are bolted to the curve that support bridgings for binding the pieces which compose them together at their junction. There is one difadvantage under which this mode labours; that is the frequent intersection of the principal braces with one another: they must either be halved, upon each other, otherwife they mult be discontinued, and made in various lengths. Both of these diminish their lateral strength, and consequently make them much more liable to buckle than when whole; but of the two that of halving is to be preferred; as, by the braces being in one length, there can be no faging occasioned by intermediate joggles, and the braces may be rendered fufficiently fecure laterally, by running thraps longitudinally across the notched part on each fide, bolting these straps to the

Lally, another mode of centering may be that of a number of quadrilateral frames abuting on cach other, having their joints radiating to a center, in the manner of the wedgethones of an arch in mafonry. These frames should all be re-

folved into triangles by one or two diagonals, according to the kind of flrain, keeping in view that a piece, which is a tie in one diagonal, is, in the other diagonal, of the fame quadrilateral, a flrutt; but if the kind of flrain on any frame is not well afcertained, it would be better to place two diagonals halved upon each other. The frames are to be fecured to one another with keys or bolts; by this precaution each frame will be rendered quite immoveable.

Having now shown the principles upon which a good center may be constructed, we shall proceed to give

fome of the most approved examples.

Fig. 1, Plate LXVI. of Architeflure, is the manner of forming the rib for a center by two independent truffes; in this form of centering there is no occasion for bridles, or double king-posts, as in those of Pitot, of the same construction.

Fig. 2 The manner of forming a center by two polygons, of which the interior one is fecured to the exterior: in this there is no occasion for double king-polis, as the parts of the inferibed polygon either act as strutts, or ties to that of the circumscribing one.

Fig. 3, is the manner of constructing a center with three polygons, which are all secured to each other. In this, king-posts become necessary, otherwise the angles of the inner polygon would bend the sides of that next to it.

Fig. 1, Plate LXVII. is the manner of conflucting a center according to Perronct, with four polygons, irdependent of each other, but with this improvement, that the lower extremities of each ring of polygons are framed into the two abutments; this gives a much firmer bale than if they were all to meet at the fame place, and renders the center much stronger, by making the angles more acute. In this it becomes also necessary to have double king-potts, otherwise the exterior polygon would only be effective.

Fig. 2, is the manner of forming a center, as used at Weltminster and Blackfriars bridges, by independent trusses, consisting of two rasters. Whoever considers the principle of this center, must evidently see that there is no occasion for the double king posts, as the pressure is directed to the abutments, or to two opposite of the arch in the same level. In this example, the intersections are all supposed to be halved together, and firmly strapped across the notchings.

Fig. 3, is the manner of confiructing a center with feparate frames, the fides of which radiate to a center, as has

dready been intimated.

Fig. 1, Plate LXVIII. is the defign of a center; its principle is that of two roofs interfecting each other. In this example, the forces which are communicated to the various parts of the frame are refilled longitudinally, either by comprefion or extension; and no force is exerted transversely on any part, excepting the curved pieces in contact

with the boarding supporting the arch stones.

Fig. 2, is the defign of a center: it is first framed in one large trus, like a common roof, with two principal rafters, and a collar beam: each of the rafters becomes a tie for the two small trusses above which are framed in the manner of a roof with queen-posts and braces. The lower angles of the principal rafters are braced from the lower queen posts to the posts. This truss is free from transverse strains in all its parts, except the curve, which support the arch stones; and, if well secured at the abuttments, an arch of an immense weight may be creeked upon it.

Fig. 3, is the celebrated center used at Blackfriars bridge.

The names of the timbers are as follows:

A, Timbers which support the centering.
B, C, Upper and lower striking-plates cased with copper.
D, Wedge

D, Wedge between firiking-plates for lowering thecenter.

1. Double king-posts to confine braces.

F, Apron pieces to strengthen rib of center. G, Bridings laid on the back of the ribs

II, Blocks between bridgings to keep them at equal dif-

I, Small braces to confine the ribs tight.

K, Iron straps bolted to king-posts and apron-pieces. L, Ends of the beam at the feet of king-posts.

M. Principal braces.

In striking the center of a large arch, the best method is to let it down a little all in a piece, by eafing some of the wedges; it is there let to reft for a few hours or days, to try if the arch makes any efforts to fall, or any joints open or flones crush or crack, that the damage may be repaired before the center is entirely removed, which is not to be done till the arch ceases to make any visible efforts.

CENTER of Attack, in French centre d'attaque, or attaque du centre, in Military Language, is an attack on an extenfive front, from the fecond parallel upon the works of a ftrong place that is belieged, according to the rules or

principles of a regular attack.

CENTER of Attraction. See CENTER of Gravitation. CENTER of abaflion, in Fortification, is the middle point of its gorge, or angular point of the interior polygon, or the point where the two adjacent curtains would meet when produced.

CENTER, OF CENTRE, of a battalion on parade, in Military Language, is the middle of it, where an interval is left for

the colours; and fo on.

CENTER of cavity, in a ship, is the center of that part of the ship's body which is immerfed in the water; and which is also the center of the vertical force exerted by the water to support the vessel. See BALLAST.

CENTER of a circle is a point in the middle of a circle, or circular figure, from which all lines drawn to the circum-

ference are equal.

Euclid demonstrates, that the angle at the centre is double to that at the circumference; i. e. the angle made by two lines drawn from the extremes of an arch to the center, is double that made by two lines drawn from those extremes to a point in the circumference.

CENTER of a conic fection is the middle point bifecting any diameter, or the point in which all the diameters interfect

and bifect one another.

This point, in the ellipsis, is within the figure; and, in the hyperbola, without, or between the conjugate hyperbolas; and in the parabola, it is at an infinite distance.

CENTER of conversion, in Mechanics, a term first used by M. Parent. Its fignification is thus conceived: if a flick be laid on stagnant water, and drawn by a thread fastened to it, so that the thread always makes the same angle with the flick; the flick will be found to turn on one of its points which will be immoveable; which point is termed the center of conversion. For the greater ease the thread may be conceived fattened to one end of the Rick.

This effect arises from the relistance of the fluid, and the manner wherein it divides: for, imagine the first moment of traction, it is certain, here, the refistance of the parts of the fluid to be displaced tends to turn the flick around the point to which the thread is fallened, as on a center; fo that in the prefent instance, the staff would describe precisely the quadrant of a circle; after which the fluid would no longer bear the flick lengthwife; but in a particular motion, in such manner, as that the free end of the stick, and the parts nearest it, would describe larger arcs of circles than the rest, and have a greater velocity. The resistance, therefore, of the fluid, which tends to impress a circular motion the flick, around the point to which the thread is fal-

tened, tends to impress a greater velocity on the parts next to the other extremity; or, which is the same thing, those parts require a greater velocity to furmount the refistance of the fluid, fo that the flick will not have that circular motion around the point to which the thread is fakened; or the refistance of the fluid is greater towards the free extreme of the flick, and fill leffens towards the other extreme. Now all the columns, or threads of water, which refift the flick, must be supposed of the same length or the same mass. One may therefore find on the flick fuch a point, as that taking a great number of those threads on that fide which resists the least, and a less number on that side where they resist the most, there will be an exact compensation, and the forces be equal on each fide: this point is the center of conversion. And as the some reasoning has place in all motions of traction made in the same manner, this center is always the same point. The grand question here arising is, to know precifely in what point the center of convertion is found: this M. Parent has determined by much laborious calculation. If the flick drawn by one extremity be a ftraight line divided into twenty parts, reckoning from the thread, the center of conversion he finds will be nearly on the 13th. If it be not a line, but a furface or a folid, there will be fome change in the fituation of the center of conversion, according to the furface, or the folid. See Mem. of the Acad. of Sciences, abridged, vol. i. p. 191.

If in lieu of a body fwimming in a fluid, we suppose it laid on a rough uneven plane: the refistance of this plane to the motion of the body will always be divided in the fame manner, and determine the fame center of conversion. This relitance is, precifely, what we call friction, fo prejudicial to the effects of machines. See CENTER of rota-

CENTER of a curve, of the higher kind, is the point

where two diameters concur.

When all the diameters concur in the fame point, fir Isaac Newton calls it the general center. M. l'Abbé de Gua, in his "Usages de l'Analyse de Descartes," has given a method for finding the general centers of curves, and luggested some important remarks on the definition of general centers given by Newton. The ingenious abbé calls the general center of a curve a point of his plane, such that all the right lines which pass thither have on one side or other of this point equal portions terminated by the curve; and he observes: 1. That this definition corresponds with sufficient exactness to the ordinary acceptation of the word center: - 2. That the definition of Newton is comprifed in his own: and 3. That by adhering to his definition he has arrived at those conditions which Newton affigns to curves, which, according to him, have a general center; and hence it feems to follow, that Newton had in view the definition of M. l'Abbé de Gua rather than his own, when he determined these centers. M. Cramer, in his "Introduction à l'Analyse des Lignes courbes," gives a very exact method for determining thefe general centers.

CENTER of a dial, is that point where its gnomon or flyle, which is placed parallel to the axis of the earth, interfects the plane of the dial; and from thence, in those dials which have centers, all the hour lines are drawn. If the plane of the dial be parallel to the axis of the earth, it can have no center at all; but all the hour-lines will be parallel to the flyle, and to one another; the center being, as it were, at an

infinite distance.

CENTER of an ellipsis, is that point where the two diamaters, the transverse and the conjugate, and also all other diameters, interfect each other.

CENTER of the equant, in the Old Aftronomy, a point in the line of the aphelion; being as far diffant from the center

5.11.

center of the eccentric towards the perihelion.

CENTER of equilibrium, is the fame with respect to bodies bodies be suspended, they will reit in any position. More generally, in a fystem of bodies, it is the point about which fyllem of bodies were suspended or fullained by it, the faid fystem would remain in equilibrio. Thus, the fulcrum of a lever is its centre of equilibrium. For a method of determining the centre of equilibrium, fee Emerson's Mechanics, prop. 92, p. 134.

CENTER of friction is that point in the base of a body, on which it revolves, into which, if the whole furface of the base and the mais of the body were collected, and made to revolve about the center of the base of the given body, the angular velocity deflroyed by its friction would be equal to the angular velocity destroyed in the given body by its fric-

tion in the same time.

To find the center of frision. Let FGH (Plate IV. Mechanics, fig. 21.) be the base of a body revolving about its center C, and suppose about a, b, c, &c. to be indefinitely small parts of the base, and let A, B, C, &c. be the corresponding parts of the solid, or the prismatic parts, having a, b, c, &c. for their bases; and P the center of friction. It is manifelt, that the decrement of the angular velocity mult vary as the whole diminution of the momentum of rotation caused by the friction directly, and as the whole momentum of rotation or effect of the inertia of all the particles of the folid inverfely; the former being employed in diminishing the angular velocity, and the latter in opposing that diminution by the endeavour of the particles to perfevere in their motion. Hence, if the effect of the friction varies as the effect of the inertia, the decrements of the angular velocity in a given time will be equal. Now as the quantity of friction does not depend on the velocity, the effect of the friction of the elementary parts of the base a,b,c, &c. will be as $a \times a + b \times b + c$, $c \times c + c$, &c. and also the effect of the inertia of the corresponding parts of the body will be as $A \times aC^2$, $B \times bC^2$, $C \times cC^2$, &c. Now when the whole furface of the base and mass of the body are concentrated in P, the effect of the friction will be as a + b + c + &c. × CP, and of the inertia as A + B + C + &c. × CP'; confequently $a \times aC + b \times bC + c \times cC + &c.$ $: a + b + c + &c. \times CP :: A \times aC^2 + B \times bC^2 + C$ × (C2 + &c. : A + B + C + &c. × C P2; and hence 1 () . · (- C x , C + xe. x e $a \times aC + b \times bC + c \times cC + &c. \times A+$

b+c+ &c. = (if S = the fum of the products of each B+C+ &c.

particle into the square of its distance from the axis of motion, T = the fum of the products of each part of the base into its distance from the center, s = the area of the base, into its different foliable foliable t = the folial content of the body) $\frac{S \times s}{T \times t}$. See Vince on

the motion of bodies affected by friction, in the Philof.

Tranf. for 1785, vol. lxxv. p. 186.

CENTER of gravitation, or attraction, in Phylics, is that point to which bodies tend by gravity; or that point to which a revolving planet or comet is impelled or attracted by the force or impetus of gravity.

CENTER, in Mafary, denotes a wooden mould by which to turn an arch. See CENTER in Architefture.

CENTER of gravity, in Mechanics, is a point within a body,

of the eccentric towards the aphelion, as the fun is from the through which if a plane pass, the fegments on each fide will equiponderate, i.e. neither of them can move the other. Hence, if the descent of the center of gravity be prevented, continue at rest in equilibrio, in any position. The whole gravity, or whole matter, of a body may be conceived united in its center of gravity; and therefore, in demonstrations, it

> Through the center of gravity passes a right line, called the diameter of gravity: the interfection, therefore, of two

In homogeneal bodies, which may be divided lengthwife into fimilar and equal parts, the center of gravity is the fame with the center of magnitude. If, therefore, a line be bisected, the point of bisection will be the center of gravity.

The center of gravity of a parallelogram, or cylinder, or any prism whatever, is in the middle point of the axis: and the center of gravity of a circle, or any regular figure, is the fame as the center of magnitude. Also, it a line can be for drawn as to divide a plane into equal and fimilar parts, that line will be a diameter of gravity, or will pass through the center of gravity; and it is the fame as the axis of the plane. Thus, the line, drawn from the vertex perpendicular to the base of an isosceles triangle, is a diameter of gravity; and thus also the axis of an ellipse, or a parabola, &c. is a diameter of gravity. The centre of gravity of a fegment or are of a circle is in the radius or line perpendicularly bifecting its chord or base. Likewise, if a plane divide a sold in the same manner, making the parts on both sides of it perfeetly equal, and in all respects similar, it will be a plane of gravity, or will pass through the center of gravity. Therefore, as the interfection of two fuch planes determines the diameter of gravity, the center of gravity of a right cone, or fpherical fegment, or conoid, &c. will be in the axis of the same. See the sequel of this article.

To find the center of gravity of a body. Let A, B, C, D, &c. (Plate IV. Mechanics, fig. 22.) be particles of the body, and finding the centers of equilibrium, p and q, of A and B, C and D respectively (see BALANCE and LEVER); let A + B be placed in p, and C + D in q, and their center of equilibrium, G, will be the center of gravity of the particles A, B, C, D, &c. Because the force of gravity acts upon the particles in parallel directions, the efficacy of A to communicate motion to G is A x AG, and that of B is B x BG, or A X Ap + pG, and B X Bp + pG, which are equivalent to them, or A + B x pG, fince A x Ap and B x By are equal and opposite, and consequently destroy each other. The sum of the momenta of C and D is found, by a fimilar process, to be the same as if they were placed in q : and confequently G, which is the center of gravity of A + B and C + D, placed in p and q respectively, is the center of gravity of A, B, C, D, placed at the points A, B, C, D, &c. Hence it follows, that the particles of the body cannot be in equilibrio about any other point except G; for, if possible, let X be such a point, and it is plain that the efforts of A and B to move $X = A + B \times pX$, and of C and D = C + D × 7X; confequently the point X is kept in equilibrio by two forces, $A + B \times pX$, and $C + D \times qX$, not acting in opposite directions, which is impossible. Moreover, in every fituation of the body composed of the particles A, B, C, D, &c. if the point G be supported, the body will be at rest; for the force of gravity acting always in parallel directions upon the particles, their momenta, or efforts to move

G, will always be as A x A G, B x B G, &c. which, by the process used in this proposition, will always be reduced to two forces that are equal and opposite. Farther, if A + B + C + D, &c. be equal to Q, and the pressure of each in parallel directions be equal to q, a force, as Q x g, acting at the point G in a direction opposite to that in which the particles prefs, will remove their pressure. Or, if A, B, C, &c. be destitute of gravity, and only result the action of a force by their inertia, a force at P acting at G will communicate equal velocities to every particle; because their refistances, being exerted in directions opposite to that of P, and therefore parallel to each other, vary as their distance from G, and confequently the fums of the reliftances on each fide of G are equal. And, vice versa, if Q be moving and without gravity, a force applied at G (the center of inertia) equal to the momentum of Q, will destroy all mo- B \times $b \neq = o$. And, placing A + B in P, and repeating

The center-of gravity of a ship is always before the point, which is the middle of her absolute length; for the fore part, having greater capacity than the after part, must of course have also greater weight: and, therefore, it carries the center of gravity forward in proportion to its greater weight (which in large ships is from 50 to 80 tons), and also to the interval between every center of gravity of each particular part, both forward and aft. When a ship is at sea, and loaded, the center of gravity may well be supposed not to change, unless the cargo be moved. But experience shews, that the fore or after part of the bottom of a ship plunges and labours more and more, in proportion as the wind acts with more or less force on the fails: because ships are generally not mafted according to the " point velique;" fo that a ship which has the center of the effort of her fails ill-placed, draws always more water forward or aft, when the impulse of the wind upon her fails is very powerful, than when she is at ease under her burden. Obs. From the center of gravity of the floating line of a ship let a perpendicular be raised, and continued till it be interfected by the direction of the impulse of the water on the bows, in failing directly before the wind; and, where these two lines cut each other, that point is the " point velique," and where the center of effort of all the fails should be placed.

CENTER, common, of gravity of two lodies, is a point fo fituated, in the right line joining the centers of the two bodies, as that, if the point be suspended, the two bodies will equiponderate, and reft in any fituation. Thus, the point of fuspension in a common balance, or in a Roman steelyard, where the two weights equiponderate, is the common center

of gravity of the two weights.

When any number of bodies move in right lines with uniform motions, their common center of gravity moves likewife in a right line with an uniform motion; and the fum of their motions estimated in any given direction, is precifely the fame as if all the bodies, in one mass, were carried on with the direction and motion of their common center of gravity. Nor is the center of gravity of any number of bodies affected by their collisions or actions on ach other.

1. If one or more of the bodies, A, B, C, &c. (Plate IV. Mechanics, fig. 23.) move uniformly in the fame right line, with velocities equal to a, b, c, &c. their common center of gravity will move uniformly. For, let A and B move uniformly in the fame or an opposite direction, P be their center of gravity, and D their distance; then, because the motions of A and B are uniform, D either continues the fame, or increases and

decreases uniformly; but $AP = \frac{AP}{A+B}$ and confequently varies as D, and P moves uniformly. If another body, C, move uniformly in the same right line, and R be the center of gravity of A, B, C, the distance, C P, either continues the fame, or increases and decreases uniformly, be-

cause C and P move uniformly; but P R = $\frac{C^{\perp} \wedge C}{A + B + C}$; and confequently varies as CP, or R moves uniformly. Hence it follows, that the velocity of the center of gravity is

equal to $\frac{Aa \pm Bb \pm Cc}{A + B + C}$; for, let p, r, a, b, c, be contemporary politions of P, R, and the bodics, and (by what we shall demonstrate in the sequel of this article) A × Ap, or \times $\overline{Aa + ap} - B \times Bp$ or \times $\overline{bp \pm Bb} = \overline{A + B} \times Bp$, and $\overline{Pp} = \frac{A \times Aa \pm B \times Bb}{A + B}$, because $A \times ap = \frac{A \times Aa \pm B \times Bb}{A + B}$

the above process, it appears that Rr = the velocity of $R = \frac{A \times Aa \pm B \times Bb + C \times Cc}{A \times Aa \pm B \times Bb + C \times Cc}$. Hence again it is in-

A + B + Cferred, that the velocity of R is uniform; because Aa, Bb, Ce, are constant, and consequently their sum, or disserence, multiplied into the same given quantities, or the velocity of R, is always the fame. Moreover, because $A + B + C \times Rr = A \times Aa \pm B \times Bb \pm C \times Cc$, the velocity of the center of gravity is fuch as would be communicated to the fum of the bodies acted upon by a force equal to A imes Aa

2. If one or more bodies, A, B, C, &c. (fig. 24.) move uniformly in right lines, either in the fame or different planes, their common center of gravity, S, will move uniformly in a right line. Let B describe Bb uniformly in the time T, and P, Q, be the centers of gravity of A and B; and A + B: B:: A B : A P :: Ab : AQ :: Bb : PQ (Eucl. l. vi. pr. 5.), and PQ is parallel to Bb, and equal to $\frac{Bb \times B}{A + B}$, and varies

 \pm B \times Bb \pm C \times Cc.

therefore as Bb, or uniformly. Let A describe Aa uniformly in the time T, either in the same plane with Bb, or not, and R be the center of gravity of A, and B placed at b; and QR, the path of the center of gravity, will appear, by the fame process with the above, to be parallel to Aa, and equal

to $\frac{Aa \times A}{A + B}$, and consequently it varies as Aa, or increases uniformly. When both bodies move at the fame time, the point P will have two motions, PQ and QR; and will confequently describe the diagonal PR uniformly in the time T. Let a third body be added, and the common center of gravity be S, and CS produced will pass through the center of gravity of A and B. Then, from the nature of the center of gravity, A + B + C : A + B :: CP : CS

 $:: CQ: CT :: QP: ST; \text{ and } ST = \frac{A+B\times QP}{A+B+C},$ and varies as Q P, or uniformly; and for the fame reason TV, the motion of T arising from A's motion, is equal

to $\frac{Q R \times \overline{A + B}}{A + B + C}$, and therefore varies as Q R, or uniform.

ly. When A and B move together, the motions ST, TV, will be combined into one, SV; and if C deferibe Co uniformly in the time T, the common center of gravity will describe V Y, and this new motion, combined with S V, will make it describe S Y uniformly in the time T.

This propolition may be otherwise demonstrated in the following manner. Case 1. Let two bodies move, in the same plane, in the directions D E, A B, (fg. 25.); and let D and A, E and B, be contemporary politions, and H, K, the centers of gravity in those positions, respectively; and taking

BP = AD, joining EP, and drawing DL parallel to HK, DE: AB in the given ratio of the motions of the bodies; and, because the angle EDP is given, all the angles of the triangle E.D.P are given, and D.P is to P.E in a given ratio; and, because all the angles of the triangle DPL are given, the angle PDL is given, and L is always in DL. By the nature of the center of gravity, DA: DH :: EB : EK :: PB or DA : LK; therefore DH = LK, and DHKL is a parallelogram, HK is parallel to DL, and the angle BH K is given, and the center of gravity K is always in the right line H K given in position. And, because all the angles of the triangles DPL and DLE are given, the lines DP, DE, DL, that is, A B, D E, H K, are in a given ratio, and confequently the point K moves uniformly in H K. The demonstration is the fame if one of the bodies moves from B towards A.

Case 2. Let the paths of the bodies, A B and D E, (fig. 26.) be in different planes; and through A B draw a plane Bde parallel to DE, and through DE draw the plane Dde E perpendicular to B de; produce B A to d, and let Dd, Ee, be perpendicular to de, and the planes D dA, E e B, will be perpendicular to the plane e d B. Let A and D, B and E, be contemporary politions of the bodies. If the body at D were to move in de, the center of gravity would move uniformly in fome line H K (case 1.); though H K erect the plane H K k b perpendicular to H B K. From similar triangles, and the nature of the center of gravity Ah : bD :: AH: Hd:: BK: Ke:: Bk: kE; therefore bk is the path of the center of gravity of the bodies moving in A B, D E. And, because Dd: Hb:: Ad: AH:: Be: BK:: Ee or Dd: Kk, Hb = Kk, and kb is equal and parallel to HK; therefore the center of gravity of the bodies, moving uniformly in A B, D E, moves uniformly in bk.

Case 3. The common center of gravity of two bodies and a third body is either at rest, or moves uniformly in a right line; for two may be placed in their common center of gravity, which was proved to move uniformly, and the center of gravity of the three or more bodies is proved, by

the same process as before, to move uniformly.

From what has been above demonstrated, it is evident, that the path of the center of gravity, arifing from the motion of any one body, is always parallel to that of the moving body: PQ and ST (fig. 24.) are parallel to Bb; QR and TV are parallel to Aa, and VY to Cc. Moreover, the cen-'ers of gravity of two, three, &c. bodies will describe polygons or curves fimilar to that of the moving body to which their motion is owing; and if the velocity of the body be variable, the velocity of each center will be variable according to the same law. Also, the velocity of the center of gravity of two, three, &c. bodies is the same as if they were placed in it, and acted upon by forces equal to the momenta of the moving bodies, in their respective planes and directions: for B \times Bb = A + B \times PQ, and A \times Aa = A + B × Q R; and if A + B were placed at P, and acted upon by ferces equal to B × Bb and A × Aa in the planes and directions of Bb and Aa, they would describe the diagonal PR.

3. The common center of gravity of two or more lodies is not affected by any action of the bodies upon each other. For, let A and B (fig. 27.) be two bodies in a fyllem, acting upon each other, G their common center of gravity, and Aa, Bb, the velocities lost by A and gained by B respectively in oppointe directions; and $A \times Aa = B \times Bb$, or A : B :: Bb : Aa :: BG : AG :: lg :: aG, or <math>A : B :: B' s diffance from the center of gravity: A's distance from it; and con-

fequently the same point, G, is still the center of gravity of A and B, or it has been immoveable. What is proved of thefe two is true of every two bodies, and therefore of all. Hence, if two parts of a fyilem, A and B, attract or repel each other, or moving with unequal rectilineal motions, dilturb each other's motion by the force of their inertia, the center of gravity will not be affected by their mutual

CENTER of gravity, laws of the. I. In two bodies, subofe maffes of matter are equal, the center of gravity is equally distant from their two respective centers. For these are like two equal weights suspended at equal destances from the point of suspension; and in this case they will equiponderate, and relt in any polition.

2. If the centers of gravity of two bodies, A and B, (Plate IV. Mechanics, fig. 28.) be joined by the right line A B, the diflances, BC and CA, of the common center of gravity, C; from the particular centers of gravity, B and A, are reciprocally as the weights B and A. See this demonstrated under Balance and Lever.

Hence, if the gravities of the bodies A and B be equal, the common center of gravity, C, will be in the middle of the right line, A B. Again, fince A : B :: B C : A C; it follows that A × A C = B × BC; whence it appears, that the powers of equiponderating bodies are to be estimated by the product of the mass, multiplied into the diltance from the center of gravity; which product is usually called

the momentum of the weights.

Further, fince A: B:: BC: AC, A + B: A:: BC + AC (or AB) : BC : or A + B : B :: BC + AC (A B) : A C. Therefore the common center of gravity, C; of two bodies, will be found, if the product of one weight, A, into the diffance of the feparate centers of gravity, A B, be divided by the fum of the weights, A and B. Suppose, e. g. A=12, B=4, AB=24; therefore BC=24 × $12 \div 16 = 18$; and AC=6. If the weight, A, be given, and the diffance of the particular centers of gravity, A B, together with the common center of gravity, C; the weight of B will be found = to A × AC + BC; that is, dividing the momentum of the given weight, by the distance of the weight required from the common center of gravity. Suppose, A = 12, B C = 18, A C = 6; then $B = 6 \times 12 \div 18 = 4$

3. To determine the common center of gravity of several given bodies or points, a, b, c, d, (fig. 29.) in the same right line, A B. Find the common center of gravity of the two bodies, a and b, which suppose in F; conceive a weight, a + b, applied in F; and in the line, FE, find the common center of the weights, a + b and e; which suppose in G. Lastly, in BG, suppose a weight $a + b + \varepsilon$ applied, equal to the two a + b and c; and find the common center of gravity between this and the weight d, which suppose in H; this H will be the common center of gravity of the bodies, a, b, c, d. And in the same manner might the common center of gravity of any greater number of bodies be found. Otherwife: take the distances of the given bodies from some fixed point, as V (fig. 30.), calling the diffance VA = a, VB = b, VC = c, VD = d, and the diffance of the center of gravity VS = x; then SA = x - a, SB = x - b, SC = c - x, SD = d - x; and by the property of the lever, $A \times x - a + B \times x - b = C \times c - x + D \times a + D$ $\overline{d-x}$; hence Ax + Bx + Cx + Dx = Aa + Bb + Cc +Dd, and $x = \frac{Aa + Bb + Cc + Dd}{A + B + C + D}$ $\frac{a}{a}=\mathrm{V}\,\mathrm{S},$ the diffance

fought; which is confequently equal to the fum of all the momenta, divided by the fum of all the weights in the bodies.

Or thus: when the bodies are not in the fame straight line, connect them with the lines, A B, CD; then find, as before, P, the common center of A and B, and Q the common center of C and D; and conceiving A and B united in P, and C and D united in Q, find S, the common center of P and Q. which will be the common center of the whole. Or, the bodies may be all reduced to any line, V A B. &c. drawn in any direction whatever, by perpendiculars, B B, C C, &c. and then the common center in this line, found as before, will be at the same distance from V as the true center is; and confequently, the perpendicular from s will pass through S, the real center. From the preceding general expression, viz. $x = \frac{Aa + Bb + Cc. \&c.}{A + B + C, \&c.}$, for the center of

gravity of any fystem of bodies, we may deduce a general method for finding that center; for A, B, C, &c. may be confidered (as above stated), to be the elementary parts of any body, whose sum or mass is M = A + B + C, &c., and Aa, Bb, Cc, are the feveral momenta of all these parts, viz. the product of each part multiplied by its diffance from the fixed point, V. Hence then, in any body, find a general expression for the sum of the momenta, and divide it by the content of the body, and the quotient will be the distance of the center of gravity from the vertex, or from any other fixed point, from which the momenta are estimated. The application of this principle will appear in the fequel of the article. M. Lhuilier has, in the fourth volume of the New Acts of the Academy of Petersburg, given the demonstration of a very general theorem concerning centers of gravity; the following expression is a particular example of the general proposition: Let A, B, C be the centers of gravity of three bodies; a, b, c, their respective masses; and Q their common center of gravity. Let right lines, Q A, Q B, Q C, be drawn from the common center to that of each body, and the latter be connected by right lines, A B, A C, and B C; then Q $A^2 \times a + Q B^2 \times b + Q C^2 \times c$

 $= A B^{2} \times \frac{ab}{a+b+c} + A C^{2} \times \frac{ac}{a+b+c} + B C^{2} \times$

a+b+c

4. Two overghts, D and E, (fig. 31.) being suspended without their common center of gravity in C, to determine which of them preponderates, and how much Multip'y each into its dillance from the center of fuspension; that side on which the product is greatest will preponderate; and the difference between the two will be the quantity wherewith it preponderates Hence, the momenta of the weights, D and E, fuspended without the center of gravity, are in a ratio compounded of the weights, D and E, and the distances from the point of suspension. Hence, also, the momentum of a weight suspended in the very point, C, will have no effect at all in respect of the rest, D, E.

5. To determine the preponderation where feweral bodies, a, b, c, d, (fig. 32.) are fulfrended without the common center of gravity in C. Multiply the weights, e and d, into their distances from the point of suspension, C E and C B; the sum will be the momentum of their weights, or the ponderation towards the right: then multiply the weights, a and b, into their distances, A C and C D, the sum will be the ponderation towards the left; fubtracting, therefore, the one from the other, the remainder will be the preponderation required.

6. Any number of weights, a, b, c, d, being fulpended without the common center of gravity in C, and preponderating towards the right; to determine the point, F, from whence the fum of all the weights being suspended, the ponderation still continues the same es in their former fituation.

Find the momentum wherewith the weights, c and d, preponderate towards the right; fince the momentum of the fum of the weights to be suspended in F is to be equal to it, the momentum now found will be the product of CF into the fum of the weights: this, therefore, being divided by the fum of the weights, the quotient will be the distance, CF, at which the fum of the weights is to be suspended, that the preponderation may continue the same as before.

7. The firm, or difference, of the products, which refults from multiplying each particle, A, B, C, D, into its perpendicular diflance from any plane, L N, as they are on the fame or different sides of the plane, is equal to the product of all the particles multiplied into the diffance of their center of gravity, G, from that plane. See figs. 33, and 34. Let P and Q be the centers of gravity of A and B, C and D, and drawing right lines through P, Q, G, parallel to the plane, which interfect the perpendiculars drawn from those points respectively; and A: B:: BP: AB:: Bn or Bb - Pp: Am or Pp - Aa; and A \times Pp - Aa = B \times Bb - Pp, or A \times $Aa + B \times Pb = \overline{A + B} \times Pp$. By a fimilar process it appears, that $C \times Cc + D \times Dd = C + D \times Qg$. But A + B : C + D :: QG : PG :: Gv or $Gg \neq$ $Qq: Px \text{ or } Pp - Gg, \text{ and } \overline{A} + \overline{B} \times Pp - Gg = \overline{C} + \overline{D}$ \times $Gg \pm Qq$; or, by transposition and substitution of equals, $A \times Aa + B \times Bb \pm C \times Cc \pm D \times Dd =$ $A + B + C + D \times Gg$; in which expression the higher or lower figns are to be used, as the bodies are on the same,

or a different, fide of the plane.

Hence it appears, that, if the particles be placed upon the fame right line, or, (as in fig. 35.) Aa, Bb, Cc, Dd, Gg bccome A_g , B_g , C_g , D_g , G_g respectively, $A \times A_g + B \times A_g$ $B_g \pm C \times C_g \pm D \times D_g = \overline{A + B + C + D} \times G_g;$ i.e. the fum, or difference, of the products refulting from the multiplication of each particle into its distance from any point, g, as they are on the same, or a different side of that point, is equal to the product of their fum multiplied into the distance of their center of gravity from that point. Moreover, the whole momentum of a body, acting upon a lever, being equal to that of every particle, or to the fum of the products which refults from the multiplication of each particle into its dillance from the center of motion, is equal therefore to the product of the whole body into the distance of the center of gravity from the center of motion, and is consequently the same as if it were collected in the center of The demonstration of this proposition obtains gravity. therefore when A, B, C, D are collections of particles or bodies, whose centers of gravity are the points A, B, C, D. And to find the center of gravity of a fystem of bodies, it is evident that in the proposition, introducing this article, bodies, whose centers of gravity are A, B, C, D, &c. may be substituted for particles. Farther, if A, B, C, D (fg. 33) and 34) be bodies acting upon any plane, L N, in parallel directions, the fum of their efforts to move it is the fame as if they were collected in their center of gravity; for, if A, B, C, D be the respective centers of gravity of each body, this fum is equal to A \times Aa + B \times Bb \pm C \times Cc \pm D \times $Dd = \overline{A + B + C + D} \times Gg$; or, if they be placed upon a lever, the fum of their efforts to make it revolve is the same as if they were placed at G. When the center of gravity, therefore, is in the plane, or at the fulcrum of the lever, the plane and lever are quiescent. And if any point, Z, be taken in NL, $A \times aZ + B \times bZ + C \times cZ + D \times dZ =$ $A + B + C + D \times gZ$; for if a plane pass through Z, the proof is the same as that of this proposition. Also, the dittance.

dilance of any plane from the common center of gravity of A, B, C, D, &c. or Ggis equal to $\frac{A \times Aa + B \times Bb \pm}{A + B}$

 $\frac{C \times C_C + D \times Dd}{C + D}$; and its distance from a plane passing

through any point, Z, is equal to $\cfrac{A \times Za + B \times Zb \pm}{A + B +}$ $\cfrac{C \times Zc \pm D \times Zd}{C + D}$, in which expression the lower figure

are to be used for these bodies that are not on the same side of Z with A and P. It follows also, that a right line drawn from A $(j_R, 30)$, through the center of gravity, G, of any number of bodies, A, B, C, D, &c. will past through the center of gravity of the remainder; for $B \times Bb + D \times Dd = C \times C$; and consequently the center of gravity of B, C, D is in the plane passing through A G; and if this plane revolve, their center of gravity is always in the plane passing through A G, and consequently it must be in the line A G produced, which is the common intersection of the planes. If rbe this center, $B + C + D \times Gr = A \times A G$, and if rbe this center, $B + C + D \times Gr = A \times A G$, and if the bodies be equal, and n their number, $A G = n - 1 \times G e$. It appears farther, that if a circle or sphere be described about the center of gravity, G, of any number of bodies, A, B, C, &c. $(f_S \ 37)$ and any point, P, be taken in the periphery of the circle or surface of the sphere, $PA^2 \times A + PB^2 \times B + PC^2 \times C$, &c. is a given quantity; for, drawing G P, and the perpendiculars to it $Aa_S B_S C_S A \times G a = B \times G b + C \times G c$, or by substitution of equals, $\frac{GA^2 - PA^2 + GP^2}{2 GP} = B \times \frac{PB^2 + BG^2 - GP^2}{2 GP}$

+ C × $\frac{P \cdot C + G \cdot P^2 + G \cdot C^2}{2 \cdot G \cdot P^2}$, or, $A \times P \cdot A^2 + B \times P \cdot B^2$ + C × P C² = A × $\frac{G \cdot A^2 + G \cdot P^2}{2 \cdot G \cdot P^2}$ + B × $\frac{G \cdot B^2 + G \cdot P^2}{2 \cdot G \cdot P^2}$

 $+ C \times PC = A \times GA^{2} + GF^{2} + B \times GB^{3} + GF^{4}$ + $C \times GC^{2} + GP^{2}$; and this fide of the equation is invariable in whatever point of the periphery or furface P be

placed.

8. If A, B, C, D, $\forall e.$ (fg. 38.) be particles of a body anged by forces in parallel directions, whose magnitudes are Aa, Bb, Ce, $\forall e.$ the sum of their exciplts it equal to the exciplt of A+B+C, $\forall e.$ acted upon by a force whose magnitude it G_g . For the weights of A, B, C, &c. being $A \times Aa$, $B \times Bb$, $C \times Ce$, &c. the sum of their weights will be equal to A+B+C, &c. $\times G_g$; but this product is the weight of A+B+C, &c. acted upon by the force G_g . Hence, if the forces Aa, Bb, Ce, &c. be equal to each other, G_g is equal to one of them, or if the particles A, B, C, &c. be acted upon by the same as if they were collected in their center of gravity, and acted upon by that force. The tendency, therefore, of a body to descend is the same as if it were collected in its center of gravity, and, consequently, if a line drawn from that center perpendicular to the horizon fall within the base of that body, it cannot fall; and if without the base, it cannot fland. See

9. If any number of bodies, A, B, C, &c. (fig. 39.) move in parallel directions, with any velocities, the center of gravity will defiribe a right line parallel to them. Let A and B, a and B, be contemporary politions of the bodies A and B, and G, g, their centers of gravity, and through g draw a line, x, y, parallel, and configurately equal, to AB. From the nature of the center of gravity, A:B:BG:AG:bg:ag:y:xg (by similar triangles); and the point g divides the parallel and equal lines AB, x_1 , in the same ratio, and Gg

is a right line parallel to Aa or Bb. If H be the center of gravity of A, B, C, it is proved in the fame manner that it cuts the parallel and equal lines, G, C, e_x , in the fame ratio, and 12b is confequently a right line parallel to G g. Hence, if any number of bodies, A, B, C, e_x , $(f_{S^2}, 3s)$ alread or defeend in parallel right lines, the fun of the products refulting from the multiplication of each body into the space deferibed by it is equal to the product of their fum, and the space deferibed by it is equal to the product of their fum, and the space deferibed by it is equal to the product of their fum, and the space deferibed by it is equal to the product of their fum, and the space deferibed by it is equal to the product of their fum, and the space of the s

See Parkinfon's Syftem of Mechanics, &c. ch. ix.

10. To find the center of gravity in a right line A B (Pl. VI. Elechanics, f_{ig} , 4π .) All the particles that compose this line may be considered as so many very small weights, each equal to \dot{x}_i which is therefore the fluxion of the weights, or of the line denoted by x. Multiplying therefore the fmall weight \dot{x} by its distance from A, viz. x, and $x\dot{x}$ will be the momentum of that weight \dot{x} ; or, in other words, $x\dot{x}$ is the fluxion of all the momenta in the line A B or x; and, therefore, its fluent $\frac{1}{2}x^2$ is the sum of all those momenta; which, being divided by x the sum of all the weights, gives $\frac{1}{2}x$ or $\frac{1}{2}\Delta$ B for the distance of the center of gravity C from the point A; that is, the center of gravity of an homogeneous line is in the middle of that line. In any body, having sound a general expression for the sum of the momenta of all the parts, if this be divided by the content of the body, the quotient will be the distance of the center of gravity from the vertex, or from any other fixed point, from which the momenta are estimated.

11. To find the center of gravity in a parallelogram and parallelogiped. Draw the diagonals A D and E G, (fg. 42.) likewife C B and H F; fince each diagonal, A D and C B, divides the parallelogram A C D B into two equal parts, each palles through the center of gravity; confequently, the point of interfection, I, must be the center of gravity of the parallelogram. In like manner, since both the planes, C B F H, and A D G E, divide the parallelepiped into two equal parts, each passes through its center of gravity; fo that the common interfection, I K, is the diameter of gravity, the middle whereof is the center.

After the fame manner may the center of gravity be found in prifms and cylinders; it being the middle point of the right line that joins the center of gravity of their opposite

baies

The center of gravity of a parallelogram, &c. may be very easily found by the method of fluxions. Let the axis or length A B of the parallelogram (f_S , 4,5.) be = x, and its breadth D E = b; and if de be drawn parallel and indefinitely near to DE, the arcola d D E e = $b\dot{x}$ will be the fluxion of all the weights, which multiplied by its distance x

from the point A gives bxx for the fluxion of all the momenta, and confequently the fluent $\frac{1}{2}bx^2$ is the fum of all those momenta themselves; which, being divided by bx the fum of all the weights, gives $\frac{1}{2}x = \frac{1}{2} \hat{A} \hat{B}$ for the diltance of the center C from the extremity at \hat{A} , and is therefore in the middle of the axis, as we have above flewn. The procefs and conclusion will be precitely the same for a cylinder, or any prism whatever, making b to denote the area of the end or of a transverse section of the body.

12. In regular polygous, the center of gravity is the same

with the center of the circumfcribed parallelogram.

13. To find the center of gravity of a cone and a pyramid. The center of gravity of a cone is in its axis A C (fig. 44.) If then AP = x, AC = a, CD = r, the periphery of the base = p, and PN = y, we shall have, by the well known property of circles, $r:p::y:\frac{py}{r}$ = the periphery of the circle, whose diameter is MN, which being multiplied by $\frac{y}{y}$ will give $\frac{py'}{2r}$ = the area of the same circle. But, by

fimilar triangles, y:x::r:a, therefore $y=\frac{r x}{a}$, and y^2

 $=\frac{r^2 x^2}{x^2}$; confequently the area of the circle, whose radius is P N, becomes equal to $\frac{p r x^2}{2a^2}$; and therefore $\frac{p r x^2 \dot{x}}{2a^2}$ will

be the fluxion of the mafs, or of the content of the cone at the term M N, and $\frac{p r x^3 x}{2a^2}$ will be the fluxion of the mo-

mentum, whose fluent is $\frac{p r x^4}{8a^2}$, which, being divided by

 $\frac{p r x^3}{6a^2}$, the fluent of $\frac{p r x^2 \dot{x}}{2a^2}$, the fluxion of the mass, will give $\frac{3}{4} x = \frac{3}{4} A P$, for the distance of the center of gravity of the portion AMN from the vertex A; and when AP becomes equal to A C, x will be equal to a; and therefore the center of gravity of the whole cone is distant from the vertex 3 of AC. And in the same manner is found the distance of the center of gravity from the vertex of the pyramid 3 AC: and therefore all pyramids of the same altitude have the same center of gravity.

14. To determine the center of gravity in an ifosceles triangle BAC (fig. 45.) Draw the right line AD, bifecting the base BC in D which will be also perpendicular to it; since \triangle BAD = \triangle DAC, each may be divided into the same number of little weights, applied in the same manner on each side to the common axis A D; so that the center of gravity of the \triangle BAC, will be in AD. To determine the precife point in that, let AD = a, BC = b, AP = κ , MN = y; then will A P: M N :: A D : B C; or, x : y :: a : b.

Hence, $y = \frac{b \times a}{a}$. Confequently $y \times \dot{x}$, which represents the fluxion of the mass at the term M N, divided by y & expressing the fluxion of the area A M N, will be equal to $\frac{\hat{b} x^2 \dot{x}}{a} \div \frac{b x \dot{x}}{a} = \frac{x^2 \dot{x}}{x \dot{x}}$; the fluent of which quantity will

be $\frac{\frac{1}{3}x^3}{\frac{1}{2}x^2} = \frac{2x}{3} =$, and at the term B C, when x = AD, $\frac{2}{3}$ A D; and therefore the distance of the center of gravity of

the A from the vertex, will be found \(\frac{2}{3} \) a. In the very fame manner the center of gravity of any other plain triangle will appear to be at 3 of a line drawn from one angle to bifect the opposite side, or the diameter of gravity, from the vertex.

The fame center may be otherwise ascertained without fluxions, thus. Since a line drawn from any angle to the middle of the opposite side pulles through the center of gravity, the point of interfection of any two fuch lines will be that center: fo that the center of gravity is in the line A D, (fig. 46.) and it is also in the line C G bisecting A B; and confequently in the point of their intersection, S. In order to determine the diltance of S from any angle, as A, produce CG to meet BH parallel to AS in H; then the two triangles AGS, BGH are mutually equal and fimilar, because the opposite angles at G are equal, and also the alternate angles at H and S, and at A and B, and the line A G = BG; therefore the other fides BH, AS are equal. But the triangles C D S, C B H are fimilar, and the fide C B = 2 CD; therefore BH or its equal AS = 2 DS; that is A S = $\frac{2}{3}$ A D, the same as before. And in like manner $CS = \frac{2}{3}CG$.

15. To determine the center of gravity of a trapezium. Divide the figure (fig. 47.) into two triangles by the diagonal AC, and find the centers of gravity E and F of these triangles; join E F, and find the common center G of these two by this proportion, viz. A B C: A D C:: F G: EG, or A B C D: A D C:: E F: E G. In a fimilar manner, the center of gravity may be found in any other figure, whatever be the number of fides, by dividing it into feveral triangles, and finding the center of gravity of each; then connecting two centers together, and finding their common center as above; then connecting this and the center of a third, and finding the common center of these; and so on, always connecting the last found common center to another center, till all are included in the process; and thus the last common

center will be that which is required.

16. For the center of gravity in a parabola (fig. 48.) Let $A \to B = a$, $B \to B \to B$, $A \to B \to B$. Then will 2yx be the fluxion of the whole weight; but from the nature of the parabola, and the parameter being a constant quantity, $1x=y^2$; whence $x^{\frac{1}{2}}=y$, and $2x^{\frac{1}{2}}=2y$: fublituting $2x^{\frac{1}{2}}$ initead of 2y in the above expression, we shall have $2x^{\frac{1}{2}}x^{\frac{1}{2}}$ for the fluxion of the mass, whose fluent $\frac{4 \times \frac{3}{5}}{2}$ will be the

mass itself. Then, multiplying $2 \times \frac{1}{2} \dot{x}$ by \dot{x} , we shall have $2 \times \frac{1}{2} \dot{x} \dot{x}$ or $2 \times \frac{3}{2} \dot{x}$ for the fluxion of the momentum, whose fluent $\frac{4 \times \frac{5}{6}}{8}$ will be the momentum itself. Divide this by

the whole weight, and the quotient $\frac{1}{2} \frac{2}{3} x \frac{5}{2} - \frac{3}{4} = \frac{2}{3} x$, will be the distance of the center of gravity of the space NAZP from the vertex A; and when A P becomes equal to A E, or x = a, $\frac{3}{5}a$, or $\frac{3}{5}$ A E, will be the distance of the center of gravity of the whole parabolic space from the vertex A. Now $y^m = 1x$, being a general equation for all kinds of pa-

rabolas, we shall have $y = x^m$, and therefore $x^m \hat{x}$ will be

the fluxion of the whole mass, and $x^{\frac{1}{m}+1}$ \dot{x} the fluxion of the momentum: the fluent of this last expression, viz.

$$\frac{m}{2m+1}x^{\frac{1}{m}+2}, \text{ being divided by the fluent of } x^{\frac{1}{m}}\hat{x} \text{ or}$$

 $\frac{m}{m+1} \times \frac{1}{m+1}$, will give $\frac{m+1}{2m+1} \times$, for the distance of the center of gravity of the space ZAN from the vertex A, and $\frac{m+1}{2m+1}a$ will be the distance of the center of gravity of the whole parabolic space from Λ . When m=2, as in the

common parabola, this expression will be $\frac{2}{3}$ a. If m=3, as in the cubical parabola, then the expression will be $\frac{4}{3}$ a; when m=4, as in a biquadratic parabola, we shall have $\frac{5}{9}$ of the axis for the diffance; and in a furfolid parabola, when n = 5, the expredion will give $\frac{\pi}{2}$ a for the required diffance. If $m = \frac{1}{2}$, which is the property of the concave or fupplemental space, then the axis becomes a targent to the vertical point, and $\frac{3}{4}$ a will be the distance required. In the exterior parabola AST, as may be eafily found, by reasoning on fimilar principles, the center of gravity is at the diftance A.L., equal to $\frac{3}{4}$ A.Q. In the cubical parabola, $\frac{4}{6}$ A.Q. In a biquadratic parabola, $\frac{5}{6}$ A.Q. In a furfolidal parabola, 6 AQ.

17. The center of gravity of the arc of a circle, as ABD (fig.

49.) confidered as a physical line, having gravity

It is evident that the center of gravity, G, of the arc, will be fomewhere in the axis, or middle radius BC, C being the center of the circle, which is confidered as the point of suspension. Suppose F indefinitely near to A, and FH parallel to BC. Put the radius BC or AC = r, the femi-arc A B = z, and the femi-chord A E = x; then A H = \dot{x} , and A F = \dot{z} , the fluxion of the weights, and therefore CE × & is the fluxion of the momenta. But by fimilar triangles, A C or r: C E :: A F or z : A H or z; therefore $r \dot{x} = C E \times \dot{z}$, and confequently $r \dot{x}$ is also the fluxion of the momenta; the fluent of which is rx, and this, divided by z, the weight, gives $\frac{r_{\text{V}}}{z} = \frac{\text{AC} \times \text{AE}}{\text{AB}} = \frac{\text{AC} \times \text{AE} \text{D}}{\text{A} \text{B} \text{D}}$

= C G, the distance of the center of gravity from the center C of the circle; and it is manifeltly a fourth proportional to the given arc, its chord, and the radius of the circle. When the arc becomes the femi-periphery ABK, the above expression becomes $\frac{1 \text{ C}^2}{1 \text{ B}}$ or $\frac{r^2}{1.5708} = \frac{r}{1.5708} = .6366r$ viz. a third proportional to a quadrant and the radius.

13. Let ABDC (fig. 49.) be a circular fector; and the center of gravity will be formewhere in the axis or middle radius, BC, as in the former cafe. With any leffer radius describe the concentric arc L M N, and put the radius A C or B C = r, the arc A B D = a, its chord A E D = c, and the tariable radius, C L, or C M, = y; then $r:y::a \xrightarrow{r} =$ the arc 1. M N, and $r: y:: c: \frac{cy}{r} =$ the chord LON; and also by the last article the distance of the centre of gra-

wity of the arc L M N is $\frac{\text{C M} \times \text{L O N}}{\text{L M N}} = \frac{\text{C M} \times \text{A E D}}{\text{A B D}}$

 $=\frac{ey}{a}$: hence the arc L M N or $\frac{ay}{b}$ multiplied by \hat{y} gives

"yy's, the fluxion of the weights, and this multiplied by

the dillance of the common center of gravity, gives

the fluxion of the momenta; the fluent of which, viz.

 $\frac{7^3}{5r}$ divided by $\frac{ay^2}{2r}$, the fluent of the weights, gives $\frac{2cy}{3r}$ for the distance of the center of gravity of the fector CLEN from the center C: and when y = r, it becomes

2 cr = C G for that of the fector C A B D proposed; be-

ing 3 of a fourth-proportional to the arc of the fector, its chord, and the radius of the circle. Hence, when the fector becomes a femi-circle, the last expression becomes

 $\frac{4 r^2}{3 a} = \frac{2 \text{ I C}^2}{3 \text{ I B}}$, or $\frac{2}{3}$ of a third proportional to a quadrantal

arc and the radius: or, it is equal to $\frac{4r}{3p} = .4244r$ from the

center C, where p = 3.1416. 19. To find the center of gravity of an hemisphere, A BO, (fig. 50). Put the axis or radius A D = a. D P = x, and M P, parallel to the base, = y. Then P M D being a right-angled triangle, we have M P' = M D' - D P', i. e. $y^2 = a^2 - x^2$. And putting c for the circumference of a circle whose diameter is unity, the circumference of a circle whose diameter is ME, or 2 y, will be 2 cy, and its area will be $2 cy \times \frac{1}{2} y$, viz. cy, or (by fubflituting for yy its value as above found, i. e. $a^2 - x^2$) $ca^2 - cx^2$; and this is a fection of the hemisphere parallel to the base. Then, $ca^2 - cx^2 \times \dot{x}$ is one of the infinitely small weights into

which the hemisphere is supposed to be divided; and its fluent $c a^2 x - \frac{c x^3}{3}$ is the fum of all those weights. Also,

 $c a^2 - c x^2 \times x \dot{x}$ is the fluxion of the momentum of the finall weight; the fluent of which, viz. $\frac{c a^2 x^2}{2} - \frac{c x^4}{4}$ is the

fum of all the momenta. And, when x is equal to the whole axis A D, those two fluents become $(ca^3 - \frac{ca^3}{2} = \frac{3ca^3 - ca^3}{2}$

=\frac{2 \cdot a^3}{2}; and
$$\left(\frac{c a^4}{2} - \frac{c a^4}{4} = \frac{2 c a^4 - c a^4}{4} = \right) \frac{c a^4}{4}$$
.

Then, dividing the latter fluent by the former, we have

 $\frac{\epsilon a^3}{4} \cdot \frac{2}{3} = \frac{3}{8} \frac{\epsilon a^4}{\epsilon a^3} = \frac{3}{8} a$: fo that the center of gravity is diffant from the point D, $\frac{3}{8}$ ths of the axis, or of the ra-

The centers of gravity of other bodies may be found in a fimilar manner. Thus the altitude of the fegment of a fphere, or spheroid, or conoid, being x, the whole of the axis itself being a, the distance of the center of gravity in

each of these bodies from the vertex will be as follows:

 $\frac{4a-3x}{6a-4x}$ x in the fphere or fpheroid.

3 x in the femi-sphere or semi-spheroid (as above). *x in the parabolic conoid.

 $\frac{3}{6}\frac{3}{a} + \frac{3}{3}\frac{x}{x}$ in the hyperbolic conoid.

Thefe, and fuch cases, however, are more operofe, and also more uncom non, and we shall therefore refer for a more ample account of the center of gravity to writers on this fubject; among whom we may reckon Archimedes, Pappus, Guldinus, Wallis, Cafatus, Carre, Hays, Wolfius, Hodgfon, Simpson, &c. &c

To find the value of any furface or folid by means of the

20. To determine the center of gravity in any body mechanically. Lay the given body H1 (fig. 51.) on an extended

rope, or on the edge of a triangular prism F G, bringing it this and that way, till the parts on either fide are in equilibrio; the plane, whose fide is K L, passes through the centhrough the center of gravity; fo that the interfection of the two lines M N and K L determines the point O in the

in two positions, lengthwise and breadthwise: the common interfection of the two lines contiguous to the edge will be its center of gravity. Or it may be done by placing the body on the point of a style, &c. till it red in equilibrio. It was by this method that Borelli found the center of gravity in a human body to be between the nates and pubes; so that the whole gravity of the body is there collected, where nature has placed the genitals: an instance (says Wolsius) of the wisdom of the Creator, in placing the membrum vinle in that place which of all others is the most convenient for copulation; neverthelefs, this law does not take place in the greater number of animals.

Or thus. Suspend the body by any point; then a plumb-line hung over the same point will pass through the center of gravity; because that center will always descend to the lowest point when the body comes to rest, which it cannot do except when it falls in the plumb-line. Therefore, marking that line upon it, and suspending the body by another point, with the plummer, to find another such line, the intersection of the two will give the center of gravity.

Otherwise. Hang the body by two thrings from the same tack or nail, but fixed to different points of the body; then a plummet, hung by the same tack, will fall on the center

of gravity.

To find the center of gyration of a body. Let a body be conceived to be made up of the particles A, B, C, &c. whose diffances from the axis are a, b, c, &c. and let x be the diffance of the center of gyration from the axis; then, by the preceding observation, the inertia of A, B, C, &c. will be as $A \times a^2$, $B \times b^3$, $C \times c^2$, &c. and the inertia of all the matter at the distance x, will be as $A + B + C + &c. \times x^2$: and as the moving force is the same in both cases, the inertia must be the same when the same angular velocity is generated; hence, $A + B + C + &c. \times x^2 = A \times a^2 + B \times b^2 + C \times c^2 + &c.$; therefore, $x = A \times a^2 + B \times b^2 + C \times c^2 + &c.$; therefore, $x = A \times a^2 + B \times b^2 + C \times c^2 + &c.$; therefore, $x = A \times a^2 + B \times b^2 + C \times c^2 + &c.$;

 $\sqrt{\frac{A \times a^{i} + B \times b^{i} + C \times c^{i} + \&c}{A + B + C + \&c}}$: that is, if *i* be the fluxion of the body at the diltance \approx from the axis,

 $\kappa = \sqrt{\frac{flu. \, \varepsilon^{\circ} \, \dot{s}}{s}}.$

E. G. 1. Let the firaight line, CA, (fig. 53.) revolve about C; to find O the center of gyration. Put $z = C\rho$, then s = z, and $\dot{s} = \dot{z}$, and therefore $z^3 \dot{s} = z^3 \dot{z}$, whose fluent is $\dot{s} z^3 = (\text{when } z = \text{CA}) \frac{1}{3} \text{ CA}^3$; hence, CO = $\sqrt{\frac{1}{3}} \text{ CA}^3$ = CA $\sqrt{\frac{3}{3}}$, 2. Let a circle, AB, (fig. 54.) revolve in its own plane about its center C; to find O, its center of gyration. Put $\rho = 6.28318$, &c. the circumference of a circle Vol. VII.

whose radius = r, z = Cp; then the circumference pq = $p \approx$, and $p \approx \dot{\approx} = \dot{s}$; hence, the fluent of $z^2 \dot{s}$, or of $pz^{\dot{i}} \dot{z}$ is $\frac{1}{4}pz^4 = \text{(when } z = CA = r) + pr^4$. Also, the area of the circle $=\frac{1}{2}pr^2$; hence, $CO = \sqrt{\frac{1}{2}r^2} = r\sqrt{\frac{1}{2}}$. The fame must be true for a cylinder revolving about its axis; as it is true for every section parallel to the end. 3. Let RADB be a fphcre revolving about the diameter, RD; to find O, its center of gyration. Draw CA perpendicular, and spr parallel to RD; put Cr = r, Cp = z, then pr= $\sqrt{r^2 - z^2}$; and if p = 6.28318, &c. the furface of the cylinder, generated by sr revolving about R D, is px x 2 $\sqrt{r^2-z^2}$; hence $\dot{s}=2\,p\,z\,\dot{z}\,\sqrt{r^2-z^2}$, and $z^2\,s=2\,p\,z^3\,\dot{z}$ $\sqrt{r^2-z^2}$. In order to find this fluent, put $r^2-z^2=r^2$, then $z^2 = r^2 - y^2$, and $z^4 = r^4 - 2 r^2 y^2 + y^4$; therefore $z^3 \dot{z} = -r^2 y \dot{y} + y^3 \dot{y}$; hence, $2 p z^3 \dot{z} \sqrt{r^2 - z^2} = 2 p \times$ $r^2 y^2 \dot{y} + y^4 \dot{y}$, whose fluent is $2 p \times -\frac{1}{3} r^2 y^3 + \frac{1}{3} y^5$; and when z = o, this fluent ought to vanish, but y is then = r; and the fluent becomes $2p \times -\frac{2}{T^{\frac{1}{2}}}r^5$; hence, the correct fluent is $2 p \times \frac{2}{13} r^5 - \frac{1}{3} r^2 y^3 + \frac{1}{5} y^5$; and the whole fluent, when z = r (in which case y = o), will be $\frac{4}{13}pr^5$. And as the content of the sphere = $\frac{2}{3}pr^3$; hence $CO = \sqrt{\frac{2}{5}r^2} = r\sqrt{\frac{2}{5}}$. Vince's Principles of Fluxions, p. 98, &c.

Center of heavy bodies is, in our globe, the same with the center of the earth towards which all heavy bodies at or near the surface have a kind of tendency. It should be observed, however, that the tendency of heavy bodies towards the center is strictly applicable only to the earth, considered as perfectly spherical; but as the earth is flatted towards the poles, or an oblate spheroid, heavy bodies will not be found to tend exactly towards the same point. Nevertheless, as the figure of the earth does not differ much from that of a sphere, the deviation of the tendency of heavy bodies from the same point is not very considerable; and in common language the center of the earth may be regarded as the center

of heavy bodies.

CENTER of an hyperbola, is a point in the middle of the ass, or of any other diameter; being the point without the figure, in which all the diameters interfect one another; and it is common to all the four conjugate hyperbolas.

CENTER of the magnet, and Magnetic center. See MAGNET. CENTER of magnitude, is that point which is equally diftant from all the external parts of a body. In homogeneous bodies that can be cut into fimilar and equal parts, according to their length, as in a cylinder or prism, it is the same with the center of gravity.

CENTER of motion, is a point round which one or more heavy bodies, that have one common center of gravity, revolve; v. gr. If the weights, P and Q (fig. 55.) revolve about the point, N, fo that when P defeends, Q afcends, N is faid to be the center of motion.

It is demonstrated in mechanics, that the distance, I N, of the center of gravity of any particular weight, from the common center of gravity, or the center of motion, N, is perpendicular to the line of direction, I P.

The center of motion of a ship is the point upon which

a vessel oscillates or rolls, when put in motion.

CENTER of ofillation, is that point, in the axis or line of fulpension of a vibrating body, into which, if the whole was contracted, the angular velocity, and the time of vibration, would remain unaltered. Hence, in a compound pendulum, its distance from the point of suspension is equal to the length of a simple pendulum, whose of cillations are isochronal with those of the compound one.

CENTER of ofcillation, laws of. From what we shall demonstrate monstrate under CENTER of percussion it will appear, that in the cafe of two bodies connected together, the product of the body on one fide of the center of ofcillation multiplied by both its diftance from the point of suspension and its diftance from the center of ofcillation is equal to the product of the body on the other fide of the center of ofcillation, multiplied both by its diltance from the point of suspension, and its diltance from the center of oscillation. The reasoning from which this theorem is deduced may also be applied to a pendulum confitting of more than two bodies connected together, or to the different parts of the same pendulous body; and hence may be deduced the following general law: viz. if the weight of each part of a simple or compound pendulum be multiplied both by its distance from the center of suspension, and its distance from the center of oscillation (or percussion), the sums of the products on each side of the center of ofcillation will be equal to each other. In order to illustrate this law, and the mode of applying it, let a pendulum confift of any number of parts or small bodies A, B, C, D, E, joined together; let a, b, c, d, e represent their respective distances from the point of suspension, and let x be the distance of the center of ofcillation from the point of fuspension. The distances of those parts or bodies, from the center of oscillation, will be $x = a, x-b, x-c, d-x, e \cdot x$; D and E being supposed to be farther from the point of sufpension, than the center of oscillation is. By multiplying every one of those bodies, both by its distance from the center of suspension and its distance from the center of oscillation, we have, agreeably to the above-mentioned law, the equation Aax Aaa + Bbx - Bbb + Ccx - Ccc = Ddd - Ddx +Ece-Eex; which, by transposition and division, is resolved into the following; viz.

 $s = \frac{Aaa + Bbb + Ccc + Ddd + Eee}{Aa + Bb + Cc + Dd + Ee}.$

Should any of the bodies, as for instance A and B, in the preceding instance, be fituated above the center of suspension, then their distances will be negative, viz. -a, -b, though their squares aa, bb, are always positive. In this case the value of a is $=\frac{Aaa + Bbb + Ccc + Ddd + Ecc}{-Aa - Bb + Cc + Dd + Ec}$

Since the center of gravity of a body, or fystem of bodies, is that point wherein all their matter may be conceived to be condensed, therefore the product of all the matter or sum of the different weights A, B, C, D, E, multiplied by the distance of the common center of gravity from the point of suspension, is equal to the sum of the products of each body multiplied by its distance from the point of suspension. Hence the above stated value of κ becomes $Aaa + Bbb + Cc\varepsilon + Ddd + Ec\varepsilon$ divided by the product of the whole body or sum of the weights, multiplied by the distance of the center of gravity from the point of suspension.

Rule 1. "If all the bodies or parts of a body, that forms a pendulum, be multiplied each by the fquare of its distance from the point or axis of suspension, and the sum of the products be divided by the product of the whole weight of the pendulum, multiplied by the distance of the center of gravity from the point of suspension; the quotient will be the distance of the center of ofcillation or percussion from the point of suspension."

The fituation of the centre of ofcillation may also be found by means of another rule, which we shall likewise lay down, and shall demonstrate; since in some cases this rule will be found prescrable to the first.

Rule 2. "If the fum of the products of all the parts or weights, multiplied each by the square of its distance from

the center of gravity, or from a line paffing through the center of gravity parallel to the axis of vibration, be divided by the product of the whole maisor body, multiplied by the diffance of the center of gravity from the point of furfeenion, the quotient will be the diffance of the center of escallation from the center of gravity; which being added to the diffance of the center of gravity from the point of furfeenion, will be the diffance of the center of ofcillation from the point of furfeenion."

Let CAB (Plate VII. Mechanics, fig. 56.) reprefent any fort of body regular or irregular, fulpended at C; Oits centre of oscillation; G its center of gravity; COB its axis or right line, paffing through the point of suspension, and centers of gravity and oscillation. This body may be conceived to confilt of an indefinite number of extremely small parts or weights. Let W be one of those small weights; join W C and W G, and from W drop W F perpendicular to CO. Then the product of W, by the square of its distance from C, is W x C W1. But (Eucl. p. 47, B.i.) CW] = WF| + CF|; and GW = GF| + WF| 2 (Eucl. p. 7. B. ii.) UG + GF = 2 CG x GF + CH; and by transposition CH2 = GF1 + CG12 -2 C G × G F. Then by substitution (viz. by putting inflead of CF', its equal GF' + CG' - 2 CG x GF) the above stated equation becomes CW1' = WF1' + GF1' + CG' - 2 CG x GF = (putting GW)2 for its equal GF1' + WF1') GW1' + CG1' 2CG x GF. And multiplying both fides by W, we have the fum of all the products W x CW' = the fum of all the W x GW' + all the W × CGl2- the fum of all the W × 2CG × GF.

whole body \times $CG|^{3}$.

Then $CO = \frac{\text{fum of all the }W \times \overline{CW}|^{3}}{\text{whole body } \times \overline{CG}}$ (by rule the Ift) = $CG + \frac{\text{fum of all the }W \times \overline{GW}|^{3}}{\text{the whole body } \times \overline{CG}}$. And laftly, $GO = CO - CG = \frac{\text{fum of all the }W \times \overline{GW}|^{3}}{\text{the whole body } \times \overline{CG}}$; which is rule the 2d.

In the application of the above-mentioned rules, it is frequently very difficult to find the fum of the products of all the weights multiplied by the figures of their respective distances. The method of fluxions is undoubtedly the most extensive, as it may be applied to all such figures or bodies as have some regularity of shape, or such as may be expressed by an algebraical equation. But in some cases the irregularity of form is so very great, that the center of oscillation can only be found out by means of the mechanical method subjoined.

In order to find the fum of the weights, &c. you must consider an indefinitely small part, or increment, or fluxion, of the figure, as being a small weight, and multiply it by the square of its distance from the center of suspension or axis of vibration, according to rule the 1st, or essembly it by the square of its distance from the center of gravity, or suppose all the particles of the body to be transferred to this from a line paffing through the center of gravity, and parallel to the axis of vibration, according to rule the 2d.; then the fluent of that expression will be the sum of the products of all the weights, multiplied by the fquares of their respective distances, either from the axis of vibration, or from the center of gravity, &c. Lastly, this fluent must be divided by the product of the whole body (to be had by common menfuration) multiplied by the distance of the center of gravity, from the point of suspension; and the quotient will be the distance of the center of oscillation either from the point of suspension, or from the center of gravity, according as the operation was performed either by rule the first, or rule the fecond. Before we proceed to state and apply another method for investigating the center of oscillation, it will be neceffary to premife the following lemma.

Suppose two exceeding small weights, C and P, acting on each other by means of an inflexible line (or wire), PC, to vibrate in a vertical plane, ROPCM, about the center O; and it be required to determine how much the motion of one is affected by the other. Let CH and PQ (Plate VII. Mechanics, fig. 57.) be perpendicular to the horizontal line OR; and let PB and CS be perpendicular to OP and OC respectively. If the force of gravity be denoted by unity, the forces acting in the directions CS and PB, whereby the weights, in their defeent, are accelerated, will, according to the refolution of forces, be reprefented by $\frac{O}{O}\frac{H}{C}$ and $\frac{O}{O}\frac{Q}{P}$. Moreover, fince

the velocities are always in the ratio of the radii O C and O P, if the aforesaid forces were to be in that ratio, or that of P was to become $\frac{OH}{OC} \times \frac{OP}{OC}$, instead of $\frac{OQ}{OP}$, in that

case it is plain, that the weights would continue their motion without affecting each other, or acting at all on the line of eommunication $\stackrel{P}{P}C$ (or $\stackrel{P}{P}B$). Whence, the excess of $\stackrel{O}{O} \stackrel{Q}{O}$ above $\stackrel{O}{O} \stackrel{H}{C} \times \stackrel{O}{O} \stackrel{P}{C}$ must be the accelerative force whereby the weight, P, acts upon the line (or wire), OC, in the direction PB; which multiplied by the weight, P, gives

 $P \times \frac{O\ Q}{O\ P} - \frac{O\ H \times O\ P}{O\ C^2}$ for the absolute force in that direction; which, therefore, in the perpendicular direction

NB, is $P \times \frac{OQ}{OP} - \frac{OH \times OP}{OC^2} \times \frac{OP}{OB}$; whereof the

part acting upon C being to the whole as OB to OC, is truly defined by $P \times \frac{\overrightarrow{OQ} - \overrightarrow{OH} \times \overrightarrow{OP}^2}{\overrightarrow{OC}}$. If P be fupposed to act upon C by means of P C (instead of P B) the conclusion will be in no respect different. For, let F denote

the force $\left(P \times \frac{\overrightarrow{OQ} - \overrightarrow{OH \times OP}}{\overrightarrow{OP} - \overrightarrow{OC^2}}\right)$ in the direction P B, found above; then the action thereof upon PC (according

to the principles of mechanics) will be expressed by F x Coline CPB; which, therefore, in the direction SC, per-

pendicular to OC, is $F \times \frac{Radius}{Cof.} \frac{S.PCO}{Radius} =$

 $\frac{S. PCO}{Cof. CPB} = \frac{S. PCO}{S. OPC} = F \times \frac{OP}{OC}, \text{ the fame as before.}$

To determine the center of ofcillation of a body. Let L. M.S. (fig. 58.) be a fection of the body by a plane, perpendicular to the horizon and the axis of motion, paffing through the center of gravity, G, and the point of suspension, O; and

fection, in such places of it as they would be projected into (orthographically) by perpendiculars falling thereon. (Nor does this supposition at all affect the conclusion, the angular motion continuing the fame.) Moreover, let C be the center of oscillation, or that point in the axis, OS, where a particle of matter (or a small weight) may be placed so as to be neither accelerated nor retarded by the action of the other particles of matter fituate in the plane. Then, if from C, and any other point, P, in the plane, L MS, two perpendiculars, C H and P Q, be let fall upon the horizontal line, OR, the force of a particle (or weight) at P to accelerate the weight at C, will (according to the preceding lemma) be

reprefented by $P \times \frac{\overrightarrow{OQ} - \overrightarrow{OH \times OP^2}}{\overrightarrow{OC}}$; which, fup- $\begin{array}{l} \text{pofing } G \; N \text{ perpendicular to } O \; R \text{, will also be expressed by} \\ P \; \times \; \frac{O \; Q}{O \; C} - \frac{O \; N}{O \; G} \times \frac{O \; P^z}{O \; C^z} \text{, or its equal } P \; \times \; \frac{O \; Q \; \times \; O \; G}{O \; C^z} \end{array}$

 $\frac{\times \ O\ C - O\ N \ \times \ O\ P^2}{\times \ O\ G}$. In the fame manner the force of any other particle, P', will be represented by $P' \times OQ' \times OG \times OC - ON \times OP''$, &c. &c. Conse-

OC' × OG quently, the forces of all the particles destroying each other (by hypothesis), the sum of all the quantities $P \times \overline{OG} \times$ $OQ \times OC - ON \times OP^2 + P' \times OG \times OQ' \times OC$ - O N × O P'2, &c. &c. must be equal to nothing. Whence $\begin{array}{c} P \times O G \times O O \times O C + P' \times O G \times O O' \times O C, \\ \&c. \&c. = P \times O N \times O P' + P' \times O N \times O P'' \&c. \\ \&c. &c. = P \times O N \times O P' + P' \times O N \times O P'' &c. \\ \&c. &c. and confequently <math>O C = \frac{O N}{O G} \times \frac{P \times O P' + P' \times O N}{P \times O O \times O O} \times \frac{P' \times O O}{P \times O O} \times \frac{P' \times O}{P \times O} \times \frac{P' \times$

 $\frac{O P'^2 + \&c}{O Q' + \&c}$. But the fum of all the quantities $P \times O Q$ + $P' \times O Q'$, &c. is equal to the content of the body, multiplied by the diffance, O N; of the center of gravity, G, from the line L M, (perpendicular to O C); whence O C is also = $\frac{O N}{O G} \times \frac{P \times O P^2 + P' \times O P'^2}{O N \times \text{the body}}$ = $\frac{P \times O P' + P' \times O P'^2}{O C \times \text{the body}}$; which expression

OG × the body

continuing the same in all inclinations of the axis, OS, the point, C, thus determined, is a fixed point, agreeable to the definition; and appears to be the fame with the CENTER of percuffion.

Hence it follows, that if P D, P' D', &c. be perpendicular to O S, the numerator of the fraction, found above, will become P × OG2 + GP2 - 2OG × GD + P × OG2 + GP^2 + $2OG \times GD'$ + &c. &c. (fince $OP^2 = OG^2$ + G P2 - 2O G × G D, &c.); which, because all the quantities $P \times -20 \text{ G} \times \text{ GD} + P' \times 20 \text{ G} \times \text{ GD}'$, &c. or $P \times -\text{ GD} + P' \times \text{ GD}'$, &c. (by the nature of the center of gravity) destroy one another, and be barely = $P \times OG^2 + GP^2 + P' \times OG^2 + GP'^2 +$, &c. &c. $= \overline{P + P'} +, \&c. \times O G^2 + P \times G P' + P' \times G P'' + \\ +, \&c. = mass \times O G^2 + P \times G P' + P' \times G P'' +$ &c. Whence it is evident, that O C is, also, $\left(=\frac{\text{mas} \times \text{mass}}{\text{mass}}\right)$ $\frac{O G^2 + P \times G P^2 + P' \times G P''}{\times O G} +, &c. &c.$ = O G

 $\frac{P \times G P^2 + P^2 \times G P^2 + , \&c.}{\max \times O G}$; and confequently

 $C\,G = \frac{P\,\times\,G\,P^{s} + P'\,\times\,G\,P'^{s} +,\,\&c.\,\&c.}{\text{mafs}\,\times\,O\,G}.$

it appears, that, if a body be turned about its center of gravity, in a direction perpendicular to the axis of the motion, the place of the center of oscillation will remain unaltered; because the quantities $P \times G P^2$, $P' \times G P''$ are no way affected by such a motion of the body. It also appears, that the distance of the center of gravity from that of oscillation (if the plane of the motion of the body remains unaltered) will be reciprocally as the distance of the former from the point of suspension. Consequently, if that distance be found when the point of suspension is in the vertex, or so posited, that the operation may become the most simple, the value thereof in any other proposed position of that point will likewife be given by one fingle proportion.

In order to thew how thefe conclutions may be reduced to practice, let it be observed, that the product of any particle of the body by the square of its distance from the axis of motion is (here) called the force thereof, (its efficacy to turn the body about the faid axis being in that ratio). According to which, and the first general value of OC, it appears that, if the fum of all the forces be divided by the product of the body into the distance of the center of gravity from the point of suspension, the quotient thence arising will give the distance of the center of percussion, or of cillation, from the said point of suspension.

of gravity from the point of fuspension be g, and the distance of the center of percussion, or oscillation, from the same

point, be C.

1. To find the center of oscillation of a right line, OS, (fig. 59.) suspended at one of its extremes. If the part, OP, confidered as variable, be denoted by x, the force of x particles, at P, will be expressed by $x \times x^2$; and $\frac{1}{3}x^3$, the fluent of this quantity will express the force of all the particles in O P, or the fum of all the products, under each particle, and the square of its distance from O, the point of infpension. This quantity, when x becomes = O \dot{S} , being divided by O S \times $\frac{1}{2}$ O S, according to the rule above stated, will give $\frac{\frac{1}{3} \text{ O S}^3}{\frac{1}{2} \text{ O S}^3} = \frac{2}{3} \text{ O S}$ for the value of C, the true dif-

tance of the center of ofcillation (or percussion) from the

point of suspension.

2. Let A B, (fig. 60.) be a line, vibrating in a vertical plane, baving its two extremes, A and B, equally diffant from the point of suspension, O. If OG, perpendicular to AB, be put = a, and G P = x, the force of x particles at P, will be denoted by $\dot{x} \times a^2 + x^2 = \dot{x} \times OP^2$; and the fluent of this quantity, divided by ax, or $PG \times OG$, will give $\frac{a^3x + \frac{1}{3}x^3}{ax} = a + \frac{x^2}{3^d} = OG + \frac{DG}{3OG} = C$, when

w becomes = G B. 3. Let A P S Q (Plate VIII. Mechanics, fig. 61.) be a circle-viriating in a vertical plane; any diameter of which is P Q. Thus O P' + O Q' being = 2 O G' + 2 P G', the fum of the forces of two particles at P and Q (putting O G = a, and A G = r) will be $= a^2 + r^2 \times 2$; whence the fum of ail the particles, in the whole periphery, will be expressed by their number, multiplied by $a^2 + r^2$, or by $a^2 + r^2 \times$ periphery APSQ; which, if p be put = 3.141, &c. will be $= a^i - r^i \times 2pr = 2pa^ir + 2pr^i$. Hence the force of the circle itself is also given, being equal to the fluent of $2 p a^{i} r + 2 p r^{3} \times r = p a^{2} r^{2} + \frac{1}{2} p r^{4} =$ $\overline{a^2 + \frac{1}{2}r^2} \times \text{circle A P S Q}$. If the two expressions thus found be divided by a x periphery APSQ, and a x cir-

Whence cle APSQ respectively, we shall have $a + \frac{r^2}{a}$, and $a + \frac{r^2}{a}$

 $\frac{r^2}{\approx a}$, for the two corresponding values of C.

4. Let A H B E, fig. 62.) be a circle, having its plane (always) perpendicular to the axis of fulpention G O. Let A G B be that dismeter of the circle which is parallel to the axis of motion RS; and let EF be any chord parallel to A B and R S; whose distance, G P, from the center of the circle may be denoted by x; and put OG = a, and AG= r. Then, by the nature of the circle, EF = 2 $\sqrt{r^2 - x^2}$, whole distance, OP, from the axis of motion, RS, is also given = $\sqrt{a^2 + x^2}$. Hence it appears, that the force of all the particles in the line, E F, will be represented by $a^2 + \kappa^2 \times 2 \sqrt{r^2 - \kappa^2}$. Consequently, $\dot{x} \times a^2 + \kappa^2 \times 2$ of r'-x' is the fluxion of the force of the plane ABFE; whose fluent, when x = r, is $= a^2 + \frac{1}{4}r^2 \times \text{area A E FBG}$; which, if p be put for the area of the circle whose radius is unity, will be $=\overline{a^2+\frac{1}{2}\,p^2}\times\frac{1}{2}\,p\,r^2$; whereof the double $(p\,a^1\,r^2+\frac{1}{4}\,p\,r^4)$ is the force of the whole circle AEFH; whole fluxion, 2 parr + pr3 r (supposing r variable), being divided by \hat{r} , we likewise get $2 p a^2 r + p r^3$ (= $a^2 + \frac{1}{2} r^2$ x periphery AEFH) for the force of the periphery AEFH. But the center of gravity, whether we regard therefore the distance of the center of oscillation from the point of fuspension will, in these two cases, be exhibited by $a + \frac{r}{4a}$ and $a + \frac{r}{2a}$ respectively. If the circle, instead of being perpendicular to GO, either coincides, or makes a given angle with it, the value of C will be exactly the fame,

the axis of motion, RS. 5. Let the proposed figure be a curve, $A \to F$, (fig. 63.) moving, as it were, slatwise, so that the plane described by the axis $O \to A \to B$ may be perpendicular to that of the curve. Here, putting $A \to B \to B$, $A \to B \to B$, $A \to B \to B \to B$, $A \to B \to B \to B$, $A \to B \to B \to B$. = g, and AG = a, the force of the particles in MN will be expressed by $2y+d+x^2$. Consequently the fluent of $2 y \dot{x} \times (d + x)$ will be as the whole force of the plane, NAM (or AEF, when x = AS), and, confequently,

provided that the diameter, A B, still continues parallel to

 $C = \frac{\text{Flu, } d + x^{1/2} \times y \dot{x}}{\text{Flu, } d + x \times y \dot{x}}; \text{ which, therefore, when the point}$

of fufpension is in the vertex A, will become $C = \frac{\operatorname{Flu}.y \, x^{\dagger} \dot{x}}{\operatorname{Flu}.y \, x \, \dot{x}}$. Let this value be denoted by v; then, the distance of the centers of gravity and of cillation being v - a, we have

 $g \cdot a :: v - a : \frac{a \times v - a}{s}$, the diffance of the fame centers, when the point of furfpension is at O; and confequently, C, in that case, $= g + \frac{a \times v - a}{s}$; which form will be found

in most cases more commodious than the foregoing. After

will appear to be $= \frac{\operatorname{Flu} \cdot d + x)^2 \times \dot{z}}{\operatorname{Flu} \cdot d + x} = g + \frac{a \times v - a}{g},$ fuppoing $v = \frac{\operatorname{Flu} \cdot x^2 \dot{z}}{\operatorname{Flu} \cdot x \cdot \dot{z}}$ the fame manner the value of C, with respect to the arc, AEF,

The preceding theorem may be exemplified in the folceles triangle; in which case A P (x) and P N (y) being in 3 Cona conflant ratio, we have $y = \frac{b \, \kappa}{c}$ (supposing S F = t, and AS = c). Hence, C $\left(= \frac{\text{Flu. } d + x^{2} \times y \dot{x}}{\text{Flu. } d + x \times y \dot{x}} \right) =$ $\frac{6 d^2 + 8 d x + 3 x^2}{6 d + 4 x}$: or, according to the fecond form, because $v\left(\frac{\text{Flu. } y \times^2 \dot{x}}{\text{Fin. } v \times \dot{x}}\right) = \frac{3 \times x}{4}$, and a is known to be = $\frac{2 \ \text{s}}{3}$, we have $C \left(= g + \frac{a \times v - a}{g} \right) = g + \frac{\kappa^2}{18 \ g}$, where $g'(=d+a)=d+\frac{2}{3}x$. Again, because \dot{z} and \dot{x} are in a constant ratio, we also have $\frac{\mathrm{Flu.}\ d+\kappa)^2 \times \dot{z}}{\mathrm{Flu.}\ d+\kappa} \times \dot{z}$ $\frac{\text{Flu. } d+x)^2 \times \dot{x}}{\text{Flu. } d+x} \times \dot{x} = \frac{d^2 + dx + \frac{1}{3}x^2}{d+\frac{1}{2}x}; \text{ whence the center}$

of oscillation of the lines E H and A F is given. Secondly, let EAF be supposed a parabola of any kind, whose equation is $y = \frac{x^n}{x^{n-1}}$, then, according to the second form, we shall first have $v\left(=\frac{\operatorname{Flu}\, y\, \kappa^2\, \dot{x}}{\operatorname{Flu}\, y\, \kappa\, \dot{x}}\right) = \frac{\operatorname{Flu}\, \kappa^{\nu+2}\, \dot{x}}{\operatorname{Flu}\, \kappa^{n+1}\, \dot{x}}$ $=\frac{n+2\times x}{n+3}$: whence, a being $=\frac{n+1\times x}{n+2}$, we also obtain C $\left(=g + \frac{a \times v - a}{g}\right) = g + \frac{n+1 \times x^2}{n+2^2 \times n+3 \times g};$ where $g = d + \frac{n+1 \times n}{n+2}$. But with respect to the arc of the curve, $v\left(=\frac{\operatorname{Flu.} x^2 \dot{z}}{\operatorname{Flu.} x \dot{z}}\right)$ is $=\frac{\operatorname{Flu.} x^2 \dot{x} \sqrt{e^{2n-2}+e^{2n-2}$ nn N2 "-2

 $\frac{1}{\pi n} \frac{1}{x^{2n-2}}$: from which value found by infinite feries, and even without it in some cases, that of C will also be gi-

6. Let the proposed figure be a curve vibrating edgeways, so that the motion of the axis may be in the plane of the curve. Then the force of all the particles in the line PN (fig. 63) being defined O P³ × P N + $\frac{1}{3}$ P N³, or $d + \kappa$ | 2 × y+ 1/3 y3 (retaining the notation above) we have C = Flu. $d + x^2 \times y + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$; which, when the point of

Flu. $y x^2 \dot{x} + \frac{1}{3} y^3 \dot{x}$ fulpenfion is in the vertex A, will become $\frac{x_1, y_2, y_3}{\text{Flu. } y \approx \hat{x}}$ Denote this, when found, by v; then it appears from the preceding case, that the general value of C will also be reprefented by $g + \frac{a \times v - a}{1}$

In the fame manner, the value of C, with respect to the arc EAF, will be expounded by $\frac{\text{Flu. } d + x\}^2 + y^2 \times \dots}{\text{Flu. } d + x \times \hat{z}}$ or by $g + \frac{a^{-\sqrt{n}} - a}{2}$, supposing $v = \frac{\text{Flu. } \kappa^2 + y}{\text{Fiu. } \kappa \approx 2}$

E. G. Let the equation of the given curve be $s = \frac{x^n}{e^{n-1}}$, then $v : \left(= \frac{\text{Flu. } y \cdot x^n \cdot \hat{x} + \frac{1}{2} \cdot y^n \cdot \hat{x}}{\text{Flu. } y \cdot x \cdot \hat{x}} \right) =$

 $\frac{\text{Flu. } e^{1-n} \, x^{n} + ^{2} \, \overset{\circ}{x} + ^{3} \, e^{3-n} \, x^{3n} \, \overset{\circ}{x}}{\text{Flu. } e^{1-n} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, \times \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n + 2 \, x \, e^{n}}{1 + ^{3} \, x^{n} + ^{3} \, \overset{\circ}{x}} = \frac{n$ $\times \frac{y^2}{}$: From which the value of C is also given; and from whence it appears, that if n be expounded by o, v will become = $\frac{2x}{3} + \frac{2y^3}{3x} = \frac{3}{3} \times \frac{x^2 + y^3}{y}$; in which case the figure will degenerate into a rectangle: but, if n be denoted by I, the figure EAF will then be an isosceles triangle, and $v = \frac{3^{-N}}{4} + \frac{y^2}{4^{-N}}$: and, lattly, if n be taken $=\frac{1}{2}$, the curve will be the common parabola, and v=

7. Let the figure A E FH (fig. 64.) be a folid, generated by the rotation of a curve E A F about its axis A S; having its base H H parallel to the axis of motion BOC. It appears from Art. 4. (above) that the force of all the particles in the circular fection bb, parallel to HH, will be expressed by $OP^2 + \frac{1}{2}PN^2 \times \text{circle } hh, \text{ or } OP^2 \times PN^2 + \frac{1}{4}PN^4$ \times p (p being = 3.1415, &c.) which, in algebraic terms, is $(1+x)^2 \times y^2 + \frac{1}{4}y^4 \times p$. Hence we have C = $\frac{d + x^{\gamma} \times y}{\operatorname{Flu}. \frac{d + x}{d + x})^{2} \times y^{2} + \frac{z}{4} y^{4} \times p \,\dot{x}}{\sqrt{2}} = \frac{\operatorname{Flu}. \frac{d + x}{d + x}|^{2} \times y^{2} \,\dot{x}}{\operatorname{Flu}. \frac{d + x}{d + x}}$

 $\frac{+\frac{2}{4}y^4\dot{x}}{|x-y|^2\dot{x}}$. Which, when the point of fulpention is in the vertex A, becomes $\frac{\text{Fiu. } y^2 \times^2 \hat{x} + \frac{x}{4} y^4 \hat{x}}{\text{Fiu. } y^2 \times \hat{x}} = v; \text{ and confe-}$

quently, $C = g + \frac{a \times v - a}{g}$, as in the preceding cases.

But with regard to the superficies of the folid, it is found (Art. 4. above) that the force of the particles in the periphery Mb Nb is expressed by O P' + 1 P N' × periph. Mb Nb = $d + x^2 \times 2py + py^3$. Hence the fluent of $\overline{(d+x)^2 \times 2py + py^3} \times \dot{z}, \text{ divided by that of } \overline{d+x} \times 2py \dot{z} \left(= \frac{\text{Flu. } \overline{d+x})^2 \times 2y\dot{z} + y^3\dot{z}}{\text{Flu. } \overline{d+x} \times 2y\dot{z}} \right) \text{ will give the true}$ value of C with respect to the curve surface Eb Ab F: which, putting $v = \frac{\operatorname{Flu} \cdot 2y x^3 \dot{z} + y^3 \dot{z}}{\operatorname{Flu} \cdot 2y x \dot{z}}$, is likewise ex-

E.G. I. Let EAF be confidered as a cone: then, putting AS = f, SF = b, and AF = c, we have y =and $z = \frac{c x}{f}$; and, therefore, $C = \frac{\text{Flu. } d + x^{1/2} \times y^2 \dot{x}}{\text{Flu. } d + x}$ $\frac{+\frac{1}{3}y^{4}\dot{x}}{\times y^{2}\dot{x}} = \frac{20 d^{3} + 30 f d + 12 f^{2} + 3 b^{2}}{20 d + 15 f}, \text{ when } x = f.$ But with respect to the convex superficies, C will be found $\frac{12 d^{3} + 16 df + 6 f^{2} + 3 b^{2}}{12 d + 8 f}.$

E. G. 2. Let E A F be considered as a sphere, whose center is S, and radius A S = r; in which case, g^2 being = center is 8, and radius if S = r; in which exist, y being $2 rx - x^2$, we have $\sigma \left(= \frac{\text{Fln. } y^2 x^2 \dot{x} + \frac{1}{4} y^4 \dot{x}}{\text{Fln. } y^2 x^2 \dot{x}} \right) = \frac{\text{Fln.}}{\text{Fln.}}$ $\frac{1 - \frac{1}{2} r x^3 \dot{x} - \frac{2}{3} x^4 \dot{x}}{2 r x^2 \dot{x} - x^3 \dot{x}} = \frac{\frac{1}{2} r^2 + \frac{1}{4} r x - \frac{3}{4} x^2}{\frac{1}{2} r - \frac{1}{4} x}; \text{ whence C}$ also is given. But when x = 2 r (or the whole sphere is taken) $v = \frac{7r}{r}$; therefore, a being = r, and g = 0 S, in this case, we have $C\left(=g+\frac{a\times v-a}{g}\right)=g+\frac{r\times vr}{5g}$ = 5 : ---8. Let the figure proposed be a folid (as before), but with its axis AG parallel to the axis of metion ORS (fig. 65.). Then, if R P (OG) be put = g, 3-1459 &c. = p, A P = κ , the force of the particles in the circle N M (parallel to E F) will be exhibited by $\frac{\overline{g^{\pm}} + \frac{1}{2} y^3 \times \rho y^2$, or $\rho y^2 y^2 + \frac{1}{2} \rho y^4$ (Art. 3.) 11... $\frac{\text{Flu.}}{g} \frac{\rho g^2 y^2 \dot{x} + \frac{1}{2} \rho y^4 \dot{x}}{g \times \text{folid}} = \frac{\text{Flu.}}{g \times \text{Flu.}} \frac{\rho x^2 y^2 \dot{x} + \frac{1}{2} \rho y^2 \dot{x}}{g \times \text{Flu.}} \frac{\rho y^2 \dot{x}}{g \times \text{Flu.}}$ $3 + \frac{\text{Flu. I}}{g \times \text{Flu. y}^3 \cdot x}$ With respect to the superficies, the force of the particles in the periphery of the faid circle M N being $2pg^2y + 2py^3$, we have, in this case, $C = \frac{\text{Flu. } 2pg^2y + 2py^3}{g \times \text{Su-}}$ $\frac{2 p y^3 \times \dot{z}}{\text{perficies}} = \frac{\text{Flu.} \ 2 p g^2 y \, \dot{z} + 2 p y^3 \, \dot{z}}{g \times \text{Flu.} \ 2 p y \, \dot{z}} = g + \frac{\text{Flu.} \ y^3 \, \dot{z}}{g \times \text{Flu.} y \, \dot{z}}$ perheres $g \times \operatorname{Flu} \cdot 2pyz = g \times \operatorname{Flu} \cdot pyz$ E. G. 1. Let $E \land F$ be a figment of a fiphere, whose radius is r; then y^2 being $= 2rx - x^2$, we shall have C $\left(g + \frac{\operatorname{Flu} \cdot \frac{1}{2}y^4\dot{x}}{g \times \operatorname{Flu} \cdot y^2\dot{x}}\right) = g + \frac{\operatorname{Flu} \cdot 2r^2x^2\dot{x} + 2rx^2\dot{x} + \frac{1}{2}x^4\dot{x}}{g \times \operatorname{Flu} \cdot 2rx^2\dot{x} + x^2\dot{x}}$ $= g + \frac{1}{g \times r - \frac{1}{2}x} = g + \frac{1}{30r - 10x \times g}$ This quantity, when x is denoted either by r or 2r, becomes $= g + \frac{2r^4}{5g}$, for the true value of C, as the hemisphere, or the whole sphere, is taken. But, with regard to the center of oscillation of its superficies, we have $\dot{z}=$ $\frac{r\dot{x}}{\sqrt{2rx - NX}} = \frac{r\dot{x}}{y}: \text{ and, therefore, } g + \frac{\text{Flu, } v^3 \dot{z}}{g \times \text{Flu, } r\dot{x}} = g + \frac{\text{Flu, } rx - xx \times r\dot{x}}{g \times \text{Flu, } r\dot{x}} = g + \frac{rx - \frac{1}{4}x^2}{g}; \text{ which,}$ when x = r, or x = 2r, becomes $g + \frac{2r^2}{2g}$ E.G. 2. Let the folid, EAF, be a paraboloid, whose generating curve is defined by the equation $y = \frac{N^{n}}{(n-1)!}$; then $\mathbf{C} = g + \frac{\operatorname{Flu} \cdot \frac{1}{2} y^4 \dot{x}}{g \times \operatorname{Flu} \cdot y^2 \dot{x}} = g + \frac{\operatorname{Flu} \cdot \frac{1}{2} x^{47} \dot{x} \dot{x} \dot{x}^{4-4n}}{g \times \operatorname{Flu} \cdot x^{37} \dot{x} \dot{x} \dot{x}^{2-4n}} = g$ $+ \frac{2n+1 \times x^2}{4n+1 \times 2 g \times c^{24-2}} = g + \frac{2n+1 \times y^2}{4n+1 \times 2 g}. \quad \text{Here,}$ taking n = o, the figure will become a cylinder, and $\mathbf{C} = g$ $+\frac{y^2}{2g}$: but if n be expressed by 1, the figure will be a cone, and $C = g + \frac{3y^2}{10g}$. If n be taken = $\frac{1}{2}$, the figure will be the folid generated from the common parabola, and $C = g + \frac{y^*}{\frac{1}{2} g}.$

E. G. 3. Let the body be a circle, and the axis of vibration pais through C perpendicular to its plane $(f_{\overline{g}}, 66.)$ Put G A = r, C G = d, G O = x, and p = 6, 28; &c. Then $p_N =$ the circumference $v \approx v$, and the fluxion of the fum of all the particles multiplied into the fquare of their diftances from $G = p \times \times x^2 \times \dot{x}$, whose fluent, when x = r, is $\frac{p \cdot r^4}{4}$; and the area of the circle $\times d = \frac{p \cdot r^2}{2} \times d$; hence

 $CO = d + \frac{r^2}{2 |c|}$. If C coincide with A, then $CO = \frac{1}{2}r$.

Hence it follows that the fame must be true for a cylinder, whose axis is parallel to the axis of vibration. See Simpson's Fluxions, vol. i. p. 214, &c. Hodgson's Fluxious, p. 434, &c. Vince's Principles of Fluxious, section 5. Cavallo's Elem. of Nat. and Exp. Phillof. vol. i.

the first person who shewed how to find the center of oscillation. Merfennus, he fays, first proposed the problem to him, when he was very young, requiring him to refolve it in the flat-ways; as also for triangles and the segments of circles, either suspended from their vertices, or the middle of their bases. But, as he proceeds to observe, not having immediately discovered any thing that would open a passage into this bufinefs, I was repulfed at first fetting out, and stopped from the further profecution of it; till, being farther incited to it by adjusting the motion of the pendulums of my clock, I furmounted all difficulties, going far beyond Descartes, Fabri, and others, who had done the thing in a few of the most easy cases only, without any sufficient demonstration; and folving not only the problems proposed by Mersennus, but many others that were much more difficult, and shewing a general way of determining this center in lines, superficies, and folids. In the Leipfic acts for 1691 and 1714, this doctrine is discussed by the two Bernouillis; and the same is also done by Hermann, in his treatise " De Motu Corporum Solidorum et Fluidorum." But it has been fince more amply invelligated in various treatifes on the inverse method of fluxions, in which it is introduced as one of the examples of that method by Hayes, Carré, Wolfius, Simpson, &c. &c. A specimen of the application of this method to several cases has been given above; from which it appears, that in a right line, or rectangle, or cylinder, or any other prifm, yx2 x is ax2 x, whose fluent is 1 ax3; also yxx is axx, whose fluent is $\frac{1}{2} a x^2$; and the quotient of the former $\frac{1}{2} a x^3$ divided by the latter $\frac{1}{2} a x^3$, is $\frac{2}{3} x$ for the dillance of the center of ofcillation below the vertex in any fuch figure; namely, having every where the fame breadth or fection, that is, at two-thirds of its length. In like manner, the cen-

Nature of the figure, when fufpended by the vertex. Ifofceles triangle - & of its altitude Common parabola - & of its altitude

Any parabola - $\frac{2m+1}{3m+1} \times \text{ its altitude};$

m being 2 in the common parabola; 3 in the cubic parabola; 4 in the biquadratic.

The inveltigation of the center of ofcillation in figures moved laterally or fide-ways, or edge-ways, that is, about an axis perpendicular to the plane of the figure, is formewhat difficult; because all the parts of the weight in the same horizontal plane, on account of their unequal distances from the point of suspension, do not move with the same velocities.

city; as is shown by Huygens, in his Horol. Oscill. He where the percussion is the greatest, in which the whole perfound, in this case, the diffance of the center of oscillation, from the axis; in a circle, to be $\frac{3}{4}$ of the diameter: in a rectangle, suspended by one of its angles, 3 of the diagonal: in a parabola, suspended by its vertex, 5 of its axis, and 1 of the parameter; fulpended from a point in the middle of the basis, 4 of the axis, and 1 the parameter: in the sector of a circle, 3 of a right line, which is to the radius as the arc to the fubtenfe: in a cone, 4 of the axis, and 1 of the third proportional to the axis, and a femidiameter of the base: in a sphere (as is usually the case in pendulums) ? of a third proportional to two quantities composed of the semidiameter and length of the thread, and the femidiameter itself: in a cylinder, 3 of the altitude, and 1 a right line, which is to the femidiameter of the base, as that is to the altitude. See the preceding part of this article.

To find the center of ofcillation mechanically or experimentally. Let the body be made to ofcillate about its point of suspension; and hang up also a simple pendulum of such a length that it may vibrate or just keep time with the other body; then the length of the simple pendulum is equal to the distance of the center of oscillation of the body below the point of suspension. Or it may be still better sound in the following manner: Suspend the body very freely by the given point, and make it vibrate in small arcs, counting the vibrations it makes in any portion of time, as a minute, by a good stop-watch; and let that number of oscillations made in a minute be called n; then shall the distance of the center

of oscillation be SO = $\frac{140850}{n n}$ inches. For, the length

of the pendulum vibrating feconds, or 60 times in a minute, being $39\frac{1}{3}$ inches, or more accurately 39.1196 inches, and the lengths of pendulums being reciprocally as the fquares of the number of vibrations made in the fame time; there-

fore $n^2:60^2::39\frac{1}{4}:\frac{140850}{nn}$, the length of the pendulum which vibrates a time in a minute set $n^2:60^2:10^2$

which vibrates n times in a minute, or the diffance of the center of ofcillation below the axis of motion. Or again: divide 50 feconds by the number of vibrations performed by the pendulous body in question in one minute; and the quotient is the time of one vibration. Square this time, and multiply its square by the length of the pendulum that vibrates seconds, viz. by 30.1196 inches, and the last product shews the distance in inches of the center of oscillation or percussion from the point of suspension in the proposed pendulum.

E. G. 1. Let a cylindrical flick about a yard long be sufpended by one extremity, and caused to vibrate. Let the number of its vibrations be 76 in a minute; divide 60 seconds by 76, and the quotient, or 0".79 (79 hundredths of a second), is the time in which the proposed pendulum performs one vibration. Then, the lengths of pendulums being as the squares of the times of vibration, say, as the square of one second, i.e. unity, is to the square of 0".79, viz. 0.6241, so is the length of the pendulum which vibrates seconds, viz. 39.1196 by 0.6241, and the product, 24.4, is the distance sought: so that the center of oscillation in the sick is 24 inches and 4 tenths distant from its extremity by which it is suspended; that is, about \(\frac{3}{2}\) of its length.

E. G. 2. Let an irregular body, suspended by one end, perform 20 vibrations in a minute; and the time of one vibration is $\frac{60}{20} = 3$ seconds; the square of this is 9, and $\frac{60}{20} = 352.0764$ inches, or nearly, 29 feet, the difference of the center of ofcillation from the point of suspendion.

CENTER of percussion, in a moving body, is that point

cutient force of the body is supposed to be collected: or about which the impetus of the parts is balanced on every fide: fo that it may be stopped by an immoveable obstacle at this point, and rest on it, without acting on the center of fulpention: or, the center of percussion is that point in the axis of a vibrating or revolving body, which, striking against an immoveable obstacle, causes the whole motion, ellimated in the plane of the body's motion, to be destroyed. It is obvious, that if the obstacle be opposed to the moving body at different distances from the point of suspension, the stroke or percussion will not be equally powerful: and it is evident, that this center of percussion does not coincide with the center of gravity. Let the body, AB, (Plate VIII. Mechanics, fig. 67.) confishing of two equal balls faltened to a stiff rod, move in a direction parallel to itself, and it is evident that the two balls must have equal momentums, fince their quantities of matter are equal, and they move with equal velocities. Now if in its way, as at N. II. an obstacle C be opposed exactly against its middle E, the body will thereby be effectually stopped, nor can either end of it move forwards, for they exactly balance each other, the middle of this body being its center of gravity. Now should an obstacle be opposed to this body, not against its middle, but nearer to one end, as at N. III. then the stroke being not in the direction of the center of gravity, is in fact an oblique stroke, in which case, agreeably to the laws of congress, a part only of the momentum will be spent upon the obstacle, and the body advancing the end A, which is farthest from the obstacle, as shewn by the dotted representation, will proceed with that part of the momentum which has not been spent upon the obstacle; consequently in this case the percussion is not so powerful as in the foregoing. Therefore there is a certain point in a moving body which makes a stronger impression on an obstacle than any other part of it. In the present case, indeed, this point coincides with the center of gravity; because the two ends of the body before the stroke moved with equal velocities. But in a pendulum the case is different; for let the same body of fig. 67, be fulpended by the addition of a line AS, fig. 68, which line we shall suppose to be void of weight and flexibility, and let it vibrate round the point of suspension S. It is evident that now the two balls will not move with equal velocities; for the ball B, by describing a longer arc than the ball A in the same time. will have a greater momentum; and of course the point where the forces of the two balls balance each other, which is the center of percussion, lies nearer to the lower ball B; confequently this point does not coincide with the centre of gravity of the body AB; but it is that point wherein the forces of all the parts of the body may be conceived to be concentrated. Hence the center of oscillation and the center of percussion coincide; or rather they are exactly the fame point, whose two names only allude, the former to the time of vibration, and the latter to its striking force.

If in fig. 67, the balls A and B be not equal, their common center of gravity will not be in the middle at E, but it will lie nearer to the heavier body, as at D, supposing B to be the heavier body; so that the distances, BD, AD, may be inversely as the weights of those bodies. Now when the above-mentioned body is formed into a pendulum, as in fig. 68, though the weights A and B be equal, yet by their moving in different arcs, viz. with different velocities, their forces or momentums become actually unequal; therefore in order to find the point where the forces balance each other, so that when an obstacle is opposed to that point, the moving pendulum may be effectually stopped.

and no part of it may preponderate, in which cafe the obflacle will receive the greatest impression; we must find first the momentums of the two bodies A and B, then the difequal forces, mult be inverfely as those momentums. Thus the velocities of A and B are represented by the fimilar arcs which they describe, and those arcs are as the radii SA, SB. Therefore the momentum of A is the product of its quantity of matter multiplied by S A, and the momentum of B is the product of its quantity of matter multiplied by SB; consequently AD mult be to BD, as the weight of B multiplied by S B is to the weight of A multiplied by AS. Then D is the center of percussion. And fince, when four quantities are proportional, the product of the two extremes is equal to the product of the two means; therefore if the weight of A multiplied by AS, be again multiplied by AD, the product must be equal to the product of the weight of B multiplied by BS, and again multiplied by BD.

CENTER of percuffion, laws of the .- 1. The center of perentfron is the fame with the center of ofcillation, where the percutient body revolves round a fixed point; and is determined in the fame manner, viz. by confidering the impetus of the parts, as fo many weights applied to an inflexible right line, void of gravity; i. e. by dividing the fum of the products of the forces of the parts, multiplied by their diffances from the point of suspention, by the fum of the forces. What, therefore, has been above shewn of the center of ofcillation, will hold of the center of percussion, where the percutient body moves round a fixed point: e. g. that the center of percussion in a cylinder is at of its length from the point of suspension; or that a flick of a cylindrical figure, supposing the center of motion at the hand, will strike the greatest blow at a point about two-thirds of its length from the hand. See CENTER of oscillation.

2. The center of percuffion is the same with the center of gravity, if all the parts of the percutient body be carried with a parallel motion, or with the fame celerity: for the momenta are the products of the weights into the celerities. Wherefore, to multiply equiponderating bodies by the fame velocity, is the fame thing as to take equimultiples; but the equimultiples of equiponderating bodies themselves

equiponderate; therefore, equivalent momenta are disposed about the center of gravity : consequently the center of percussion in this case coincides with that of gravity; and what is shewn of the one, will hold of the other.

To find the center of percuffion of a body. Let ABD (fig. 69.) be a plane palling through the center of gravity G of the body, and perpendicular to the axis of Suspension which passes through C; and conceive the whole body to be projected upon this plane in lines perpendicular to it, or parallel to the axis: then, as each particle is thus kept at the same distance from the axis, the effect, from the rotatory motion about the axis, will not be altered, nor will the center of gravity be changed. Let O be the center of percuffion, and draw pn w perpendicular to pC, and Ow perpendicular to pw; also pv perpendicular to Cn. As the velocity of any particle p is as pC, the momentum of p in the direction $p \approx is$ as $p \times pC$, it being as the velocity and quantity of matter conjointly; and by the property of the lever, the efficacy of this force to turn the body about O is as $p \times pC \times Ow \equiv (\text{because } On : Ow :: pC : vC) p \times$ $vC \times On = p \times vC \times CO - Cn = p \times vC \times CO$ $p \times v \cdot \mathbb{C} \times \mathbb{C} n = (as \ \mathbb{C} n : \mathbb{C} p : \mathbb{C} p : v \cdot \mathbb{C}) \ p \times v \cdot \mathbb{C} \times \mathbb{C} \times \mathbb{C} O - p \times \mathbb{C} p^*$. Now that the efficacy of all the particles to turn the body about O may be $= \mathfrak{s}_{\mathfrak{s}}$ we

must make the fum of all the quantities p x vC x CO -Time of all the quantities of C, ' = or 'error CO = nanci di torre a Cel Camoi alli 1 - p Ci lla fe two drowing a long applificants improperty of the correct of gravity. Although the body by thriking at O may have no tendency to move in the plane of its previous motion, and yet is may have a tendency to revolve about AO. If therefore the center of percussion were defined to be that point where the whole motion would be deftroyed, we must the force acting at O deftroys the motion, let us suppose a then it is manifest, that the body would begin to return under all the fame circumfrances in which its motion ceafed; that is, it would begin its motion by revolving about C. In this case C is called the CENTER of Spontaneous rotation; makin ipentaneous rotation coincides with the center of rotation corresponding to that center of percussion. Vince's Principles of Fluxions, p. 102. Parkinfon's System of Me-

CENTER of a parallelogram, the point wherein its diago-

CENTER of polition, denotes a point of any body, or fystem of bodies, so selected, that we may properly estimate the fituation and motion of the body or fythem by those of this point. It is evident that, in mechanical discussions, the point, by the polition of which we estimate the polition and distance of the whole, must be fo determined, that its position and distance, estimated in any direction whatever, shall be the average of the positions and distances of every particle of the male, eltimated in the same direction. Accordingly this will be the case, if the point be so selected that, when a plane is made to pass through it in any direction whatever, and perpendiculars are drawn to this plane from every particle in the body or fystem, the sum of all the perpendiculars on one fide of this plane is equal to the fum of all the perpendiculars on the other fide. If there be fuch a point in the body, the position and motion of this point are the average of the politions and motions of all the particles. For if P (Plate IX. Mechanics, fig. 70.) be a point so fituated, and if Q R be a plane (perpendicular to the paper) at any distance from it, the distance Pp of the point from this plane is the average of the diffances of all the particles from it. For let the plane A P B be paffed through P, parallel to Q R. The diltance C S of any particle C from the plane Q R is equal to DS-DC, or to Pp-DC. And the dilance G T of any particle G, lying on the other fide of A PB, is equal to H T + GH, or to Pp + GH. Let n be the number of particles on that fide of A B which is nearest to Q R, and let o be the number of those on the remote side of A B, and let m be the number of particles in the whole body, and therefore equal to n + o. It is evident that the fum of the diffances of all the particles, fuch as C, is n times Pp, after deducting all the distances, such as DC. Also the sum of all the distances of the particles, such as G, is o times Pp, together with the fum of all the distances, fuch as G H. Therefore the fum of both fets is $n + o \times Pp + \text{fum of } GH - \text{fum of } DC$, or $m \times Pp \times \text{fum of } GH - \text{fum of } DC$. But the fum of GH, wanting the fum of DC, is nothing,

by the supposed property of the point P. Therefore m X Po is the fum of all the diffances, and Po is the mth part

of this fum, or the average distance.

Now suppose that the body has changed both its place and its polition with respect to the plane Q R, and that P (fig. 71.) is still the same point of the body, and a P B a plane parallel to Q R. Make p = equal to pP of fig. 70. It is plain that Pp is still the average distance, and that m × Pp is the fum of all the prefent distances of the particles from Q R, and that $m \times \pi p$ is the fum of all the former distances. Therefore $m \times P \pi$ is the fum of all the changes of distance, or the whole quantity of motion estimated in the direction = P. P = is the mth part of this fum, and is therefore the average motion in this direction. point P has therefore been properly selected; and its position, and distance, and motion, in respect of any plane, is a proper representation of the fituation and motion of the whole.

It follows from the preceding discussion, that if any particle C (fig. 70.) moves from C to N, in the line C S, the centre of the whole will be transferred from P to Q, fo that PQ is the mth part of CN; for the fum of all the diltances has been diminished by the quantity C N, and therefore the average diftance must be diminished by the mth part of C N,

or PQ is $=\frac{CN}{m}$

But it may be doubted whether there is in every body a point, and but one point, fuch that if a plane pals through it, in any direction whatever, the fum of all the distances of the particles on one fide of this plane is equal to the fum of all the distances on the other.

It is easy to shew that such a point may be found, with respect to a plane parallel to Q R. For if the sum of all the distances D C exceed the sum of all the distances G H, we have only to pass the plane A B a little nearer to Q R, but still parallel to it. This will diminish the sum of the lines DC, and increase the sum of the lines GH. We

may do this till the fums are equal.

In like manner we can do this with respect to a plane I. M (also perpendicular to the paper), perpendicular to the plane A B. The point wanted is somewhere in the plane A B, and fomewhere in the plane L M. Therefore it is fomewhere in the line in which these two planes interfect each other. This line paffes through the point P of the paper where the two lines A B and L M cut each other. two lines represent planes, but are, in fact, only the interfection of those planes with the plane of the paper. Part of the body must be conceived as being above the paper, and part of it behind or below the paper. The plane of the paper therefore divides the body iuto two parts. It may be fo fituated, therefore, that the fum of all the dillances from it to the particles lying above it shall be equal to the sum of all the distances of those which are below it. Therefore the fituation of the point P is now determined, namely, at the common interfection of three planes perpendicular to each other. It is evident that this point alone can have the condition required in respect of these three planes.

But it still remains to be determined whether the fame condition will hold true for the point thus found, in respect to any other plane paffing through it; that is, whether the fum of all the perpendiculars on one fide of this fourth plane is equal to the fum of all the perpendiculars on the other

Therefore

Let AGHB (fig. 72.), AXYB, and CDFE, be three planes interfecting each other perpendicularly in the point C, and let CIKL be any other plane, interfecting the first in the line C1, and the second in the line CL. Let P be any particle of matter in the body or fystem. VOL. VII.

Draw PM, PO, PR. perpendicular to the first three planes respectively, and let PR, when produced, meet the oblique plane in V; draw M N, O N, perpendicular to C B. They will meet in one point N. Tren PMNO is a rectangular parallelogram. Alfo draw MQ perpendicular to CE, and therefore parallel to AB, and meeting CI in S. Draw SV; also draw ST perpendicular to VP. It is evident that SV is parallel to CL, and that STRQ and STPM are rectangles.

All the perpendiculars, fuch as PR, on one fide of the plane CDFE, being equal to all those on the other side, they may be confidered as compensating each other; the one being confidered as positive or additive quantities, the other as negative or fubtractive. There is no difference between their fums, and the fum of both fets may be called o or nothing. The fame must be affirmed of all the perpendiculars P M, and of all the perpendiculars P O.

Every line, fuch as RT, or its equal QS, is in a certain invariable ratio to its corresponding QC, or its equal PO. Therefore the positive lines RT are compensated by

the negative, and the fum total is nothing.

Every line, fuch as TV, is in a certain invariable ratio to its corresponding ST, or its equal PM, and therefore their

fum total is nothing.

Therefore the fum of all the lines PV is nothing; but each is in an invariable ratio to a corresponding perpendicular from P on the oblique plane CIKL. the fum of all the politive perpendiculars on this plane is equal to the fum of all the negative perpendiculars, and the proposition is demonstrated, viz. that in every body, or lystem of bodies, there is a point such, that if a plane be passed through it in any direction whatever, the sum of all the perpendiculars on one fide of the plane is equal to the fum of all the perpendiculars on the other fide.

The point P, thus felected, may, with great propriety, be

called the center of position of the body or system.

If A and B (fig. 73.) be the centers of position of two bodies, whose quantities of matter (or numbers of equal particles) are a and b, the center C lies in the straight line joining A and B, and A C : C B = b : a, or its distance from the centers of each are inverfely as their quantities of matter. For let α C β be any plane paffing through C. Draw A a, B B, perpendicular to this plane. Then we have $a \times A\alpha = b \times B\beta$, and $A\alpha : B\beta = b : a$, and, by fimilarity of triangles, CA : CB = b : a.

If a third body D, whole quantity of matter is d, be added, the common center of polition E of the three bodies is in the straight line D.C., joining the center D of the third body with the center C of the other two, and D.E.: EC = a + b : d. For passing the plane $\partial E \times \text{through}$ E, and drawing the perpendiculars Do, Cx, the fum of the perpendiculars from D is $d \times D$ δ ; and the fum of the perpendiculars from A and B is $a + b \times C \times$, and we have a+b:d.

In like manner, if a fourth body be added, the common center is in the line joining the fourth with the center of the other three, and its distance from this center and from the fourth is inverfely as the quantities of matter; and

so on for any number of bodies.

If all the particles of any fyttem be moving uniformly, in straight lines, in any directions, and with any velocities whatever, the center of the fystem is either moving uniformly in a flraight line, or is at reft.

For, let m be the number of particles in the fystem. Suppose any particle to move uniformly in any direction. It is evident from the reasoning in a former paragraph, that 1.1

the motion of the common center is the mth part of this motion, and is in the fame direction. The fame must be faid of every particle. Therefore the motion of the center is the motion which is compounded of the mth part of the motion of each particle. And because each of these was supposed to be uniform and rectilineal, the motion compounded of them all is also uniform and rectilineal; or it may happen that they will fo compensate each other that there will be no diagonal, and the common center will remain at relt.

Cor. 1. If the centers of any number of bodies move uniformly in straight lines, whatever may have been the motions of each particle of each body, by rotation or otherwife, the motion of the common center will be uniform and

rectiling 1.

Cor. 2. The quantity of motion of fuch a fyshem is the fum of the quantities of motion of each body, reduced to the direction of the center's motion. And it is had by multiplying the quantity of matter in the fythem by the velocity of the center.

The velocity of the center is had by reducing the motion of each particle to the direction of the center's motion, and then dividing the fum of those reduced motions by the

quantity of matter in the fyllem.

By the felection of this point, we render the investigation of the motions and actions of bodies incomparably more simple and easy, freeing our discussions from numberlefs intricate complications of motion, which would frequently make our progress almost impossible. That there is in every body fuch a point has been demonstrated in the manner above flated by Dr. Robifon (after Boscovich) in his Elements of Mechanical Philosophy, &c. Svo. 1804,

P. 79, &c.

CENTER of preffure, in Hydraulies, is that point of a furface, against which any fluid presses, in which the whole pressure may be conceived to be united; or, as Mr. Cotes has defined it, it is that point, to which, if the total preffure on any plane were applied, its effect upon the plane would be the fame as when it was distributed unequally over the whole; or again, it is that point to which, if a force were applied, equal to the total preffure, but with a contrary direction, it would exactly balance or refleain the effect of the pressure, and keep the surface at rest. Thus if abod (Pints IX. Mechanics, fig. 74.) be a veffel of water, and the fide a c this force is unequally diffributed over ac; for the parts near a being at a leffer depth, are lefs preffed upon than the parts near c, which are at a greater depth, and therefore the efforts of all the particular preffures are united in some point as z, which is nearer to c than to a, and that point z is what may be called the centre of preffire. If to that point a force equivalent to 20 pounds weight be applied, it will affeet the plane ac in the same manner as before by the pretfure of the water distributed unequally over the whole; and if to this fame point we apply the fame force with a contrary direction to that of the preffure of the water, the force and pressure will balance each other, and by contrary endeavours destroy each other's effeets. Suppose at a a cord ap w were fixed, which passing over the pulley, p, has a weight, eo, of 20 pounds annexed to it, and that the part of the cord a p were perpendicular to ac; the effort of the weight w is equal, and its direction contrary to that of the pressure of the water. Now if z be the center of pressure, these two powers will be in equilibrio,

ter of gravity; and conceive the whole plane to be divided into an indefinite number of indefinitely small parts, of which one is x; draw PQ, Gg, xv, perpendicular to the furface, and Pa, Gn, xm, perpendicular to cd; and join Q a, g n, vm: then it is manifelt that the triangles P Q a, Ggn, x v m, are fimilar. Now the pressure on x perpendicular to VW is as x x x v (being as the particle or number of particles x the depth); and its effect to turn the plane about cd is as $n \times nv \times nm$; but, by fimilar triangles, $G n: G g:: x m: x v = x m \times \frac{G g}{G n}:$ hence the effect of the preffure at x to turn the place about cd is as $x \times x m^2$

with the furface, P the center of preffure, and G the cen-

 $x \times x$ $m^2 \times \frac{G \, g}{G \, n}$. But if A= the area of $V \, W$, the preffure on V W is as A × Gg; therefore the effect of that pressure at P to turn the plane about cd is as A × Gg × Pa. Hence $A \times G g \times Pa =$ the fum of all the $x \times x m^2 \times \frac{G g}{G n}$: Confequently $Pa = \frac{\text{Sum of all the } x \times x m^2}{A \times G n}$.

 $\times \frac{G_{\mathcal{A}}}{G_{\mathcal{A}}}$; therefore the whole effect is as the fum of all the

Hence it appears, that P is at the same distance from cd as They do not, however, in general lie in the fame line, that is, in the line n G; for the efficacy of the pressure at x, to turn the plane about nG, is as $x \times xv \times mn$, or (fince xv varies as xm) as $x \times xm \times mn$; but the lum of all the $x \times x m \times mn$ is not generally = 0; therefore the whole The centers of preffure and percuffion do not therefore in gedefined to be that point in the line ? G at which all the mowhich case, the position of the line A p mud be computed on

in the progressive motion of the body, and has directed a method of inquiry by which the velocities of the bodies may be found after the Aroke. Two years afterwards D. To find the center of prefine of a plane furface. Let Bernouilli published a paper on progressive and rotatory mo-ABCD (fig. 75.) be the surface of the sluid, VW the plane, in which produced, let cil be its intersection before given. Euler has also investigated the velocities of the bodice after impact in a manner somewhat different, but he has rendered it much more intricate by a fluxional calculus. Mr. Vince has treated this subject much at large and with great perspicuity in the Philosophical Transactions, vol. Ixx. (for 1780) p. 546, &c. He begins with the most simple cases, and then proceeds to those that are more complicated; and he comprehends the whole in a variety of diftinct propositions.

1. Let A and B (Pl. IX. Mechanics, fig. 76.) be two indefinitely finall bodies connected by a lever word of gravity; and fuppole a force to all at any point D perpendicularly to the lever; and it be required to find the point about which the

bodies will begin to revolve.

By the property of the lever, the effort of the force acting at D on the body is to the effect on B :: BD : AD; and therefore the ratio of the spaces Am, Bn, described by the bodies A and B in the first instant of their motion will be as $\frac{BD}{A}:\frac{AD}{B}$; join mn, and produce it if necessary, and also AB to meet in C, and this will be the point about which

the bodies begin to revolve. Hence from limitar figures
$$BC : AC :: \frac{AD}{B} (Bn) :: \frac{BD}{A} (Am) :: A \times AD :: B \times BD$$
; or $DC - DB :: AD + DC :: A \times AD :: B \times BD$; and confequently $DC = \frac{A \times AD^2 + B \times BD^2}{B \times BD - A \times AD}$;

the bodies begin to revolve. Hence from fimilar figures

and therefore D is the center of percuffion or ofcillation to the point of suspension C. Hence, whatever be the magnitude of the stroke at D, the point C will remain the same. Moreover, if the force acts at the center of gravity, G, the bodies will have no circular motion; for in this case B x $BD - A \times AD = o$; and therefore DC becomes infinite. Further, if the force acts at one of the bodies, the center of rotation, C, will coincide with the other body. Also, if the lever had been in motion before the stroke, the point C, at the instant of the stroke, would not have been disturbed.

2. Let a given quantity of motion be communicated to the lever at D, to determine the velocity of the center of gravity, G. The fpace Am is as $\frac{DB}{A}$; and $CG = CD - DG = CD - AC + AD = <math>\frac{A \times AD^2 + B \times BD^2}{B \times BD - A \times AD} - AC + AD$

 $= \frac{B \times BD \times BG + A \times AD \times AG}{B \times BD - A \times AD}; \text{ alfo } CA = \frac{B \times BD \times BG + A \times AD \times AG}{B \times BD - A \times AD}; \text{ alfo } CA = \frac{CD + DA}{B \times BD - A \times AD}; \text{ alfo } CA = \frac{B \times BD \times AB}{B \times BD - A \times AD}; \text{ hence we have } \frac{B \times BD \times AB}{B \times BD - A \times AD}; \text{ hence we have } \frac{B \times BD \times AB}{B \times BD - A \times AD}; \text{ (AC)} : \frac{BD}{A} \text{ (mA)} : \frac{B \times BD \times GB + A \times AD \times AG}{B \times BD - A}$ $\frac{\times AG}{\times AD} \text{ (CG)} : \frac{B \times BD \times GB + A \times AD \times AG}{A \times B \times AB}; \text{ hence if the early of gravity; hence if the early of the center of gravity; hence if the$

or Gae, the velocity of the center of gravity; hence if the motion be communicated at G, the velocity becomes as $B \times GB^2 + A \times AG^2$

A . B . A3

Let the motion, supposed to be actually communicated to the red at D, be equivalent to the motion of a body whose magnitude is G, and moving with a velocity v; then, if that motion be communicated at G, the velocity of the center of gravity is well known to be = $\frac{G \times v}{A + B}$; hence $\frac{B \times B G^2 + A \times A G^2}{A \times B \times A B}$

 $\frac{\frac{\text{B} \times \text{B} \text{D} \times \text{B} \text{G} + \text{A} \times \text{A} \text{D} \times \text{A} \text{G}}{\text{A} \times \text{B} \times \text{A} \text{B}} \cdot \frac{\text{G} \times \text{v}}{\text{A} + \text{B}}}{\frac{\text{B} \times \text{B} \text{G} \times \text{B} \text{D} + \text{A} \times \text{A} \text{D} \times \text{A} \text{G}}{\text{B} \times \text{B} \text{G}^2 + \text{A} \times \text{A} \text{G}^2}}{\frac{\text{B} \times \text{B} \text{G}^2 + \text{A} \times \text{A} \text{G}^2}{\text{B} \times \text{B} \text{G}^2 + \text{A} \times \text{A} \text{G}^2}} =$ the velocity of the center of gravity, when the fame motion

is actually communicated to any point D. Now B D = B G + G D, and A D = A G - G D; hence B \times B G \times BD + A × AD × AG = B × BG + A × AG = (becaufe B × BG - A × AG = o) B × BG 2 + A × AG 3 ;

confequently, the velocity becomes $\frac{G \times v}{A + B}$; and hence the center of gravity moves with the fame velocity, wherever

the motion is communicated. 3. Let a given elastic body P, moving with a given velocity, be supposed to strike the lever at the point D, in a direction per-pendicular to it; and it be required to determine the velocity of the center of gravity G after the fireke. Suppose, first, the body to be non-elastic, and let v be the velocity of the center of gravity after the stroke, and V the velocity of the

firiting body: then $C G : C D :: v : \frac{v \times CD}{C G} = \text{the velocity of the point } D$, after the firoke, or of the body P;

for the fame reason $\frac{v \times CA}{C\ G}$ and $\frac{v \times CB}{C\ G}$ equal the veloci-

ties of A and B respectively. Now, because in revolving bodies, the momenta arising from the magnitude of the bodies, their distance from the center of rotation and velocity conjointly, remain the same after the stroke as before, we

fhall have $P \times V \times DC = \frac{v \times CD^2 \times P}{CG} + \frac{v \times CA^2 \times A}{CG} + \frac{v \times CB^2 \times B}{CG}$, and therefore $v = \frac{P \times V \times DC}{P \times DC^2 + A \times CG} + \frac{v \times CB^2 \times B}{CG} + \frac{v \times CG}{CG} + \frac{v \times CG$

 $\overline{A + B \times CG + P \times DC}$ for the velocity of the center of gravity of ter of gravity after the stroke, in iffo moths initio.

4. Let a motion be communicated to the lever obliquely, and it be required to determine the point about which the bodies begin to revolve. Let F D (fig. 77.) represent the force communicating the motion at the point D, and refolve it into two others, FH, HD, the former FH parallel to the lever, and the latter HD perpendicular to it. Let C be the point about which the bodies would have begun to revolve, if the force HD alone had acted, which may be found by Art. 1; and suppose in this case mg n to have been the next position of the lever after the commencement of the motion, or that the bodies A, B, and center of gravity G, had been carried to m, g, and n, respectively. But as the force F H acts at the point D at the same time in the direction of the rod, if we take Gq: Gg as FH: HD, then whilst the center of gravity would have moved from G to g in consequence of the force H.D, it will by means of the force FH be carried in the direction of the lever from G to q, and also every other point of the lever will be carried in the fame direction with the fame velocity; take therefore Ap and Br each equal to Gq, and complete the parallelograms Aa, Gew and Bb, and the bodies A, B, and center of gravity G will, at the end of that time, be found at a, b, and w respectively, and a w b will be the position of the lever. Now it is evident, that C is not the point about which the bodies begin to revolve, for L12

(confidering the lever to be produced to C) that point must have moved over a space Cc equal to Gq, when the lever is come into the position $a \le b : draw CO$ perpendicular to C B, and G O perpendicular to Gze, and O will be the center of rotation at the commencement of the motion. For conceive CO to be a lever, then the lever ABC has a circular motion about C, whill that point is moving from C to c, and confequently the point O is carried forward in a direction parallel to Co by this motion; but as the lever CO is carried by a circular motion about C the lever CO must be at rest where these two motions are equal, as they are in contrary directions. Now the velocity of C in the direction Co: velocity of G about C: G7: G2:: (by fim. triang.) CO: CG, and the velocity of the point G about C: velocity of the point O about C :: C G : CO; hence ex equo the velocity of C in the direction of Co, or of O in the direction O P parallel to Co, is equal to the velocity of the fame point O in a contrary direction arising from its rotation about C, and confequently O being a point at rest, must be the center of rotation in ipso motus initio. Also, because ma is equal and parallel to n b, a b must be equal and parallel to m n, therefore the angular velocity is just the same as if the force FH had not acted. The center O of rotation at the beginning of the motion being thus determined, every thing relative to the motion of the bodies, after they are at liberty to remove freely, may be determined as in the preceding propositions.

· Cor. 1. Hence it appears, that whatever be the magnitude or direction of the force communicating the motion, or the point at which it acks, the center of gravity will move in a line parallel to the direction of the force, for the triangles F H D, G q w being fimilar, Gw must be parallel to F D.

Cor. 2. The same is manifeltly true for any number of bodies; for lct (fig. 78.) E be a third body, and conceive it to be connected with the other two bodies A and B in their center of gravity G; then if FD represents the force acting at the point D, it is evident from the last Corol. and the fecond Prop. that the center of gravity moves with the fame velocity and in the fame direction, as if the fame motion had been communicated at G in a line R G parallel to FD, and that the center of gravity has the fame velocity communicated to it, as if the two bodies had been placed at G; conceive therefore the bodies A and B to be placed at G, and let the force act at D, and then from the latt Corol, the center of gravity g, of the three bodies, will move in a line parallel to the direction of the force communicated. In the same manner it may be proved for any number of bodies.

tion in ipfo moth initio, when a fingle force acts at any point D, may be applied, when any number of forces act at different points at the fame time. For let (fg. 76.) α , β , γ , &c. reprefent the forces acting on the lever at the points D, E, F, respectively, &c. then from the same principles the effect of all the forces on A: the effect on B: $\frac{\alpha}{AD} + \frac{\beta}{AE} + \frac{\gamma}{AF} + &c.: \frac{\alpha}{BD} + \frac{\beta}{BE} + \frac{\gamma}{BF} + \frac{\gamma}{BF} + \frac{\gamma}{BF} + \frac{\gamma}{BF} + \frac{\gamma}{AF} + \frac{$

The method here used for determining the point of rota-

 $\frac{B \times P \times B G}{A \times \Omega}$. The fame conclusion might have been

AXQ deduced from this confideration; that if any number of forces act on a lever, the effect on any point of that lever is just the same as if a force, equivalent to the sum of these forces, had acted at their common center of gravity; find therefore their common center of gravity, and conceive a force equivalent to them all to be communicated to that point, and the problem is reduced to the case of the first proposition. If any of the forces had acted on the oppositie side of the lever, such forces must have been considered as negative.

If there be any number of bodies placed on the lever, and a fingle force acts at D, it will appear from the fame principles that the point C, about which they begin to revolve, will be the point of fufpention to the center of percusion D; and the fame conclution will be obtained, if the bodies be not fituated in a itraight line.

5. If a force alls upon a body in any given direction not passing through the center of gravity; to determine the plane of rotation, the direction in which the center of gravity legins to move, and its motion after. Conceive a plane A y B Z (fig. 79.) to be supported upon a line A B passing through its center of gravity G, and suppose a force to act at any point D in that line, and in a direction perpendicular to the plane; then it is manifed, that fuch a force can give the plane no rotatory motion about A B. Imagine now the support to be taken away whilst the force is acting at D, then it is evident, that as the plane had no tendency to move about A B as an axis, and the taking away of the support can give it no fuch motion, it will, by Cor. 2. Art. 4. begin its progreflive motion in the direction in which the force acts; and as the force is supposed not to act at the center of gravity, it must at the same time have a rotatory motion about fome axis, which, as it has no motion about A B, must lie fomewhere in the plane, and perpendicular to AB; and consequently in iffo moths initio the plane of rotation must be perpendicular to the plane Ay B Z. Let L C M, perpendicular to A B, be the axis about which the plane begins to revolve, and p, q be two equal particles of the plane similarly situated in respect to A B, also qb, pa perpendicular to LCM. Now the centrifugal force of \$, or its force in the direction ap is $p \times ap$, and that of q in the direction bq is $q \times bq$; to determine now how these forces will affect the motion of the plane, we may observe, in the first place, that the force $p \times ap$, acting at a in the plane, must tend to give it a motion about an axis perpendicular to the plane; but as an equal force q x q b acts at q to give it a motion in a contrary direction, it is evident that the two forces will destroy each other, so far as they tend to generate any motion in the plane about an axis perpendicular to it; and hence it is manifest, that if the parts of the plane Ay B, AZB, be fimilar, and fimilarly fituated in respect to A B, the plane, after the commencement of the motion, will have no tendency to revolve about an axis perpendicular to it. Also, as the centrifugal force of each particle acts in a direction parallel to A B, it can give the plane no tendency to revolve about that line as an axis, and consequently the plane of rotation will be preserved as in ipso motus initio. Conceiving therefore the plane on each fide the line A B to be fimilar, and fimilarly fituated, fuppose another plane to be fixed upon this, whose parts on each fide A B are fimilar, and fimilarly fituated, and the force to act as before, then it is manifelt, that as each plane endeavours to preferve the same plane of rotation, the

two planes connected will also continue to move in the same plane of rotation, for the action of one plane on another, on each fide the plane of rotation, being equal, cannot tend to disturb the motion in that plane; and as this must be true for any number of planes thus similar and fimilarly fituated, it is evident, that if a force should act upon a body, and each fection, perpendicular to the direction of the force, should be similar on each fide the plane passing through the direction of the force, and the center . of gravity of the body, that that plane would be the plane of rotation in which the body would both begin and continue its motion. It appears also, from what has been proved, that if every fection on each fide that plane had not been fimilar, the plane of rotation would not necessarily have continued the same after the commencement of the motion. Hence all bodies, formed by the revolution of any plane figure, will have the axis about which they were generated, a fixed axis of rotation; to determine, however, every other axis of a body about which it would continue to revolve, would be foreign to the prefent subject. Supposing therefore the plane of rotation to continue the fame, imagine all the particles of the body to be referred to that plane orthographically, which supposition not affecting the angular motion of the body, the centrifugal force of all the particles, to cause the body to revolve about an axis perpendicular to that plane, will remain unaltered. Let LMNO (fiz. 80.) be that plane, and suppose a force to act at A in the direction PA Iving in the fame plane, which produce until it meets L N, paffing through the center of gravity G, perpendicularly in D; then by Cor. 2. Art. 4. the center of gravity G will begin it motion in a line parallel to PA, or perpendicular to LN; and confequently the center C, about which the body begins to revolve, must lie somewhere in the line L N. Now the centrifugal force of any particle p is $p \times pc$; let fall pa perpendicular to L N, then the effect of that force at C, in a direction perpendicular to L N, will be $p \times p a$, and in the direction C L it will be p x Ca; but as the fum of all the quantities $p \times p a = 0$, and the fum of all the quantities $p \times Ca =$ the body multiplied into C G, it follows from the same reasoning as in Art. 3. that the point G will continue to move in a direction perpendicular to LN; and also, as the forces p x Ca act in a direction perpendicular to that in which the center of gravity moves, its motion must be continued uniform. In the following propolition, therefore, we suppose the axis of the body, after the commencement of the motion, to continue perpendicular to the piane passing through the direction of the force and the center of gravity of the body, and that the body itself is orthographically projected upon that plane; also in the case of the action of two bodies on each other, the plane passing through the direction of the striking body and point of percussion is supposed to pass through the centers of gravity of each body; that the axis of each body after it is struck continues perpendicular to that plane, and that each body is reduced to it in the manner above described.

6. To determine the point about which a body, when flruck, begins to revolve. Let L.M.N.O. (fig. 80.) represent the body, G the center of gravity, and P.A. the direction of the force acting at A, which produce till it meets L N, paffing through G, perpendicularly in the point D; draw pb perpendicular to pc, on which (produced if necessary) let fall the perpendicular Dw; C being supposed the point about which the body begins to revolve, and which, from the last proposition, is somewhere in the line L N. Because the body, in consequence of the force acting at D, begins to revolve about C, and consequently if immediately

after the beginning of the motion a force were applied at Dequal to it, and in a contrary direction, the motion of the body would be dellroyed, it is evident, that the efficacy of the body revolving about C, to turn the body about D. fhould any obstacle be opposed to its motion at that point, must be equal to nothing; for were it not, the body, when stopped at D. would still have a rotatory motion about that point, and confequently two equal and epposite forces applied at D would not destroy each other's estects, which applied at D would not clearly carry starts cheef, which would be abfurd. Now the force of a particle p_i in the cirection p α_i , being $p \times pC$, its efficacy to turn the body about the point D is $p \times pC \times Dw$; but by fim. triang. $Dw: Db:: aC: pC, ... Dw = \frac{Db \times aC}{pC}$, and confequent-

ly the efficacy to turn the body about $D \equiv p \times Db \times Db \times Db$ $aC = p \times Ca \times \overline{DC - Cb} = p \times Ca \times \overline{DC} - p \times pC^{i}$; hence the fum of all the $p \times Ca \times DC$ — the fum of all the $p \times PC^{i} = o$, and confiquently CD = fum of all the $p \times PC^{i}$, therefore D is the center of perfum of all the $p \times \overline{Ca}$, custion, the point of suspension being at C.

For further particulars relating to this fubject, fee Vince's paper above referred to. See also Parkinson's

Syllem of Mechanics. &c. p. 187, et seq.

For an account of the polition of the center of rotation, and the changes to which the angle of rotation is subject in the theory of working thips; fee the Elements and Practice of Rigging and Scamanship, Vol. ii. p. 249, &c.

CENTER of a Sphere is a point from which all the lines drawn to the furface are equal.

The centre of the femicircle, by whose revolution the fphere is generated, is also that of the sphere. See SPHERE. Hermes Trismegittus defines God an intellectual sphere, whose center is every-where, and circumference no-where.

CENTER division, column, or squadron of a fleet, that which is under the immediate orders of the commander in chief, or admiral of the fleet; and its polition is between the van and the rear divisions, which are under the command of their respective admirals. The ships of each division are distinguished by the position of their colours; those of the first or center fquadron carry their pendant at the main-top-gallant-mail head: the ships of the second division carry their pendants at the fore-top gallant-mail head; and those of the third division at the mizen-top-mail head. Each squadron ought, as nearly as possible, to consist of the same number of ships, and to be of the same force, in order that each may be equally able to attack, or repulse the enemy, and when in a line, the feveral parts will be equally strong. When the fleet is very numerous, each fquadron is fometimes divided in a fimilar manner into three divisions of center, van, and rear. The term is also applied to that column in the order of failing, which is between the weather and the lee columns.

CENTER-wheel of a watch. See WATCH-work.

CENTERING, in Carpentry. See CENTER in Archi-

CENTERING of an optic glass, the grinding it so as that the thickest part is exactly in the middle.

M. Cassini the younger has a discourse express on the neceffity of well centering the object glass of a large telescope, that is, of grinding them fo, that the center may fall exactly in the axis of the telescope. Mem. Acad. Sc. an. 1710, p.

One of the greatest difficulties in grinding large optic glaffes is, that in figures fo little convex, the least difference will put the center two or three inches out of the middle. Dr. Hook notes, that though it were better the thickest

may be a very good one when it is an inch or two out of it. Phil. Trans. No 4. p. 57. Id. ibid. p. 64. feq. See OB-

JECT glafs.
CENTESIMA nfura, in Roman Antiquity, that wherein the interest in an hundred months became equal to the principal; i. e. where the money is laid out at one for cont. per month, answering to what in our slike would be called 12 per cent. for the Romans reckoned their interest not by the year, but by the month.

CENTESIMUM, in Ancient Geography, a place of Italy, in Umbria, S.W. of Nuceria. Its name indicates its dif-

tance from Rome.

CENTESIMATION, in Ancient Military Hiftery, a punishment reforted to in cases of mutiny, desertion or the like, by which every one hundredth man only was executed or punished with death.

CENTESM, the rooth part of any thing.

CENTGRAVIUS, in Middle Age Writers, the same by Charles VII. of France. with CENTENARIUS.

CENTIARE, in French Superficial Measure, 100 square

metres, or 948.31 square feet. See MEASURE.

CENTIBAR, in French Measures of Capacity, the hundredth part of a bar, called also decal, containing 10 cubic decimetres of water, and weighing 20.444 French pounds. See MEASURE.

CENTICADE, or a bushel, 10 cubic decimetres, or 10 ! Paris pints, or .789 Paris bushel. See MEASURE.

CENTIGRAVE, or dram, the hundredth part of a Grave, weighing 2 gros, 44.41 grains. A piece of filver coin weighing a centigrave, is denominated a Franc of filver, and, according to the former flandard, will be worth 40 fols 103 deniers.

CENTIGRAVET, contains .00001 cubic decimetre,

and weighs 0.18841 grain.

CENTILOOUIUM, from centum, a hundred, and loquor, I speak, denotes a collection of an hundred sentences, opinions, or fayings.

CENTIME, in French Money, the hundredth part of a

livre. See Money.

CENTIMETRE, in French long Measure, is the hundredth part of a metre or 4.434 lines. A cubic centimetre of water is named a Gravet or Maille, and weighs 18.841

CENTINEL or Centry, in French Sentinelle, is a foldier from a guard, placed at any post for the security of the said guard, or any other body of troops, for watching the enemy, preventing furprifes, and flopping those who might wish to pals without orders, and without making themselves known. All centinels ought to be very vigilant on their polts, should avoid finging, fmoking, making any noise themselves, or fuffering any to be made near them by others. They should keep their arms in their hands during the whole time they are on duty, should not fit down, or on any account go to fleep, as on their attention and watchfulness depend the lives of many; but should keep moving about, if the weather will permit them. They ought never to move farther from their can have diffinct views of them, as well as of the intervening and interjacent spaces. And should the weather be ever so bad, they ought not to go under any other cover than that of their centry boxes. Not one of them should be allowed to quit his post without leave from his commanding officer. And ties; they should be strictly charged to let no soldier pass

CENTINEL perdu, in French Sentinelle perdue, is a foldier placed at a very hazardous post, or in a fituation where he

part of a long object glass were exactly in the middle, yet it is in conflant danger of being attacked, taken, or killed by the enemy without any prospect of aid, help (holp) or relief. Hence the phrase forlorn holp, commonly pronounced forlorn

> in the Indian Sea: the former fix leagues from the Great Andaman; and the latter feven leagues N. W. from the

CENTINODIUM, an officinal plant, popularly called

CENTIPES, CENTIPEDES, in Entomology. See Sco-

CENTIUM PUTEI, in Ancient Geography, a place of

Asia in Syria, seated on a large plain, and surrounded by CENTLANCES, in Military Language, a name given

to a Scottish company of gendarmerie, established in 1422

CENTLIVEE, SUSANNA, in Biography, a dramatic writer, was the daughter of Mr. Freeman, a gentleman of Lincolnshire, who, being attached to the parliamentary cause, took refuge in Ireland at the restoration. She is Discovering an early propentity to poetry and a romantic disposition, and being ill-treated by those who had the care of her after the death of her mother, the refolved on a visit performed on foot, she was met by Anthony Hammond efq. with him to college, where she spent some months in his company; but fearing a discovery, he persuaded her to go to London, where, being in her 16th year, the married a nephew of fir Stephen Fox. Having in about a year loft her husband, she soon after married Mr. Carrol, an officer in the army, whom she loft in a duel about a year and a half after their union. She then commenced her course as a dramatic writer, and made her first attempt in tragedy. Accordingly in 1700 her "Perjured Husband" was performed at Drury-lane. She afterwards wrote feveral comedies, which were chiefly translations from the French, and which obtained temporary fuccess. One of them, entitled "The Gamester," was honoured with a prologue by Rowe. She also made some trial, without rising to any great reputation, as an actress. Under this character, however, the performed before the court on the stage at Windfor, and captivated the heart of Mr. Joseph Centlivre, ycoman of the mouth to queen Anne, whom she married in 1706. Of the number of her comedies, which the produced with great fertility, we may reckon "The Bufy Body," performed in 1708; "The Wonder, a Woman keeps a Secret," in 1714; and "A bold Stroke for a Wife," in The licentiousness which at that time characterised the English stage is too apparent in her productions. She lived, however, on terms of friendship and familiarity with most of the wits of that period, as Steele, Rowe, Farquiar, and Budgell; but upon incurring the displeasure of Pope, the was introduced into the Dunciad. Her person was handsome, her conversation sprightly, and her disposition friendly and benevolent. She died in 1723. Her dramatic works were printed in 1761, in 3 vols. 12mo. Her verses and letters were collected and published by Mr. Boyer.

CENTNER, or Docimaflic HUNDRED, in Metallurgy and Affaying, is a weight divilible, first into an hundred, and thence into a greater number of other fmaller parts; but though the word is the same, both with the assayers and

metallurgifls, yet it is to be understood as expressing a very Christiados; and by Stephen de Pleurre, canon regular of different quantity in their different acceptation of it. The St. Victor at Paris. weights of the metallurgifts are easily understood, as being of the common proportion, but those of the affayers are a . thousand times smaller than these, as the portions of metals or ores examined by the affayers are usually very small.

The metallurgifts, who extract metals out of their ores, use a weight divided into an hundred equal parts, each part a pound; the whole they call a centner or lundred weight; the pound is divided into thirty-two parts, or half ounces; and the half ounce into two quarters of ounces, and thefe

each into two drams.

These divisions and denominations of the metallurgists are cafily understood; but the same words, though they are equally used by assayers, with them express very different quantities; for as the centner of the metallurgifts contains a hundred pounds, the centner of the affayers is really no more than one dram, to which the other parts are proportioned.

As the affayers' weights are divided into fuch an extreme degree of minuteness, and are so very different from all the common weight, the affayers usually make them themselves, in the following manner, out of fmall filver, or time folder plates, of fuch a fize, that the mark or their weight, according to the division of the dram, which is the docimattic, or affaying centner, may be put upon them. They first take for a basis one weight, being about two thirds of a common dram: this they mark (6.18.) Then having at hand fome granulated lead, washed clean, well dried, and fifted very fine, they put as much of it in one of the fmall dishes of a fine balance, as will equipoise the 641b. (as it is called) just mentioned: then dividing this granulated lead into very nice halves, in the two scales, after taking out the first filver weight, they obtain a perfect equilibrium between the two scales; they then pour the granulated lead out of one dish of the scales, and instead of it put in another filver weight, which they make exactly equiponderant with the lead in the other scale, and mark it (321b.) If this second weight, when first put into the scale, exceed by much the weight of the lead, they take a little from it by a very fine file; but when it comes very near, they use only a whetstone to wear off an extremely fmall portion at a time. When it is brought to be perfectly even and equal to the lead, they change the scales to see that no error has been committed, and then go on in the fame manner till they have made all the divisions, and all the small weights. Then to have an entire centner, or hundred weight, they add to the 6416. (as they call it) a 32lb. and a 4lb. and weighing against them one fmall weight, they make it equal to them, and mark it (1016.) This is the docimalical, or affaying centner, and is really one dram. Cramer, Art. Ast. p. 108.

CENTO, in Poetry, a work wholly composed of verses, or passages, promiscuously taken from other authors; only disposed in a new form, or order: so as to compose a new

work, and make a new meaning.

The word is Latin, cento, which primarily fignifies a

cloak made of patches, and that from xerrery.

Aufonius has laid down the rules to be observed in compoling centos. The pieces, he fays, may be taken either from the same poet, or from several; and the verses may be either entire, or divided into two; one half to be connected with another half taken elsewhere; but two verses are never to be taken running, nor is much less than half a verse to be taken. Agreeably to these rules, he has made a pleasant nuptial cento from Virgil.

Froba Falconia has written the life of Jesus Christ in centos taken from Virgil: the like is done by Alex. Rofs, in his

CENTOBRICA, in Ancient Geography, a town of Spain, in Celtibaria.

CENTON, a fortress of Thrace, in Lower Mysia, the walls of which were repaired by Justinian. Procopius.

CENTONARE. In Italy, a plagiarist in musical composition, where melody and harmony are mere patch-work, is faid to centonare. Sometimes an opera confifting of airs felected by the Maeltro, or by the fingers themselves from the works of various composers, is called a cento. See

CENTONARII, in Antiquity, a fort of officers or operators, whose business was to make centones, or coats patched of leather and cloth, wherewith to cover the vinea, under which the beliegers made their approaches, as well as the towers and machines used to batter the place, and prevent their being fet on fire by the enemy. In the Theodofian code we have a title De centenariis & dendrophoris. And in ancient inscriptions, the centonarii are joined with the tignarii, or carpenters, ferrarii, or fmiths, &c. who made but one company, under the denomination of collegium jabrorum & centonariorum.

CENTONIER, French. See CENTONARE, Ital.

CENTO-POZZI, in Geography, a town of Naples, in the province of Bari; three miles N. of Matera.

CENTORBI, the ancient Centuripa, a city of Sicily, mentioned by Cicero in his oration against Verres. It is feated on five points of rocks, and refembles a ftar-fifh; being very difficult of access, and incommodious for habitation. Yet, in the time of the Romans, it was very populous; but it retains no veilige of its ancient splendour, except a few ruins. Its long suburbs, terminated in a point, are miferable and depopulated; and it is deflitute of money and commerce. The convent of the reformed Augustines is a large building, but in as depopulated a flate as the town. To the wellward of the town there are confiderable ruins of baths, built with beautiful mattoui, lined with marble in the Roman flyle, like that of the baths of Baiæ. To the call of the town is the ruin of a castle, called the castle of Conradin. Frederic, the grandfather of this Conradin, deflroyed Centorbi about the beginning of the 13th century, and razed its foundations. It was, however, again rebuilt, with the castle; for in 1268, after the defeat of Conradin, Conrad Capetius, aspiring to become king of Sicily, and finding himfelf abandoned by the Sicilians, who declared for Charles of Anjou, thut himfelf up in this fortress. Montfort, having forced him to furrender, put out his eyes, and afterwards hanged him; and then deftroyed the city. A greater number of gold and filver coins, precious flones of every kind, vales, flatues, cinerary urns, &c. have been found at Centorbi than in any other place in Sicily. A confiderable part of the riches of the muleum of the prince of Bifcaris has been furnished by this town. The number of inhabitants in this ancient and once large city is now reduced to 3000, who are very poor and wretched. The neighbouring country, planted chiefly with vineyards, produces an indifferent wine; and there are foft rocks of an imperfect free-tione, mixed with a marine tufa, even to the fummit of the mountain. The foil in one part of the town is formed of marine concretions, mixed with thells: and under the vegetable earth lies tufa, with the fore-mentioned concretions, and gritty ftone; and at a greater depth, scoriæ and lava, beneath which is a fresh bed of grit. The lava probably forms the basis of the mountain, and indicates, 600 feet below the prefent level of the feat, the antiquity of the volcano that produced it. De Non's Journey in Sicily and Malta, p. 85.

CENTORES, in Ancient Geography, a people of Scythia,

mentioned by Valerius Flaccus.

CENTORIO, Ascanto, in Biography, an Italian writer of the 16th century, originally of Rome, and after his expulsion from this city, a resident at Milan. His profession was military; but in the interval of peace he com-posed "Military and Historical Memoirs," collected from his own knowledge and from the information of others. They were published at Venice in 1565 and 1569, in 2 vols. 4to. The first part contains an account of the wars of Transylvania; the second, of those of his own time. They are held in high estimation. Nouv. Dict. Hist.

CENTRAL, fomething relating to a centre, or CENTER Thus, we fay, central ecliple, central forces, central rule, &c CENTRAL eclipse, is that in which the centers of the lu-

minaries exactly coincide, and are directly in a line with the

eye of the observer. See Eclipse.

CENTRAL forces, are the forces which tend to or from fome point or center; or they are forces which cause a moving body to tend towards the center of motion, or to recede from it. Accordingly they are divided into two kinds, with regard to their different relations to the center, viz. the centripetal and the centrifugal.

The doctrine of central forces, a very confiderable branch of the Newtonian philosophy, has been much cultivated by mathematicians, on account of its extensive use in the theory of gravity, and other physico-mathematical sciences.

In this doctrine it is supposed, that a body at rell never moves itself; and that a body in motion never of itself changes the velocity or the direction of its motion; but that every motion would continue uniform, and its direction rectilinear, unless some external force or relistance affected it. Hence, when a body at rest always tends to move, or when the velocity of any rectilinear motion is accelerated or retarded continually, or when the direction of a motion is continually varied, and a curve line is described; these changes are supposed to proceed from the influence of some power that acts inceffantly; which power may be meafured either by the pressure of the quiescent body against the obstacle that hinders it to move, in the first case; or by the degree of acceleration or retardation of the motion, in the fecond; or by the flexure of the curve described, in the third case; due regard being had to the time in which these effects are produced, and other circumstances, according to the principles of mechanics. Effects of the power or force of gravity of each kind fall under our constant observation near the furface of the earth; for the fame power which renders bodies heavy while they are at reft, accelerates them when they defeend perpendicularly, or retards them when they afcend, and bends the course of their motion into a curve line when they are projected in any other direction than that of their gravity. But we can judge of the forces or powers that act on the celettial bodies by effects of the latt kind only. And hence it is that the doctrine of central forces is of fo much use in the theory of the planetary motions.

Sir Isaac Newton has treated of central forces in book i. \$ 2: of his Principia; and has demonstrated this fundamental theorem respecting them, viz. that the areas which revolving bodies describe by radii drawn to an immoveable center, lie in the fame immoveable planes, and are proportional to the times in which they are described. Princip. lib. i. prop. 1. A late eminent mathematician observes, that this law, which is originally Kepler's, is the only general principle in the doctrine of centripetal forces; but fince this law, as fir Isaac Newton himself has proved, cannot hold whenever a body

has a tendency by its gravity or force to any other than one and the same point, there seems to be wanting some law that which have a gravity towards two different centers : the law where a body is urged by two forces tending conflantly to two fixed points, it will defembe, by lines drawn from the moon's motion, in the pofffeript. This fhort treatife is pubton's Principia. See a demonstration of this law by Mr. W. Jones in the Phil. Trans. vol. lix. art. 12. p. 74. &c. The fame subject has been claborately discussed, when the laid down for computing the places, &c. of planets and fatellites; as by La Grange, La Place, Waring, &c. &c. See Berlin Memoirs: those of the Academy of Sciences at Paris; the Philosophical Transactions of the Royal Society of London; and various treatifes of altronomy.

M. de Moivre has given clegant general theorems relating to central forces in the Phil. Trans. and in his Miscel.

Let MPQ (Plate X. Mechanics, fig. 81.) be any given curve in the perimeter of which a body moves : let P be the place of the body in the curve at any time; S the center of force, or the point to which the central force acting on the body is always directed; P G the radius of concavity or curvature at the point P; and ST the perpendicular drawn from the center of force to the tangent P T of the curve in P, then will the centripetal force be every where proportion-

al to the quantity I G x ST

Monsieur Varignon has also given two general theorems on this fubject in the Memoirs of the Acad. Scienc. an. 1700, 1701, and has shewn their application to the motions of the planets. See also the same Memoirs, ann. 1706, 1710. Mr. Mac-Laurin has also treated the subject of central forces very fully in his Fluxions, from art. 416 to 493, where he gives a great variety of expressions for these forces, and feveral elegant methods of invelligating them.

CENTRAL forces, laws of. 1. The following rule, for which we are obliged to the marquis de l'Hôpital, is very clear and comprehensive. Suppose a body of any determinate weight to move uniformly round a center, with any given velocity; find from what height it must have fallen to acquire that velocity; then, as the radius of the circle it defcribes is to double that height, so is its weight to its centri-

fugal force.

Let b represent the body, or its weight or quantity of matter, vits velocity, and r the radius of the circle described, and g be = 161 feet, the space fallen through in the first fecond of time, and 2 g will express the velocity acquired; then, fince the squares of the velocities are as the spaces

(fee Acceleration) $4.g^2: v^2::g:\frac{v^4}{4.g}$, or the height pertaining to the velocity v; and $r:\frac{v^2}{2.g}::b:\frac{v^2b}{2.g.r}=f$ the

centrifugal force. Hence, if the centrifugal force be equal

to the gravity, the velocity acquired is equal to that acquired by falling through half the radius.

2. The central force of a body moving in the periphery of a circle, is as the verfed fine of the indefinitely imall arc, A E, or as the square of the said are divided by the diameter, A B: or, as the iquare of the are, A E, directly, and the dia-

meter, A B inversely, (Plate X. Mechanics, fig. 82.) Let this are be the diltance which the body describes in a given particle of time; then, from the nature of the circle (A E being very small, and consequently nearly equal to its chord)

 $A E^2 = A B \times A M$, and therefore $A M = \frac{A E^2}{A B}$. Now

A M is the space through which the body is drawn from the tangent in the given time; and though 2 A M is the proper measure of the central force, yet when the forces compared are all computed in the fame manner, from the nafcent, or indefinitely fmall subtenses of contemporaneous arcs, it is of no consequence whether we consider those subtenses, or their doubles, as the measures of the forces, fince the ratio is in both cases the same. Since then a body, by an equable motion, in equal times describes equal arcs AE; the central force by which the body is impelled in the periphery of the circle is constantly the same.

3. If two bodies describe different peripheries by an equable motion, their central forces are in a ratio, compounded of the duplicate ratio of their velocities directly, and the reciprocal ratio of their diameters: because the ratio of the velocities is in this cafe the same with that of the arcs or spaces defcribed in the same time; and the velocities are evidently in the fubduplicate of the products of the diameters multiplied

by the forces. Thus, $F: f: \frac{V^2}{D}: \frac{\sigma^2}{d}: \frac{V^2}{R}: \frac{\sigma^2}{r}$; for, by the last article, the force is as $\frac{AE^2}{AB}$ or $\frac{AE^2}{D}$, and the

velocity v is as the space A E uniformly described. Hence, if the velocities be equal, the central forces will be reciprocally as their diameters; and if the diameters A B and H L be equal, i. e. if each moveable proceed in the fame periphery, but with unequal velocities, the central forces will be in a duplicate ratio of the velocities. Hence, if the radii or diameters be reciprocally in the duplicate ratio of the velocities, the central forces will be reciprocally in the duplicate ratio of the radii, or directly as the 4th powers of the velocities: that is, if $V^2: v^2:: r: R$, then $F: f:: r^2: R^2:: V^4: v^4$; for $V^3R = v^2r$, and $F: f\left(:: \frac{V^2}{R}: \frac{v^2}{r}: \frac{V^2 \times V^2R}{R}\right)$

 $: \frac{v^2 \times v^2 r}{r} \Big) :: \nabla^{\mathfrak{p}} : v^4,$

If the central forces of the two bodies moving in different peripheries be equal, the diameters of the circles A B and this case, $\frac{V^a}{R} = \frac{v^a}{r}$ and $V^a r = v^a R$; therefore R: r:

4. The central forces are in a ratio compounded of the direct ratio of the diameters, and the reciprocal one of the ·fquares of the periodic times. For the diameters are as the peripheries, which are the spaces run in the periodic times; and these are in the compound ratio of their times and velocities directly: therefore, reprefenting the times by T, t, the velocities by V, v, and the diameters by D, d; D: d:: $V \times T: v \times t$; confequently, $\frac{V^2 \times T^{\bullet}}{D^2} = \frac{v^2 \times t^2}{d^2}$, and

 $\frac{t^2}{d}: \frac{\mathrm{T}^2}{\mathrm{D}} :: \frac{\mathrm{V}^2}{\mathrm{D}}: \frac{v^2}{d}$; and therefore by Art. 3. the central

forces are in the proportion required; i.e. $F: f\left(:: \frac{V^2}{\Omega} : \frac{v^2}{d}\right)$

 $:: \frac{t^3}{d} : \frac{T^2}{D} :: t^2 \times D : T^2 \times d$. And when the circles are equal, the central forces are reciprocally as the squares of the times, D being = d.

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5. If two bodies, equal in weight, describe peripheries of unequal circles in equal times, their central forces are as their diameters A B and H L. For $F: f:: t^2 \times D: T^2 \times d$; two unequal circles, be as their diameters, they pass over the same in equal times. For $\mathrm{F}d=f\mathrm{D}$, and $\mathrm{F}'\mathrm{T}^2\times d=f\times t^2\times \mathrm{D}$; $\cdot\cdot$ by equal division, $\mathrm{T}^2=t^2$ and $\mathrm{T}=t$.

6. If two bodies, moving in unequal peripheries, be acted on by the same central force, the time in the larger is to that In the smaller, in a sub-duplicate ratio of the greater diameter A B, to the less H L; for F being = f, $T^2 \times d = t^2 \times D$, and $T^2:t^2::D:d$, and $T:t::D^{\frac{1}{2}}:d^{\frac{1}{2}}$: wherefore, $T^2:t^4::D:d$, that is, the diameters of the circles in whose peripheries those bodies are acted on by the same central force, are in a duplicate ratio of the times. Hence also the times wherein fimilar peripheries or arcs are run over by bodies impelled by the fame central force, are in proportion to their velocities.

7. If the times wherein the bodies are carried through the same entire peripheries, or similar arcs, be as the diameters of the circles, the central forces are reciprocally as the fame diameters. For T: t:: D: d, and $T^a: t^a:: D^a: d^a$; $\cdots F: f\left(:: \frac{t^a}{d}: \frac{t^a}{D}\right):: \frac{d^a}{d}: \frac{D^a}{D}:: d: D$.

8. If a body move uniformly in the periphery of a circle, with the velocity it acquires by falling the height A F; the central force will be to the gravity, as double the altitude A F to the radius CA. If, therefore, the gravity of the body be called G, the centrifugal force will be 2 A F × G ÷ CA. See Art. 1.

9. If a heavy body move equably in the periphery of a circle, and with the velocity which it acquires by falling through a height equal to half the radius; the central force will be equal to the gravity. And again, if the central force be equal to the gravity, it moves in the periphery of a circle, with the fame gravity which it acquires in falling a height equal to half the radius.

10. If the central force be equal to the gravity, the time it takes up in the entire periphery, is to the time of its fall through half the radius, as the periphery to the radius.

11. If two bodies move in unequal peripheries, and with an unequal velocity, which is reciprocally in a fubduplicate ratio of the diameters; the central forces are in a duplicate ratio of the distances from the center of the forces, taken reciprocally. For $\mathbf{F}:f:d^{\frac{1}{2}}:\mathbf{D}^{\frac{1}{2}},$ and $\mathbf{F}:f::\frac{\mathbf{V}^{:}}{\mathbf{D}}:\frac{v^{2}}{d};$ $\mathbf{F}:f\left(::\frac{d}{\mathbf{D}}:\frac{D}{d}\right)::d^{i}:\mathbf{D}^{:}$ or $::r^{i}:\mathbf{R}^{i}.$

12. If two bodies move in unequal peripheries, with velocities which are reciprocally as the diameters or diffances from the center; their central forces will be reciprocally as the cubes of their distances from the center, or directly as the cubes of the velocities. Thus, if V:v::r:R, F:f

 $:: \frac{\mathrm{V}^2}{\mathrm{R}}: \frac{v^2}{r}:: \frac{r^2}{\mathrm{R}}: \frac{\mathrm{R}^2}{r}):: r^3: \mathrm{R}^3$, or $\mathrm{V}^3: v^3$.

13. If the velocities of two bodies, moving in unequal peripheries, be reciprocally in a fubduplicate ratio of the diameters, or central diffances; the squares of the times wherein they pass the whole peripheries, or fimilar ares, are in a triplicate ratio of the distances from the center of the forces; wherefore, if the central forces be reciprocally in a duplicate ratio of the distances from the center, the squares of the times wherein the entire peripheries, or fimilar arcs, are passed over, are also in a triplicate ratio of the distances. If $V: v :: d^{\frac{1}{2}} : D^{\frac{1}{2}}; \text{ or } V^2 : v^2 :: d : D; \text{ then } T^2 : i^2$ Mm

 $:: D^3: d^3$ or $\mathbb{R}^3: r^3:$ and if $\mathbb{F}: f:: r^2: \mathbb{R}^2$, then $\mathbb{T}^2: t^2::$ R3: 13.

14. However the central forces differ from one another, they may be compared together; for they are always in a ratio compounded of the ratio of the quantities of matter in the revolving bodies, and the ratio of the distances from the center; and also in an inverse ratio of the squares of the periodical times. If then you multiply the quantity of matter in each body by its distance from the center, and divide the product by the fquare of the periodical time, the quotients of the division will be to one another in the faid compound ratio, that is, as the central forces.

15. When the quantities of matter are equal, the distances themselves must be divided by the squares of the periodical times, to determine the proportion of the central forces: in that case, if the squares of the periodical times be to one another as the cubes of the distances, the quotients of the divisions, as well as the central forces, will be an inverse

ratio of the fquares of the distances.

city and periodic time of a body revolving in a circle, by means of its own gravity, at any given diffance from the earth's center. Let g be the space through which a heavy body defcends at the furface of the earth, in the first second of time, or 16 th feet, = A M, in the preceding figure; then 2 g will be the measure of the force of gravity at the furface: and r being allumed for the earth's radius, AC, the velocity in a circle at its surface, in one second, will be $AE = \sqrt{AB \times AM} = \sqrt{2rg}$, by Art. 2. Hence, if we put c = 3.14159, &c. the circumference of the earth being 2 cr = 25,000 miles nearly, or 132,000,000 feet (in round numbers), we shall have $\sqrt{2gr:2cr::1'':c}$

 $\sqrt{\frac{2 r}{g}}$ = 5078 feconds nearly, or 1^h 24^m 38", the periodic time at the circumference; and the velocity there, or √2 gr, is = 2600 feet per fecond nearly. Let R reprefent the radius of another circle described by a projectile about the earth's center; fince the force of gravitation varies inverfely as the square of the distance, we shall have (by Art. 12 and 13.) $R^{\frac{1}{2}}: r^{\frac{1}{2}}: v \text{ or } 26000 \text{ feet, the velocity}$

in a fecond at the furface, to 26000 \times $\sqrt{\frac{r}{R}}$, the velocity

in the circle whose radius is R: and by Art. 13, $r^{\frac{3}{2}}: R^{\frac{3}{2}}:$ or 5078 feconds, the periodic time at the furface: 5078 x

 $\sqrt{\frac{R^3}{r^3}} = T$, the time of revolution in the circle R. In order to apply this to the case of the moon, revolving about the earth at the distance of 60 semidiameters, let R = 60 r, or the distance of the moon from the carth, and the above

expressions will become $V = 26000 \sqrt{\frac{1}{60}} = 3357$ feet per fecond, or 387 miles per minute, for the velocity of the

moon in her orbit; and T = $5078 \sqrt{\frac{60^3}{1^3}} = 2360051$ fe-

conds, or 27.3 days nearly for the periodic time of the moon in her orbit at that dittance. This is nearly equal to what the astronomers reckon it, viz. 27d 7h 34'; and it would have come out exactly like it, if the distances had been precifely flated, and other circumstances, omitted for the fake of brevity, had been taken into the account, which interfere with that period. Similar calculations may be inilituted with respect to all the planets of our folar system, and the refult of the calculations will be found to coincide, with furprifing exactness, with the appearances; and this affords a firong confirmation of the Newtonian theory of

Thus also the ratio of the forces of gravitation of the meon towards the fun and earth may be estimated. For, I year, or 365 days, being the periodic time of the earth and moon about the fun, and 2712 the periodic time of the moon about the earth; and also 60 being the distance of

 $\frac{60}{27.5}, : \frac{23020}{365.25}, :: f \text{ or } 1 : \frac{23020}{60} \times \frac{27.3^{\frac{1}{2}}}{365.25} = 2\frac{2}{9};$ that is, the proportion of the moon's gravitation towards

the fun is to that towards the earth, as 22 to 1 nearly.

tances is inverfely as the squares of the distances, and the radius of the earth is 21000000 feet; therefore, as the fquare of 1267200000 is to the square of 21000000, fo is the force of gravity at the furface of the earth to the force of gravity at the dillance of the moon; viz. 160579584c000c000c0 : 4410c00000000c0 :: I : 0.000274; fo that the force of gravity at the furface of the earth is to the force of gravity at the moon as I is to 0.000274; or as 1000000 to 274. And fince near the earth falling bodies pals over 1612, or 16.087 feet, in the first fecond of time; therefore we may fay, 1000000: 274 :: 16.087 : 0.0044 of a foot; which shews that the moon, if its velocity should cease at once, would fall towards the earth, and in the first fecond of time would defeend through not more than Troopsths of a foot.

Again, we may hence compute the centrifugal force of a body at the equator, arising from the earth's rotation. The time of revolution, when the centrifugal force would become equal to that of gravity, as has been shewn above, is 5078 feconds; and, by Art. 4. 861602, which is the square of the number of seconds in 23 hours, 56 minutes, the time of the earth's entire rotation on its axis, is to 507812, as the force of gravity, which may be denoted by unit, to 1 the centrifugal force required, which is the 289th part of gravity at the earth's furface. Simpson's

Fluxions, vol. i. p. 240, &c.

Otherwise, it appears (by Art. 4.) that, when the diftances from the center are equal, or in the same circle, the central forces are inversely as the squares of the periodical times; and we have above shewn, that the velocity, which near the furface of the earth is equivalent to gravity, is = 26000 feet per fecond nearly. Then fay, as the fquare of the earth's diurnal rotation round its axis is to the fquare of the periodical time in the case above flated, viz. 1h 24' 38", or nearly 85', so is the force of gravity (e.g. 1.) to the centrifugal force of bodies near the equator of the earth; i. e. 2073600' (the square of 24 hours): 7225': 1:0.003485 = the centrifugal force near the equator; i. e. the force by which bodies that are near the equator are attracted towards the center is to the force with which they endeavour to fly off, in confequence of the earth's diurnal rotation round its axis, as 1 is to 0.003485; or as 1000000 to 3485; or the former is almost 300 times more powerful

By fimilar means we may determine the centrifugal force of bodies in different latitudes; for as the earth turns round its axis, it is evident that those bodies on the surface of it, which lie nearer to the axis, or, which is the fame thing, are

nearer to the poles, perform circles fmaller than those which lie nearer to the equator; though they are all performed in the same interval of 24 hours. Hence, the periodical times being equal, or the fame, the central forces are as the radii of the circles, and as in different latitudes the radii are equal to the cofines of the latitudes, we may use the following proportion; viz. as the radius is to the cofine of a given latitude, so is the centrifugal force of bodies situated at the equator to the centrifugal force of bodies at that given latitude. Now as the cofines decrease in length the nearer they approach the poles, fo the tendency of bodies to fly off from the furface of the earth is greatest at the equator, but diminishes in approaching towards the poles; and hence we perceive why the earth has been found, by means of unquestionable measurements and other observations, to be an oblate spheroid, whose polar diameter is the shortest. This circumstance furnishes a convincing evidence of the earth's daily rotation about its axis.

For another example of the application of the theory of central forces above stated, we may suppose A to be a ball of one ounce, whirled about the center C, fo as to describe the circle A B E (fig. S2.), each revolution being made in half a fecond; and the length of the cord A C = 2 feet. Here $t = \frac{1}{2}$, r = 2; and as it has been already found that

 $c\sqrt{\frac{2R}{g}}$ = T is the periodic time at the circumference of the earth, when the centrifugal force is equal to gravity; hence then, (by Art. 4.) $\frac{R}{T^2}$: $\frac{r}{a}$:: F or 1: f; and this proportion becomes $\frac{g}{2c^2}:\frac{r}{\ell^2}::1:\frac{2c^2r}{g\ell^2}=\frac{16c^2}{r}=$

 $\frac{16 \times 3.1416^2}{167} = 9.819 =$ the centrifugal force, or that

by which the string is stretched, viz. nearly 10 ounces, or 10 times the weight of the ball. This central force may be called centripetal or centrifugal, according as it is applied to the tenacity of the parts of the string, or to the force of the body; fo that the body is faid to be retained by a centripetal force 9.8 times as great as the force of terrestrial gravity; or it may be faid, that the centrifugal force of the revolving body thretches the firing as much as if a weight of 9.8 pounds were fimply fuspended to it.

Again, suppose the string and ball to be suspended from a point, D, (fig. 83.) and to describe in its motion a conical surface, ADB; thus, putting DC = a, AC = r, and AD = b; and F = 1, the force of gravity as before; the body will now be affected by three forces, viz. gravity acting parallel to DC, a centrifugal force in the direction CA, and the tention of the ftring, or force by which it is Aretched, in the direction DA: hence thefe three powers will be as the three fides of the triangle ADC respectively; and, therefore, as CD or a: AD or b:: 1: b the tenfion of the string as compared with the weight of the body. Also, CD or a: AC or $r:: 1: \frac{2c^2r}{gt^2}$, the general expression for the centrifugal force above found: hence $gt^2 =$

 $2ac^2$, and confequently $t \equiv c \sqrt{\frac{2a}{a}} \equiv 1.108 \sqrt{a} \equiv$

the periodical time. 16. When the force by which a body folicited towards a

point is not every where the fame, but is either increased or diminished, in proportion to some power of the distance from the center; feveral curves will thence arise in a certain

proportion according to that power. If the force decreases in an inverse ratio of the squares of the distances from that point, the body will deferibe an ellipsis, which is an oval curve, in which there are two points called foci, and the point, towards which the force is directed, ralls upon one of them; fo that in every revolution the body once approaches to, and once recedes from it: and the eccentricity of the ellipsis is greater or less, according to the projectile force: and when the eccentricity is nothing, the curve becomes a circle, which may also be described, in certain circumstances, by a moving body. The body may also (by supposing a greater degree of velocity in certain proportions, describe the two remaining conic fections, viz. the parabolic and hyperbolic curves, which do not return into themselves: on the contrary, if the force increases with the distance, and that in a ratio of the distance itself, the body will again describe an ellipsis: but the point to which the force is directed is the centre of the ellipfe; and the body, in each revolution, will twice approach to, and again twice recede from, that point. In this case also a body may move in a circle, for the reason above mentioned.

In order to explain these particulars more at large, let ACD (fig. 84.) represent a circular orbit, A & S an elliptical, Ar E a parabolic, and AKF an hyperbolic orbit; and let the bodies be supposed to move with certain velocities under the influence of a force at N, which is the center of the circle, and the focus of the conic fections. Let A B, perpendicular to A D, represent the velocity which is necessary to retain the body in the circular orbit, and let it be denoted by I; as the standard with which the other degrees of velocity may be compared. Also, let a body be projected from A in the direction A I with any other degree of velocity n. It is now proposed to determine the nature of the curve, which will be described with this other velocity n, or rather to ascertain what the value of n must be in order to produce each particular conic section. Draw mK parallel to A I, interfecting the circle as well as the other curves. Let AN be denoted by d; the femitransverse axis of any of the conic sections by a; the semiconjugate by b; and Am (= BC = Gz = Hr = IK) by x. Then the ordinate mC in the circle will be = 2 dx - xxl2; but the ordinate m z of the ellipse, and mK of the hyperbola, may both be represented by $\frac{b}{x} \times \frac{1}{2 a x + x x^{1/2}}$. The fluxions of these ordinates are

 $\frac{d|\hat{x} - x|\hat{x}}{2|d|x - x|x|}, \text{ and } \frac{1}{d} = \frac{2|d|x|}{2|d|x| + x|x|}, \text{ which flux-}$ ions are to each other as the velocities in every point of their respective curves in the direction A1; and in the like proportion are the quantities $\frac{d-x}{2(d-x)}$ and $\frac{b}{a} \times \frac{a+x}{2(a+x)}$; these quantities being the abovementioned fluxions divided by the fame quantity, 2. Now, when the point in the curve approaches the point A fo near as to coincide with it.

then Am vanishes, or x = a; and the above expressions become $\frac{d}{2a}$ and $\frac{b}{4} \times \frac{a}{2a^{\frac{1}{2}}}$; for that at the point A the ve-

locity which retains the body in the circular orbit is to the velocity which retains the body in the ellipse or the hyperbola, as $\frac{d}{2a} \underbrace{1}_{1} : \frac{b}{a} \times \frac{a}{2a} \underbrace{1}_{2} : d\underbrace{1}_{2} : \frac{b}{a} \underbrace{1}_{2} \times 1 : n$; therefore

 $n d \frac{1}{2} = \frac{b}{1}$; and $n n d = \frac{b b}{a}$, or ann d = bb. When

 $\kappa=d=\Lambda$ N, then 23 is the parameter, and (the parameter being a third proportional to the transverse and meter being a third proportional to the transverse and conjugate diameters) 2a:2b:2b:2b:2y, or a:b:b $y = \frac{bb}{a} = \frac{b}{a} \times 2ax + xx^{\frac{1}{2}} = \frac{b}{a} \times 2ab^{\frac{1}{2}} + 2ab^{\frac{1}{2$ prefions become $2 a d - d^2 = b^3 = a n n d$ for the ellipse, and $2 a d + d^2 = b^2 = a n n d$ for the hyperbola. Confe-

quently,
$$\begin{cases} \text{the femi-transverse axis is } a = \frac{d}{2-n^2} \\ \text{the femi-conjugate axis is } b = \frac{n \, d}{2-n^2} \end{cases}$$

$$\begin{cases} \text{the femi-transverse is } a = \frac{d}{n^2-n^2} \\ \text{the femi-transverse is } b = \frac{r}{r} \end{cases}$$

$$\begin{cases} \text{the femi-conjugate is } b = \frac{r}{r} \end{cases}$$

Having determined these values of the transverse and conjugate diameters, in which n is the only indeterminate value, we may, by introducing certain substitutes instead of n, afcertain what its value must be in order to produce one curve or another. Thus, by making n = 1, each of the above values becomes equal to d; therefore the two diameters become equal to each other, and the curve is of courfe a circle : and, accordingly, the velocity, which retains the revolving body in a circular orbit, has been denominated 1,

If we make
$$n = 2$$
 $\frac{1}{2}$, then $a = \frac{d}{2 - nn} = \frac{d}{2 - 2} = \frac{d}{2}$, which is an algebraical expression of infinity: and all

'the other expressions will likewise become infinite; so that the transverse and conjugate diameters in that case becoming infinite, the curve is the parabola.

If we make n equal to a quantity less than the square root of 2 (viz. less than the square root of twice that velocity which is required to retain the body in a circular orbit); then the values $\frac{d}{2-n^2}$ and $\frac{n}{2-n}$, viz. of a and b, will be posi-

tive; whereas, by the fame substitution, the value $\frac{n d}{n n - 2}$ becomes impossible; which shews, that when n is less than the square root of 2, the curve can only be the ellipse.

But if we make n equal to any thing greater than the fquare root of 2; then the values of a and b for the hyperbola become positive: whereas those for the ellipse become impossible; and, therefore, in this case, the curve must be the hyperbola. Cavallo's Elem. of Nat. and Exp. Philos. vol. i. Simpson's Fluxions, vol. i. fect. 12. See CENTRI-PETAL FORCE.

CENTRAL Rule, is a rule or method discovered by our countryman Thomas Baker, rector of Nympton in Devon, for finding the center of a circle defigned to cut the parabola in as many points as an equation to be constructed hath real roots. See the article BAKER.

Its principal use is in the construction of equations; and he has applied it with good fuccess as far as biquadratics.

The central rule is chiefly founded on this property of the parabola: that if a line be inferibed in that curve perpendicular to any diameter, a rectangle formed of the fegments of this line is equal to a rectangle made of the

The central rule has the advantage over Cartes's and De Latteres's methods of confiructing equations, as both thefe are fulli-ct to the trouble of preparing the equation by taking away the fecond term. This we are freed from in Baker's exceeding the fourth power, by the interfection of a circle and parabola, without the omiffion or change of any terms.

CENTRALIS RETINE, in Anatomy, an artery, which is fent from the opthalmic, and is chiefly distributed to the

retina. See ARTERIFS and EYE.

CENTREVILLE, in Geography, the chief town of Queen Anne's county, and on the east fide of Chesapeak bay in the state of Maryland, in America. It lies between the forks of Corfica creek, which runs into Chester river; 18 miles S. of Chelter; 34. S.E. by E of Baltimore; and 95 S W. by S. of Philadelphia, N. lat. 39° 6'.
CENTRIFUGAL FORCE is that whereby a body revolv-

ing round a centre or another body endeavours to recede from

It is one of the established laws of nature, that all motion is of itself rectilinear; and that the moving body never recedes from its first right line, till fome new impulse be superadded in a different direction; after that new impulse, the motion becomes compounded, but it continues fill rectilinear, though the direction of the line be altered. To move in a curve, it must receive a new impulse, and that in a different direction every moment; a curve not being reducible to any number of finite right lines. If then a body continually drawn towards a center be projected in a line that does not go through that center, it will describe a curve; in each point whereof, A (Plate X. Mechanics, fig. 82.) it will endeavour to recede from the curve, and proceed in the tangent A D; and, if nothing hindered, it would actually proceed to it; fo as in the same time wherein it describes the arc A E; it would recede the length of the line D E, perpendicular to A D, by its centrifugal force. The centrifugal force, therefore, is as the right line DE, perpendicular to AD: fuppoling the arch AE indefinitely fmall.

The effect of the centrifugal force is fuch, that a body obliged to describe a circle, always describes the largest it posfibly can; a greater circle being, as it were, lets circular, and less distant from a right line, than a small one. A body force more, when it describes a little circle than a large one: that is, the centrifugal force is always proportional, other circumstances being alike, to the circumference of the curve in which the revolving body is carried

It is the same in other curves as in circles; for a curve, whatever it be, may be esteemed as composed of an infinity of arcs of indefinitely small circles, all described on different radii; fo that it is at those places where the curve has the trifugal force of the body that describes it varies according to the feveral points wherein it is found.

The doctrine of centrifugal forces was first fuggested by Huygens, at the close of his " Horologium Ofcillatorium? published in 1673, and demonstrated in the volume of his "Posthumous Works" and also by Guido Grando; where

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he has given a few easy cases in bodies revolving in the circumferences of circles. But the doctrine was first fully difcuffed, especially in its reference to the conic sections, by fir Isaa Newton. He was succeeded by several other writers upon the same subject; as Leibnitz, Varignou in the Mem. de PAcad. Keil in the Phil. Trans. and in his "Physics," Bernouilli, Hermann, Cotes in his "Harmonia Mensurarum," Maclaurin in his "Geometria Organica," and in his "Fluxions," and Euler in his book "De Motu," where he confiders the curves described by a body acted on by centripetal forces tending to feveral points. The fubject has also been illustrated by various writers on mechanics and aftronomy. See CENTRIPETAL FORCE, and CENTRAL forces.

CENTRIFUGAL Machine, a curious machine invented by Mr. Erskine, for raising water by means of a centrifugal force, combined with the pressure of the atmosphere. This machine confilts of a large tube of copper, &c. in the form of a crofs, placed perpendicularly in the water, and relling at the bottom on a pivot. At the upper part of the tube is an horizontal cog-wheel, which touches the cogs of another in a vertical polition; fo that by the aid of a double winch, the whole machine is moved round with very great velocity. Near the bottom of the perpendicular part of the tube is a valve opening upwards; and near the two extremities, but on the contrary fides of the arms, or crofs part of the tube, are two other valves opening outwards. These two valves are kept thut, by means of fprings, till the machine is put in motion; when the centrifugal velocity of the water forces them open, and discharges itself into a cistern or reservoir placed there for that purpole. On the upper part of the arm are two holes, which are closed by pieces that screw into the metal of the tube. Before the machine can work, these holes must be opened, and water poured in through them. till the whole tube be full: by these means all the air will be forced out of the machine, and the water supported in the tube by means of the valve at the bottom. The tube being thus filled with water, and the holes closed by their ferew-caps, it is turned round by the winch; when the water in the arms of the tube acquires a centrifugal force, opens the valves near the extremities of the arms, and flies out with a velocity nearly equal to that of the extremities of the

A perspective view of the centrifugal machine erected on board a ship, is exhibited in Pl. XI. Mechanics, fig. 93. ABC is the copper tube; D an horizontal cog-wheel, furnished with 12 cogs; E a vertical cog-wheel, having 36 cogs; FF the double winch; a the valve near the bottom of the tube: b, b, the two pivots on which the tube turns; cone of the valves in the cross piece; the other at d, but invisible, as it is on the other fide of the tube; ee the two holes through which the water is poured into the machine; G H the cistern or refervoir; I I part of the ship's deck. The distance between the two valves, ed, is 6 feet; the diameter of these valves is about 3 inches; and that of the

perpendicular tube is about 7 inches.

If the men who work the machine be supposed to turn the winch round in 3 feconds, the machine will move round its axis in one fecond; and confequently each extremity of the arms will move with a velocity of 18.8 feet in a fecond. A column of water, therefore, of three inches diameter will iffue through each of the valves with a velocity of 18.8 feet in a second; but the area of the aperture of each of the valves is 7.14 inches; which, being multiplied by the velocity in inches = 125.6, gives 1610.784 cubic inches, the quantity of water discharged through one of the apertures in one fecond; fo that the whole quantity discharged in that

inches; or 193294.08 cubic inches in one minute. But 60812 cubic inches make a tun. beer-measure; consequently, if we suppose the centrifugal machine to revolve round its axis in one fecond, it will raife nearly 3 tons 44 gallons in one minute; but this velocity is too great, at least to be maintained for any confiderable time; fo that, when this and other deficiencies in the machine are allowed for, two tuns are nearly the quantity that can be raifed by it in one minute. As the water is forced up the perpendicular tube by the preffure of the atmosphere, it is evident that this machine cannot raife water above 32 feet high.

An attempt has been made to substitute this machine in place of the pumps commonly used on ship board; but the labour of working was found to be fo great as to render the machine inferior to the chain-pump; which fee. chine might be improved by loading with a weight of lead the ends of the tubes through which the water issues; and thus the machine would be made to turn with much greater ease, as the centrifugal force of the lead would in some mea-

fure fupply the place of a fly.

CENTRIFUGAL Wheel. See WHEEL.

CENTRINA, in Ichthyology, the specific name of a shark. See SQUALUS Centrina. The sish described by Ray, Aldrovandus, and various old writers, under the name of CENTRINA and CENTRINE is of this species. This shark has been also called Porcus Piscis, from its somewhat triangular figure, and elevated back, which rifing into a ridge, bears a remote resemblance to that of a hog.

CENTRINA, a fynonymous name of CHIMAERA Monstrosa. Centrina prima, Centrina vera, Simia marina Danica.

Aldrovandus.

CENTRINES, in Physiology, a species of insects hatched

in the wild fig-tree, and used in CAPRIFICATION.
CENTRIPETAL FORCE is that by which a moving body is perpetually urged towards a center, and made to revolve in a curve, instead of a right line. Thus, the body impelled in the right line AG, (Plate X. Mechanics. fig. 82.) is perpetually drawn out of its rectilinear motion; and folicited to proceed in a curve. The centripetal force, therefore, is as the right line DE; supposing the arc, AE, indefinitely small. Hence, when a body revolves in a circle, the two forces, viz. the centrifugal and centripetal, are equal and contrary to each other, fince ne ther of them gains upon the other; the body being, as it were, equally balanced by them. But when, in revolving, the body recedes farther from the center, then the centrifugal force exceeds the centripetal; as is the cafe in a body revolving from the lower to the higher apsis in an ellipse, and respecting the socus as the center. And when the revolving body approaches nearer to the center, the centrifugal force is less than the centripetal; as while the body moves from the farther to the nearer extremity of the transverse axis of the ellipse. For the proportion of the one to the other, fee the fequel of this article

In the first or nascent state of circular motion, the projectile force infinitely exceeds the centripetal force. For, let the circle AEB, (fig. 82.) represent the orbit of the body A, moving uniformly along its circumference; this body, A, is impelled by a projectile force in the direction AG, perpendicular to AC, and is at the same time conftantly acted upon by an attractive or impelling force, in a direction towards the center, C: these two forces being fo adjutted, or bearing fuch proportion to each other, as to . keep the body in the circular orbit, AEB. In the very fmall are AE, the line AD is to the line AM (= DE) as the force of projection is to the centripetal force at the space of time through both the apertures is = 3221.568 distance AC; for whilst AD represents the uniform or

equable movement which arises from the projectile force in a certain time, DE reprefents the deviation from that course, or the force whereby the body is drawn towards the center of force in the fame time. Now, DE (= AM) : AE :: finall, or is in its nascent state, then the diameter AB becomes infinitely greater than AE; and of course AE or AD (which in the flate here supposed is nearly equal to it) becomes infinitely greater than DE or AM; i. e. the projectile force infinitely greater than the central or centripetal force. If a body move in a curve line, and in fuch a manner that the radius CB (fig. 85.) drawn from it to the fixed point C, placed in the fame plane, deferibes areas BAC, BCE, &c. proportional to the times, or equal in any given time, it is folicited towards the point C by a centripetal force. And also, if a body proceed according to the direction of the right line AD, and be folicited by a centripetal force towards a fixed point C, placed in the same plane; it deferibes a curve, whole cavity is towards C, and whole feveral areas, comprehended between the two radii AC and CB, are proportional to the times. Moreover, the velocity of a revolving body, at any point, Q or R, (fig. 86.) is inversely as the perpendicular SP or ST, falling from the certer of force, upon the tangent at that point. For, let two other bodies, m and n, be supposed to move uniformly from Q and R, along the tangents Q P and RT, with velocities respectively equal to those of the revolving body at Q and R; then the diltances Q m and R n, gone over in the fame time, will be to each other as those velocities; and the areas. Q Sm and R Sn, will be equal, being equal to those described by the revolving body in the same time (see QUADRATUEE): whence $Qm \times SP$ being $\equiv Rn \times ST$, it follows that Qm: Rn:: ST: SP:: 1 : 1

1. To determine the law of the centripetal force tending to a given point C, (f,g, 87,) by which a bady may defirite a given curve AQH. Let QP be a tangent to the curve at any point Q; upon which, from the center C, let fall the perpendicular CP: put CQ = x, CP = w; and let the velocity of the projectile at Q be denoted by v. Since v^{o} is always as - (by the preceding article), it is evident that if we take the fluxions of both quantities, vv will also be as But the centripetal force, whether the body moves in a right line or a curve, is always as - vo (fcc Central force): confequently the centripetal force is likewife as Otherwise, let the ray of curvature Q O be denoted by R; then, because the centripetal forces in circles are as the squares of the velocities directly and the radii inversely (fee Central fercer); it follows that the force, tending to the point O, by which the body might be retained in its orbit at Q, or in the circle whole radius is Q O, will be defined by $\frac{1}{n^2} \times \frac{1}{R}$; whence (by the resolution of forces) it will be $CP(u): CQ(s):: \frac{1}{s^2 R}$ (the force in the direction QO) : s, the force in the direction QC, which, because R = $\frac{s.s.}{u}$ (see Radius of Evolute), will be ex- $\frac{2.s.}{b^2} \times \frac{1}{s^2} = \frac{2}{ps}$, and $\sqrt{\frac{u.s.}{s.u}} = \sqrt{\frac{2.s.}{2.u-s}} = \frac{1}{a}$

be as $\frac{Q}{Co^3 \times QQ}$. Confiquently, the forces to different centers C and c (about which equal areas are described in the fame time) are to each other in the ratio of $\frac{C P^3}{C Q}$ to $\frac{c p^3}{c Q}$ inverfely. Moreover, the ratio of the velocity at Q to the velocity by which the body might revolve in a circle about the center C, at the ditance CQ, is easily deduced from hence: for, fince the velocity at Q is that by which the body might revolve in a circle about the center Q, and the forces tending to the centers, O and C, are to each other as u (CP) and s (CQ); it therefore follows, if the ratio fought be affumed as v to w, that $\frac{v}{QQ}:\frac{w}{QQ}::a:s$ (fee Central forces): whence also $v':w'::u\times QQ$ $(u \ R): s \times Q \ C \ (s^{\circ});$ and confequently, $v: w:: \sqrt{\frac{u \ R}{}}$ $: I :: \sqrt{\frac{u \, s}{s}} : I :: \sqrt{\frac{s}{s}} : \sqrt{\frac{u}{u}} \text{ (because } R = \frac{s \, s}{u} \text{)}.$ It appears farther, that if OL be made perpendicular to QC, QL will be $\left(=\frac{CP\times QO}{CQ}\right)=\frac{u}{s}$, and $\frac{CL}{CQ}=\frac{v}{s}$ $\frac{u R}{v}$; and therefore $v : w :: Q L^{\frac{1}{2}} : C Q^{\frac{1}{2}}$; which is another proportion of the proposed celerities. Hence, if the law of the centripetal force be given, the nature of the trajectory may be found; for fince the force (F) is univerfally defined by $\frac{\dot{u}}{u^1\dot{s}}$, it is evident that $\frac{1}{2u^2}$ will be \equiv the fluent of Fi; which, when F is given in terms of s, will become known; and then the relation between u and s being given, the curve itself is known. E. G. Let it be required to find the law of the centripetal force, by which a body, tending to the focus C, is made to revolve in the periphery of an ellipse AQDB From the other focus, F, draw F K parallel to C P, meeting the taugent PQ (at right angles) in K, join F, Q; putting the transverse axis A B = a, the semi-conjugate OD = $\frac{1}{2}b$, and the parameter $\left(\frac{b^2}{a}\right) = p$: then, CQ and C P being denoted as before, we have FQ (= A B - C Q, by property of the ellipse) = a-s; whence, by reason of the similar triangles CQP and FQK, it will be s:u: $a-s: FK = \frac{a-s \times u}{s}$. But $FK \times CP$ is $= OD^{s}$ (by the nature of the curve). Hence we get $\frac{a-s \times u^s}{s}$ $=\frac{1}{2}b^2$; and consequently $\frac{1}{a^2}=\frac{4a^2}{b^2}-\frac{4}{b^2}$; the fluxion of

which being $-\frac{2u}{v^3} = -\frac{4as}{h^2c^2}$, we obtain $\frac{u}{v^3}$ (as before) =

pressed by $\frac{n}{n!}$. Hence it appears, that as the force, tend-

ing to the point C, is univerfally as $\frac{C}{C}\frac{Q}{P^2\times QO}$ (or $\frac{s}{u^3}\frac{R}{R}$) the force to any other point s will, by the same argument,

 $\sqrt{\frac{FQ}{AQ}}$. Hence it appears, that the centripetal force is, in this case, as the square of the distance inversely; and the velocity at Q is to that by which the body might describe a circle at the distance CQ, every where in the ratio of $FQ^{\frac{1}{2}}$ to $AQ^{\frac{1}{2}}$. If the curve had been an hyperbola; then $\frac{a+s}{s} \times u^2$ (instead of $\frac{a-s}{s} \times u^2$) would have been $=\frac{1}{s}b^2$; and so $\frac{u}{u^{\frac{1}{2}}} = \frac{2a}{b^{\frac{1}{2}}} \times \frac{1}{s^2} = \frac{2}{ps^2}$, as before. If the curve had been a parabola, the equation would have been $\frac{a+o}{s} \times u^2 = \frac{1}{s}b^2$, or $\frac{u^2}{s} \left(= \frac{b^2}{+a} \right) = \frac{1}{s}p$; and the force,

fill, as $\frac{2}{ps^2}$. But the measure of the velocity $\left(\sqrt{\frac{u\,\bar{s}}{s\,\bar{u}}} = \sqrt{\frac{2\,a-2\,\bar{s}}{a}}\right)$ in this case becoming barely $=\sqrt{2}$, it follows that the velocity in a parabola is to that the

which the body might describe a circle at the same distance from the centre, in the constant ratio of $\sqrt{2}$ to unity.

2. To determine the ratio of the velocities of bodies revolving in different orbits, about the fame, or different centers; the orbits themfelves, and the forces by which they are deferibed, being given. Let $A \cup H$ (fig. 89.) be any orbit, deferibed about the center of force C, and let the force itself at the principal vertex be denoted by F; also let r than for the femiparameter, or the ray of curvature at the vertex, and let $C \cap P$ be perpendicular to the tangent P. Then, the celerity at P being, always, as $\sqrt{r} \cdot F$ (by Central forces), we have

 $CP:CA::\sqrt{rF}$ (the velocity at A) to $\frac{CA\times\sqrt{rF}}{CP}$, the velocity at Q (by a preceding article). This answers

in all cases, let the values of AC, r and F be what they may.

Hence, if the centripetal force be as the fquare of the distance inversely, or F be expressed by $\frac{1}{AC_2}$, the velocity at

Q will become $\frac{A C}{C P} \times \sqrt{\frac{r}{A C^2}}$, or $\sqrt{\frac{r}{C P}}$: whence the velocities, in different orbits, about the fame center, are

in the subduplicate ratio of the parameters, and the inverse ratio of the perpendiculars from the center of force to the tangents, conjunctly. Farther; if the celerity at Q be denoted by Qq, and Cq be drawn; then, Qq being as

 $\frac{A'}{CP}$, it follows that \sqrt{r} is as $CP \times Qq$, or as the triangle QCq. Consequently, the areas described about a

common center of force in a given time, are in the fubduplicate ratio of the parameters.

Moreover, fince the area of the curve AQ HB, &c. when an ellipfe, is known to be as $(AO \times OD)AO \times \sqrt{r \times AO}$ (fuppoing O to be the center), if the fame he applied to \sqrt{r} , expressing the area described in a given part of time (by the last article), we shall thence have $AO \times \sqrt{AO}$, or $AO^{\frac{3}{2}}$, for the measure of the time of one whole revolution. Whence it appears, that the periodic times, let the species of ellipse be what it may, are in the sessing in th

3. The centripetal force, tending to a point C, being as the fquare of the distances reciprocally, and the direction and velocity

of a body at any point Q being given; to determine the path in eachich the body moves, and the periodic time, in ease it returns, (fig. 90.) The trajectory A Q B is a conic fection, having the point C for one of its foci. Let F be the other focus, and upon the tangent P Q K let fall the perpendiculars C P and F K, and let C Q and F Q be drawn: also, put the semitransverse axis A O = a, the given focal distance C Q = d, and the sine of the angle of direction C Q P (to the radius 1) = m; and let the given velocity at Q be to that by which the body might revolve in a circle about the center C, at that distance, in any given ratio of n to unity; then it will be $n: 1: F Q^2: A O^2$ (see a preceding article); therefore $n^2: 1^2: F Q (2 a - d): A O(a)$; whence

then it will be $n: 1: F Q^{\frac{1}{2}}: A Q^{\frac{1}{2}}$ (fee a preceding article); therefore $n^2: 1^2: F Q(2a-d): A Q(a)$; whence A Q(a) is given $= \frac{d}{1-a^2}$. Moreover, fince $C P = m \times Q$, and $F K = m \times F Q$, we have $Q Q = m \times Q Q$. Whence $Q = m \times Q = m$

 $\left(\frac{\text{A O}\frac{3}{2}}{\text{C T}\frac{3}{2}}\times\text{P}\right)$ the required time of one revolution, when the orbit is an ellipse; that is, when n^2 is less than 2; for if n^2 be =2, the curve (as its axis $\frac{2d}{2-n^2}$ becomes infinite) will degenerate to a parabola; and if n^2 be greater than 2,

the axis being negative, it is then an hyperbola; whose two principal diameters are equal to $\frac{2d}{n^2-2}$ and $\frac{2mn\ d}{\sqrt{n^2-2}}$. Hence it follows that force reither the value of $\frac{2}{n^2-2}$.

it follows, that, fince neither the value of A O, nor that of the periodic time, is affected with m, the principal axis, and the periodic time, will remain invariable, if the velocity Q be the fame, let the direction at that point be what it may.

The same solution might be obtained by first sinding the principal parameter; for it is evident, that the area described by the body about the center C_1 in any given time, is to the area described, in the same time, by another body revolving in a circle at the distance CQ_1 as mn to unity; hence it will be, $1^2 \cdot m^2 \cdot m^2 : d \cdot m^2 \cdot n^2 \cdot d$, the semiparameter: from which (proceeding as above) we get $a \times m^2 \cdot n^2 \cdot d \cdot (= O \cdot D^2) = m^2$

 \times $\frac{1}{2}$ $ad - d^2$; and confequently $a = \frac{d}{2 - a^2}$, as before.

4. To find expressions for the centrifugal and centripetal forces, and to determine their proportion to each other. Let S (fig. 91) be the center of force, P K the curve described, PT a tangent to it, SY perpendicular to PT, and PQ an indefinitely small arc; draw Qw perpendicular to SP, and with the center S describe the circular arc Qx; and let R Q be parallel to SP, and PV be the chord of the circle of curvature. Let PQ represent the motion of the body in the curve in a given time; then Pw will represent that part of the motion which is directed towards the center, and by which alone the body would be found, at the end of the given time, at the distance Sw; but on account of the motion wQ, it is found at the end of the same time at the distance SQ or Sx; so that the perpendicular motion wQ has made the body to recede from S through a space equal to wx, which therefore represents the centrifugal force; and the centripetal force is represented by Q R.

Now $wx = \frac{xQ^2}{xS}$ ultimately: but xQ^2 varies as $\frac{area}{xS} \frac{Sx}{S}$;

therefore $w \times varies$ as $\frac{area S \times Q^{1}}{2 \times S^{2}}$, which varies as

S.P. ultimately. Hence, in the fame curve, the contri-

fugal force varies as I S P3, the area S P Q deferibed in a tance is the fame, the centrifugal forces are as the squares of the areas described in a given time. Hence, the centripetal force in the curve : the centrifugal force :: $Q R : x \propto v$: (because $Q R = \frac{Q}{P} \frac{P^2}{V}$, and $x \propto v = \frac{xQ^2}{2QS} = \frac{xQ^2}{2PS}$ $\frac{\dot{Q}}{P}\frac{P^2}{V}: \frac{\kappa}{2}\frac{Q^2}{PS}:$ (fince by fimilar triangles Q $P^2:Q\kappa^2:$ $: P^{n}: SY) \frac{SP^{n}}{PV} : \frac{SY^{n}}{2SP} = 2SY + 2Y + PY.$

E. G. Let the curve be an ellipfe whose greater axis is 2 a, and the eccentricity = vo, and the body be at the

centrifugal:: $SP: \frac{1}{2}PV:: a+w: \frac{a^2-w^2}{2}::a:a-w$.

Let VPA ($f_2:92$.) be an ellipfe whole focus is S and center C:VW a curve fo conftructed, that Sp may be alwas equal to SP, and the angle VSp to VSP in a given ratio G:F: then the areas VSp, VSP will be in the same given ratio. Let a body revolve from V to P another body revolves from V to p. Then as the area VSP varies as VSp, and the area VSP varies as the time, the area V S p varies as the time; confequently the body describing Vp is urged by a force tending to S. Let Pv be the chord of curvature. Since the centrifugal forces of the two bodies are as $G^2: F^2$, or as $\frac{G^2}{S|P^1}: \frac{F^2}{S|P^2}$, let them be represented by these quantities; hence the difference of the centrifugal forces is $\frac{G^2-F^2}{S^2P^2}$ Now if p recede from the center by a centrifugal force which is greater by $\frac{G^2-F^2}{8P}$ than that by which P recedes, it is manifelt that p must be acted upon by a centripetal force which is greater by the fame quantity, in order to dellroy it, so that the bodies may keep at the same distance. Now S Y 2 \times P v: $2 SP^3 :: \frac{F^2}{SP^3}$ (the centrifugal force is the cllipfe at P): $\frac{2 \text{ F}}{\text{SY}^2 \times \text{P}}$ the centripetal force in the ellipse at P; hence,

the force in the orbit V W at $p = \frac{2 \text{ T}}{\text{SY}^2 \times \text{Pv}} + \frac{\text{GF} - \text{T}}{\text{SP}^3}$ But $SY^2 = \frac{A C \times R \times S P^2}{C D^2}$, and $Pv = \frac{z C D^2}{A C}$, R being half the latus rectum, and CD the femi-enjugate diameter to PC: hence, the force at $P = \frac{1}{R \times S P}$, and at $I = \frac{F^2}{R \times S P} + \frac{G^2 - F^2}{S P^2}$; therefore the ratio of these forces is $\frac{F^2}{S P^2} : \frac{F^2}{S P^2} + \frac{R G^2 - R F^2}{S P^2}$. See Vince's Af-

tronomy, vol. ii. chap. 31. Simpson's Fluxions, Vol. i.

CENTRISCUS, in Ichthyology, a genus of Branchiostegous fishes, diffinguished by the following characters: Head produced into a very narrow fnout: mouth without teeth: lower jaw longer than the upper: aperture of the gi ls broad and flat : body compressed : abdomen carinated : ventral fins united.

CENTRISCUS Scolopan, trumpet, or bellows fift, of Ray, cently discovered on the coast of Cornwall. (Donov. Brit.

pointed scales: the colour red, or reddiff, darkest or inand the whole furtace gloffed with a tinge of gold. The ticulated on each fide, and with the reft of the fin is fituated this species. The French call this sith Bécasse, the Germans Meerschneps. In the fouth of Europe, where it is not

CENTRISCUS Scutzius. Back covered with a fmooth bony shell. Bloch, &c. This species has the body so much compressed as to resemble a famina, particularly on the abdomen, where it is membranaceous: the back is covered cid, yellowish, and filvery; beneath tortoifesnell, marked with transverse white lines: pectoral and ventral fins yel-

Klein calls this fish Amphifilen; Ikan Pafan, Mefvifeh, Valent. Ikan Peixe, Ruysch. Length from fix to eight inches: inhabits the Indian feas, and fubfilts on marine worms, and fmall crabs.

CENTRISCUS Valitaris. Body oblong lanceolate, rough, with small recumbent brillles at the nothrils. Linn. Pallas, &c.

A native of Amboyna. Length two inches: body filvery ; above, yellowith grey : before the ventral fins a triangular carination: back protected by a rhombic shield, marked by four oblique lines, in the middle a recumbent, flightly moveable, fubulate, acutely pointed fpine, which is rather ferrated at the edge, and grooved beneath; and below this another smaller spine situated in a hollow of the back : ventral fin broad : tail flightly rounded.

CENTRISCUS is also the name given by Klein to two or more species of the Linnwan genus gasterosteus, as for example, Centrifcus duobus in dorso arcuato aculeis, &c. Galterotteus aculeatus; Centriscus aculeis quindecim in

CENTRITES, in Ancient Geography, a river of Afia in Armenia, which fprung from the mountains S.W. of the lake Arfiffa, and running to the fouth-well, Siculus fays, that this river flowed between Armenia and Media; and in the account of Xenophon's famous retreat, it is faid to have separated Armenia from the der the command of this general, were obstructed by this river, 200 feet wide, in their progress to the Armenian themselves with the plenty and variety which the country lowing morning they were alarmed by the appearance of an army of horse and foot, drawn up in hostile array on the other fide of the river, on an eminence about three or four hundred feet from it, who feemed determined to oppose their passage. These were Armenians, Mygdonians, Chaldeans, and other auxiliaries, hired by Orontas, governor of that province. The only road which the Greeks could discover led upwards, and seemed to have been made ly art: and the breadth of the river inducing them to believe it fordable, they attempted to pass it there; but they had not proceeded far before they found themselves obliged to return, and encamp on the hanks of the river.

CENTRO-BARYC METHOD, from xeeleev and \$2505, beavy, in Mechanics, is a method of measuring or determining the quantity of a furface or a folid, by confidering it as formed by motion, and multiplying it into the way of its center of

The doctrine is comprifed in the following theorem, with

its corollaries.

Every figure, subether superficial or folid, generated by the motion of a line or figure, is equal to the product of the generating magnitude into the way of its center of gravity, or the line which

its center of gravity describes.

Demonft. For suppose the weight of the whole generating magnitude collected in the centre of gravity; the whole weight produced by its motion will be equal to the product of the weight moved into the way of the center of gravity. But when lines and figures are confidered like homogeneous, heavy bodies, their weights are as their bulks; and therefore the weight moved is the generating magnitude; and the weight produced that generated. The figure generated, therefore, is equal to the product of the magnitude into the way of its

center of gravity. Q. E. D.

This kind of proof, furnished by Wolfius, is very vague and unfatisfactory. But it is not difficult to supply one that is much better. Accordingly, let us suppose a lever loaded with two weights, and a fixed point in this lever. It is well known that the fum of the products of each weight by its distance from this point is equal to the product of the fum of the weights by the distance of their center of gravuy from this point : then, if we imagine the lever to revolve round this fixed point, the circumferences will be proportional to the radii, and the fum of the products of each weight by the path or circumference which it describes will be equal to the product of the fum of the weights by the circumference described by the center of gravity. This demonstration, comprehending two weights, may be easily applied to any number of weights at pleasure.

Corol. 1. Since a parallelogram A BCD (Plate XI. Mechanics, fig. 94.) is described, if the right line A B proceed according to the direction of another A C, with a motion still parallel to itself; and the way of the center of gravity E is equal to the right line E F, perpendicular to C D, that is, to the altitude of the parallelogram : its area is equal to the product of the base C D, or the describing line into the altitude E F. On this corollary we may observe, that A C is not, strictly speaking, the directrix of A B, although A B moves along AC; but this directrix is properly the line EF, which measures the distance of AB from CD; and the way of the center of gravity, by which we multiply the describing line, A B (or CD) is not the absolute way of this center, but its way estimated with respect to the directrix or the way it describes in a line perpendicular to the describing line. This remark is necessary in order to prevent those paralogifms which might occur, in applying without precaution the foregoing rule to the measure of surfaces and fo-

Corol. 2. In the same manner it appears, that the folidity of all bodies, described by a plane descending according to VOL. VII.

the direction of any right line A C, is had by multiplying

the describing plane by the altitude

Corol. 3. Since a circle is described, if the radius CL, (fig. 95.) revolve round a center C, and the center of gravity of the radius CL be in the middle F, the way of the center of gravity is the periphery of a circle X, described by a fubduple radius: confequently the area of the circle is equal to the product of the radius C L, into the periphery described by the subduple radius C F.

Corol. 4. If a rectangle A B C D (fig. 96.) revolve about its axis AD; the rectangle will describe a cylinder, and the fide BC the superficies of a cylinder. But the center of gravity of the right line BC is in the middle, F; and the center of gravity of the generating plane in the middle, G, of the right line EF. The way of this latter, therefore, is the periphery of a circle described by the radius E G, and that of the first the circumference of a circle described by the radius EF. Wherefore, the superficies of the cylinder is the product of the altitude BC into the periphery of a circle described by the radius E F, or the base. And the folidity of the cylinder is the product of the generating rectangle A BCD into the periphery of a circle described by the radius EG, which is subduple of EF, or of the semidiameter of the cylinder.

Suppose, v. gr. the altitude of the describing plane, and therefore of the cylinder BC = a; the semidiameter of the base DC = r; then will EG = $\frac{1}{2}r$: and supposing the ratio of the semidiameter to the periphery = 1: m, the periphery described by the radius $\frac{1}{2}r = \frac{1}{2}mr$. Therefore multiplying $\frac{1}{2}$ mr by the area of the rectangle AC = ar; the folidity of the cylinder will be $=\frac{1}{2} mar^2$. But $\frac{1}{2} mar^2$ $=\frac{1}{2}r \times mr \times a$; and $\frac{1}{2}mr^2$ is the area of the circle deferibed by the radius EG. It is evident, therefore, the cvliader is equal to the product of the base into the alti-

Corol. 5. In like manner fince the center of gravity of the right line AB (fig. 97.) is in the middle M, and the furface of a cone is described, if the triangle ABC revolves about its axis; if PM = 1/2 BC; the superficies of the cone will be equal to the product of its fide AB, into the periphery described by the radius PM, or the subduple of the semi-diameter of the base BC.

Suppose, v. gr. BC = r, AB = a, the ratio of the radius to the periphery 1: m; then will PM = $\frac{1}{2}r$, and the periphery described by this radius = $\frac{1}{2}mr$. Therefore multiplying 1 mr into the fide of the cone A B, the product is the superficies or $\frac{1}{2}$ amr. But $\frac{1}{2}$ amr is also the product of ½ a and mr: therefore the furface of the cone is the pro-

duct of the periphery into half the fide.

Corol. 6. If the triangle ACB (fig. 98.) revolve about its axis, it describes a cone; but if CB be bisected in D, and the right line AD be drawn, and AO = 3 AD; the center of gravity will be in O. The folidity of the cone, therefore, is equal to the product of the triangle CAB into the periphery described by the radius PO; but AD: AO :: BD: OP; and AO = $\frac{2}{3}$ AD, and DB = $\frac{1}{2}$ CB. Therefore, $OP = \frac{2}{3}BD = \frac{1}{3}CB$.

Suppose, v. gr. BC = r, AB = a, the ratio of the radius to the periphery = 1 : m. Then will $OP = \frac{1}{3}r$, the periphery described by this radius \ mr; the triangle ACB = \frac{1}{2} ar; and, therefore, the folidity of the cone \frac{1}{3} mr \frac{1}{2} ar $\frac{1}{6} amr^3$. But $\frac{1}{6} amr^2 = \frac{1}{2} r \times mr \times \frac{1}{3} a$: Or, the product of the base of the cone into the third part of the alti

tude. See TRIANGLE.

Clorol. 7. Let the semicircle DCA (fig. 99.) revolve about the diameter AD, and describe the surface of a fphere. fphere. If there be taken DC : FC :: FC : FH = $\frac{1 \text{ C}^3}{\text{DC}}$ =

 $\frac{4r^2}{c}$, putting r for the radius, and c for the whole circum-

ference; H will be the center of gravity of the arc DCA; and consequently r:c::FH:4r= the line or circumference described by H the center of gravity: and by the general rule DCA \times $4r = \frac{1}{2}c \times 4r = 2rc =$ the furface of the sphere = the circumference into the diameter: as it ought to be by other principles. For the folidity of the sphere, we shall have $\frac{1}{2}c: 2r:: \frac{3}{3}r: \frac{3r^2}{3c}$ = the dis-

tance FH of the center of gravity of the semicircle DCAD from the diameter AD; which is two-thirds of the diffance of the center of gravity of the arc DCA from the same diameter DA, in the former case: consequently, the line described by the center of gravity in this case will be two thirds of that in the former: but the describing line in the former case is to the describing space in this as I is to 1/2 r; therefore $1:\frac{2}{3}\times\frac{1}{2}r::$ furface of the fphere: folid ty = Hence it follows, that the circumference of $\frac{1}{2}r \times \text{furface}$. the circle whole radius is the distance of the center of gravity of the femicircumference of any circle from its center, is equal to four times the radius of that circle.

Corol. 8. For the folidity of a parabolic spindle, put b =the base, and a = the altitude or axis of the generating parabola, and n = .785398. It is known that $\frac{2}{3}$ a is the diftance of the center of gravity from the base, and confequently 36 a = the line described by the center of gravity; but $\frac{2}{3}$ ab is = the revolving area; therefore $\frac{16}{3}$ $a \times \frac{2}{3}$ ab =32 a a b will be the content, which is 185 of the circumfcribed

cylinder.

Corol. 9. For the paraboloid, let the notation be as in the last example; and & b will be the distance of the center of gravity of the femi-parabola from the axis; confequently $\frac{1}{3}b \times 8n \times \frac{3}{3}ab = 2abnn =$ the folidity = half the

circumfcribed cylinder.

This elegant theorem, which may be ranked among the chief inventions in geometry of the last age, was taken notice of long ago by Pappus; but the jefuit Guldinus was the fift who fet it in its full light, and exhibited its use in a variety of examples. Several other geometers, after Pappus and Guldinus, have also used it in measuring folids, and surfaces generated by a rotation round a fixed axis; especially before the late invention of the integral calculus: and it may still take place in some cases where the integral calculus would be more difficult. M. Leibnitz has observed, that the method will hold, though the axis or center be continually changed during the generative motion.

CENTRON, in Geography, a village of Savoy in the Tarantuife, formerly a capital town of a people, called

Centrones; 3 miles E.N.E. of Monstier.

CENTRONES, in Ancient Geography, a people of Belgic Gaul, placed by Cæfar in dependance on the Nervians. Some authors place them in the terrritory of Gand, others in that of Courtray, &c. D'Anville has not mentioned them. -Alfo, an ancient people of the Gauls, placed by Ptolemy in the Grecian Alps; and mentioned both by Cæsar and Pliny. Many authors have supposed, and not improbably, that the Acitavonee, on the Alps, were the Centrones.

CENTRONIA, in Zoology, the name by which Dr. Hill diffinguithes the crustaceous vermes called Sea-eggs, and by

Naturalifts, Echini. See Echinus.

CENTRUM, in Geometry, Mechanics, &c. See CEN-TER.

CENTRUM phonicum, in Acoustics, is the place where the fpeaker stands in polyfyllabical and articulate echoes

CENTRUM phonocampticum, is the place, or object, that

CENTRUM tendinofum, in Anatomy, a name applied to the tendon of the diaphragm, which occupies the center of the part. See DIAPHRAGM.

CENTRY Box, a fort of box or hut for sheltering centinels in bad weather. It is commonly made of wood. But in fortifications with revetements or demi-revetements of mafonry, they are often made of stone, and usually in a circular

CENTUM-CELLÆ, in Ancient Geography, Civita-Vecchia, a fea port town of Italy, in Etruria. Traj in made this the place of his refidence, where he entertained his friends and the great men of his court, with mufic, plays, and banquets, not fumptuous but moderate. In process of time, he gave it importance by creeting a harbour, which he called after his own name, and which is the prefent port of Civita Vecchia, where the pope keeps his gallies. The harbour was formed by running out two piers into the fea, and conftructing in the interval between them a mole or little island, which ferved to break the violence of the waves, and to fecure the ships in the inner bason from storms and bad

CENTUM-MORBIA, in Botany, a name used by some authors for the common money-wort or nummularia, from its

CENTUM-PUTEA, in Ancient Geography, a place of Dacia Trajana.

CENTUMVIRATE, among the Romans, a court composed of one hundred magistrates, or judges, appointed to decide private differences between the people. It was inflituted some few years after the appointment of the " Prætor peregrinus," about the year of Rome 520, B.C.234. at the motion of two tribunes of the people, both Æbutii; in order to affilt the prætors, who were often obliged to take the field, and could not dispatch all civil affairs, which multiplied in proportion to the enlargement of the

The centumviri were a body of men chosen, three out of each of the thirty-five tribes, fo that their number amounted to five more than their name imports, and they were divided into four courts or councils, and fometimes only into two: their bufiness, in subordination to the prætor, was to judge of matters relating to tellaments, tutorage, inheritances, and fuch other matters of leffer weight and moment, as the prætors committed to them. After the time of Augustus, they formed the council of the prætor, and judged, in the molt important cases; whence trials before them (judicia centumviralia) are foretimes diffinguished from private trials; but thefe were not criminal trials, as fome have thought, for in a certain sense all trials were public. Their body was afterwards increased to an hundred and eighty; though they still retained the appellation of centumviri.

The centumviri were called together by fetting up a spear; at first, by those who had discharged the office of quastor; afterwards by the decemviri, who prefided in them during the absence of the prætor. Trials before them were usually held in the Basilica Julia; sometimes in the Forum. In important cases, they all judged together; nor could a cause before them be adjourned. They continued to act as judges for a whole year.

CENTUNCULUS, in Botany, (the name of a plant in Pliny) Dill. in Rai. tyn. 1. Linn. gen. 145. Schreb. 189. Wilid. 224. Lam. Ill. 226. Gart. 278. Juff. 95. Vent. 2.286. Centenille. Fr. Class and order, tetrandria monogy-

nia. Nat Ord. Rotacex, Linn. Lyfimachie, Juff. Primulacex,

Gen. Ch. Cal. Perianth four-cleft, spreading, permanent; fegments lanccolate, acute. Cor. monopetalous, wheel-flaped; tube short, somewhat globular; border four cleft; fegments egg-shaped, spreading. Stam. Filaments sour, naked, the length of the corolla; anthers simple. Pil. Germ, fuperior, roundish, within the tube of the corolla; ftyle filiform, permanent; stigma simple. Peric. Capsule globular, one celled, fplitting horizontally; receptacle free. Seeds many, very fmull.

Est. Char. Culyx four-eleft. Corolla wheel-shaped, fourcleft, filaments naked, capfule splitting horizontally, one-

celled, many fieded.

According to Juffieu it is fometimes petandrous with a five-cleft corolla, and then in its effential characters does not differ from Anagallis; but Dr. Smith is of opinion that the tubular form of the corolla, and the naked filaments, independent of the number, justify Diltenius in making it

dillinct.

Sp. C. minima, Linn. Mart. Lam. Willd. Gert. tab. 50. fig. 2. Lam. Illust. tab. 83. Flor. dan. tab. 177. Curt. Flor. Lond. tab. 11. Eng. bot. 531. (Anagallis, Vaill. par. tab. 4. fig. 2. Mentz. Pugil. tab. 7. Anagallidastouri, Mich. gen. tab. 18. fig. 2.) Bastard Pimpernel, small Chass-weed. Root annual, fibrous. Stem one or two inches high, a little branched at the base, ascending, leasy, somewhat angular, fmooth. Leaves alternate, feffile, spreading, egg-shaped, quite entire, smooth. Flowers solitary, axillary, sessile, white, expanded only in the most brilliant funshine, foon withering, but permanent till forced off by the fwelling capfule. Capfule globular, mucronate with the permanent ityle. A native of moilt heaths in England, France, Italy, Germany, and Sweden, but often overlooked on account of its minuteness; it is most readily discovered by its capfules.

CENTUNCULUS, Scop. See CERASTIUM.

CENTURI, in Geography, a fea-port town of the island of Corfica.

CENTURIA, in Ancient Geography, or PINTURIA, the name as it variously occurs in Ptolemy's geography, of one of the Fortunate islands, in the Atlantic Ocean, near the coast of Africa.

CENTURIÆ, an episcopal city of Africa, in Numidia; probably the same with Centurianensis, or Centuro-

CENTURIAL Inscriptions, a denomination given by some to those inscriptions inserted in the face of Severus's wall, which make mention of the centuries and cohorts by whom fuch parts of the wall are supposed to have been erected. In which sense, centurial inscriptions stand contradistinguished from legionary.

CENTURIATA Comitia, in Antiquity, those affirmblies of the Romans, wherein the people gave their votes by

centuries. See CENTURY and COMITIA.

CENTURIATORS, an appellation given to certain learned Germans of the city of Magdeburg, who in the early days of the Reformation composed a body of church history, divided into centuries of years. Baronius is faid to have written his Annals by way of oppo-

fition to the centuriators of Magdeburg.

CENTURINUM, in Ancient Geography, a town or burgh, feated at the point of the most northerly promontory

of the island of Corsica.

CENTURION, a military officer among the Romans, who with another officer of the same denomination, commanded a company or maniple, or one of the ten separate parts, into which the hastati, as well as the principes and

triarii in each legion, were divided. From each of thele descriptions of foldiers, ten men of the most approved and diffinguished merit were first selected, and after them ten more. These were all called Commanders of companies or maniples. The first of these that was chosen or appointed was called primipilus, or centurio primipili, and had a feat in the military council. Two of these centurions or captains of companies or maniples were appointed to each company. And when both were prefent, he that was first chosen led the right, and the other the left of the company; but when either of them was abfest, he who remained, conducted the whole of it. In the choice of these captains or commanders of companies, those who were the boldest and most enterpriling were not effeemed the best, but rather those who were fedate and fleady, prudent and skilful in command. And it was not fo much required of them that they should on all occasions be eager to begin an engagement, or to precipitate themselves into action, as that when hard pressed or even overpowered by superior force and numbers, they should still maintain their posts, and rather die than defert their stations These twenty centurions or commanders of companies choice twenty other men of diftinguished conduct, prudence, and merit; two of whom were affigned to each company to take care of its rear. Befides these, two of the bravell and stoutest among the foldiers were appointed by the centurions to carry the flandards in each company. And it was not without very good reason indeed, that two captains or centurions were affigned to each maniple or company, as well as two fub-captains or fub-centurions. For as it was impossible to know or ascertain before-hand what the conduct of an officer would be, or to what accidents he might be exposed; and as excuse or pretext in the affairs of war is inadmissible, that precaution and arrangement were necessary to prevent the company from being on any occasion without a leader.

A centurion is generally defined to have been a military officer, who commanded a hundred men. But this is a very erroneous definition. For when the Roman state was in its greatest vigour and perfection, which it was about the time of Hannibal's invasion of Italy, the two centurions in a maniple or company of the hastati or principes commanded twice as many men as the two centurions in a maniple of the triarii; as a maniple of each of the former then contained 120 men, whereas a maniple of the latter confifted only of fixty. The legion then confifted commonly of 4200 foot, and 300 horse. Of these 4200 infantry, 600 were triarii, 1200 were hastati, 1200 were principes, and the

remainder were velites or light troops.

Anciently and before the war of Hannibal, it was the constant custom of the Romans to raise four legions annually, and to allow to each legion 4000 foot and two hundred horse, unless they were pressed by any great or unusual danger, in which case they increased the number of men composing it to 5000 foot and 300 horse. And prior to the battle of Cannæ, they ordered eight legions of 5000 men each to be raifed, independent of an equal number of the allies, an expedient, to which they had never before had recourse in any of their wars. Whilst the number of foot in a legion thus varied between 4000 and 5000, the number of men commanded by a centurion in the hastati and principes also varied, though the number of those commanded by a centurion in the triarii continued invariably the fame. For whatever number of men the legion confifted of, that of the triarii continued at 600, or the same, till it was so augmented as to equal that of the hastati or principes; towards the time of Julius Cafar and the close of the mixed government of the Romans, during the continuance of which in its vigour and purity the numbers of men commanded respectively by a centurion in the haltati, or principes, and by a centurion in the triarii, were in a ratio that frequently varied. During the same period, there were, in every legion, fixty centurions or commanders of companies or maniples, fixty officers chosen by them to take charge of the rear of the companies, who might be denominated sub-centurions or sub-captains, and fixty standard-bearers or enligns, who were appointed by the captains or centurions.

CENTURIONES, Ap, in Ancient Geography, a place

of Gaul, in the Pyreners.

CENTURIPE. CENTURIPE, now Centorbi, a town of Sicily on the eaftern co.d., at a final didance from Catana. Phis city was democratical, and, like Syracufe, received its Eberty from Timoleon. Its inhabitants calcivated the fine arts, particularly feulpture and engraving. In digging for the remains of antiquities, cameos are no where found in fuch abundance as at Centurippi and its environs. The fituation of the place is romantic; it is built on the funmit of a vail group of rocks, which was probably chosen as the most difficult of accels, and confequently the most proper in times of civil commotion. The remains of its ancient bridge afford evidence of its having been formerly a considerable city. Cicero speaks of it as such. It was taken by the Romans, plundered and oppressed by Verres, destroyed by Pompey, and restored by Octavius, who made it the residence of a Roman colony. Houel's Voyage Pittoresque des sites de Sicile, de Malte, et de Lipari, &c. See Centored.

CENTURY, in French centurie, from the Latin word centuria, a derivative of centum, a hundred. Strictly fpeaking, it fignifies one hundred of any thing, as a hundred

years, a hundred men, &c.

The terni centuria, century, was given to the Roman horfemen or equites that belonged to each tribe, and at first amounted only to a hundred. The terns, however, centuria equitum was continued after that number was greatly increased. It was anciently the custom of the Romans, in forming their legions, to choose their cavalry, and to add two hundred horsemen to every four thousand of their infantry. But in the time of Polybius, the citizens, of whom the cavalry was composed, were appointed by the cenfors according to the rate of their revenue, and were enrolled before the infantry: and three hundred of them were affigned to every legion.

When the Roman people were affembled in the Campus Martius for the purpose of choosing magistrates, establishing laws, or deliberating on public affairs, they were divided into centuries, and voted by centuries to facilitate the taking of their fuffrages. These afsemblies were called comitia

centuriata.

The Latin writers fometimes made use of the word centuria, to denote a company or the number of men commanded by a centurion, whether it confilted of a hundred, or of more, or of less. Thus the phrase, pediter centuriati, means

infantry divided into companies or maniples.

In chronology, century fignifies a period of one hundred years. Church-hiltory is generally computed by centuries commencing from the incarnation of Jefus Chrift. In this fenfe of the word, we fay, the first century, the fathers of the fecond century, the councils of the third century, &c.

CENTUS, in Ancient Geography, a town of Arabia Felix. Ptolemy.

ax, I tolemy

CENTUSSIS, a Roman coin, containing a hundred offes.

See As.

CEODES, in Botany, Juff. 422. Forst tab. 71. Gen. Ch. Cal. none. Cor. monopetalous, top-shaped; border sveclest. Stam. ten, alternately shorter; anthers roundish. Pigl. style one; stigma dilated. Fruit unknown.

CHORLE. See CHURLE.

CEOS, CEA, or CIA, in Ancient Geography, now Zia, one of the Cyclades, an island of the Algean sea, lies opposite to the promontory of Achaia, called Sunium, and is 50 miles in compass. This island is commended by the ancients for its fertility and the richness of its passures. If we may credit Pliny and Solinus, the first filk stuffs were wrought in this island; and they were hence called the Cean manufacture. Ceos was also famous for its excellent figs. It is said to have been first peopled by Aristæus, the fon of Apollo and Cyrene, who, being grieved for the death of his fon Actoon, retired from Thebes, at the perfusion of his mother, and went over with some Thebans to Ceos, at that time uninhabited. Diodorus Siculus fays, that he retired to the island of Cos; but the ancients, as Servius (in Virg. Georg. lib. i.) observes, called both these islands by the name of Cos. However this be, the island of Ceos became so populous, that a law prevailed there, commanding all persons upwards of 60 years of age to be poisoned, that others might be able to fublilt; fo that none above 60 years of age were to be feen in the island, being obliged, after they had attained that age, either to fubmit to the law or abandon the country, together with their effects. (See Strabo, lib. x. Ælian Var. Hift. 1. iii. c. 37.) In former times Ceos had four famous cities, viz. Julis, Carthaa, Coreffus, and Præessa. The two latter were, according to Pliny (I. xvi. c. 27.) fwallowed up by an carthquake. The other two flourished in the time of Strabo. Carthaa was feated on a rifing ground, at the end of a valley, about 3 miles from the fea; and its fituation agrees with that of the prefent town of Zia, whence the island derives its name. The ruins both of Carthæa and Julis are still remain. ing; those of the latter occupy a whole mountain, and are called by the modern inhabitants " Polis," that is, the city. Near this place are the ruins of a flately temple, with many pieces of broken pillars, and statues of most exquisite workmanship. The walls of the city were of marble, and some pieces are still remaining, about 12 feet in length. Julis was, according to Strabo, the birth-place of Simonides, Bacchylides, Erafistratus, and Aristo. We learn from the Oxford marbles, that Simonides, the fon of Leoprepis, invented a fort of artificial memory, the principles of which he explained at Athens; and that he was descended from another Simonides, who was a poet no less renowned than himfelf. One of these two poets invented those melancholy verses which were fung at funerals, and are called by the Latins " Næniæ." (Hor. l.ii. od. 1.) Strabo fays, that the Athenians having belieged the city of Julis, raifed the fiege upon advice that the inhabitants had refolved to murder all the children under a certain age, that useful persons might not be employed in taking charge of them. Ceos was, with the other Greek islands, subdued by the Romans, and bestowed upon the Athenians by Marc Antony the triumvir, together with Ægina, Tinos, and fome other adjoining islands, which were all reduced to one Roman province by Vespasian.

CEPA, in Botany, C. Bauh. Tourn. See Allium. CEPA, Rumph. See PANCRATIUM amboinense.

CEPA, in Gardening. See ALLIUM.

CEPÆA, in Botany, C. Bauh. See SEDUM Cepaa.

CEPARUM PROMONTORIUM, in Ancient Geography, a promontory of the isle of Cyprus, extended into the sea directly towards the north, near the town of Selz, according to Strabo and Ptolemy.

CEPASIÆ, in Geography, a town of Italy, in Venetia,

N. of Plavis and W. of Opitergium.

CEPEDE, De LA, Count, in Biography, a French writer on music, who published, in 1785, a treatise entitled "La

Poetiqu

Poctique de la Mufique," which contains many excellent re- of blood or ferum producing preffure on the external furface, fluctions and precepts for a young compofer of lyric dramas, particularly French, from which the author draws all the il-Instrations of his principles. The work is extended to 2 vols. 12mo.; is well written and well printed, but contains few precepts to which the prefent mufical crities at the Institute, or serious opera, will subscribe. The taste in mufic at Paris, from all we can gather in conversing with good judges of the lyric drama, is so much improved fince the time of Rameau, and the orchestra so well disciplined by the performance of German lymphonies, that, with a better language for the emission of found, and better singers, would be very high in the scale of the melodrama.

CEPHA CASTELLI, in Geography, an episcopal see of

Afra, in Syria.

CEPHALÆDIS, CEFALA, a town on the northern part of Sicily.

CEPHALALGIA, in Medicine, from xepann, head, and axyo; pain, is the technical term for the diforder, which is, in common language, called head-ache. By some authors this term is applied only to a recent or flight head-ache, or to one which is partial or confined to a particular part of the head; and they employ the word CEPHALEA, x=Palziz, to denote the complaint, when it is of longer standing, or more oblinate, or when the whole of the head is affected. Thefe diffinctions, however, are generally overlooked at prefent, and the two terms are used synonymously. Other denominations are also given to head-aches, which are accompanied by other peculiarities of symptoms: thus when they return at regular periods, with certain intervals of eafe, they are termed intermitting head-aches, and by the vulgar, agues in the head; and as in these instances it usually happens that one half of the head only fuffers, they are technically deferibed under the term Hemicrania (from huse, half, and ashow, the (kull): fee Hemicrania. When the pain is confined to a particular point in the face, namely, to the fituation of a small hole, through which a nerve passes to the integuments, it has been denominated by the French Tic Douloureux. A local and violent pain also occurs occasionally in fome part of the head, in hysterical women, which is faid to refemble the fenfation of a nail driven into the head, and has hence been denominated Clavus hystericus. See Hys-

Head-ache is a symptom of almost every febrile complaint, as well as of many others of a chronic nature; infomuch that Dr. Cullen has not included it among the genera of idiopathic difease, in his nosology. Although it be, however, in a great majority of instances, symptomatic of a difease in some other part of the body, or of a general febrile state, yet it is frequently the concomitant of some morbid state of the contents, or of the integuments, of the skull .-An acute pain of the head is one of the most obvious marks of inflammation of the brain or its membranes, which is termed phrenitis, or phrenzy; as well in its common acceptation, as in that form of the disease, which terminates by an effusion of ferum into the ventricle of the brain, and is then denominated by drocephalus. It also accompanies the various organic difeafes, which take place in the different parts of the brain, as may be found among the accounts of diffections, detailed by Morgagni, Haller, Lieutaud, &c. Thus after death, which had been preceded by fevere and obstinate head-ache, tumours and abscesses have been found feated in, or adhering to, certain portions of the cerebrum or cerebellum; the different membranes of the brain have been found thickened; the arteries or membranes partially conbeen discovered piercing or pressing on the brain; and effusions greatest sufferers.

or in the internal cavities, of that organ. Pam in the head is also the consequence of that fulness of the vessels of the head, which gives rife to lethargic, apoplectic, and paralytic affections, by preffure on the brain, or by the subsequent rupture of the vessels, and essusion of blood. In persons of full habit of body, therefore, with short neck, large head, and florid complexion, head-ache is usually one of the forerunners of an apoplectic attack.

Further, there are inflances of idiopathic head-ache, in which the brain itself does not appear to be affected, but in which the morbid condition is confined to the skull, or its integuments. The integuments of the cranium appear to be not unfrequently the feat of rheumatic inflammation, which gives rife to a head-ache, tedious and diffreffing as rheumatifm feated in the membranes furrounding the joints, or in other parts of the body. The poilon of the venereal difeafe, when the fystem becomes thoroughly imbued with it, is liable to excite a peculiar inflammation in the perioranium, or membrane invefting the skull, and even in the skull itself, which excites a fevere head-ache, accompanied by a great

foreness or tenderness of the integuments.

The most frequent instances of head-ache, however, are those in which it is symptomatic of disease in some other part of the body, or arises in consequence of the sympathy which exists between the brain and some other organ. These sympathies are numerous, and one of the strengelt is that which takes place between the head and the alimentary canal, but especially between the head and the stomach. Hence with almost every derangement of the stomach, the head is liable to fuffer. Such is the origin of that common complaint, especially among the high-feeding ranks of society, which is usually termed a fick head-ache, and which has been well described and commented on by Dr. Fothergill. (See Medical Obf. and Inquir. vol. vi. p. 103.) This learned phylician has remarked, that the patients, affected with this species of head-ache awake early in the morning with a pain, which feldom affects the whole head, but one particular part of it only; most commonly the forehead, frequently over one, and fometimes over both eyes. Sometimes it its fixed about the upper part of the parietal bone of one fide only; fometimes, and not unfrequently, the back part of the head, or occiput, is affected: fometimes it darts from one to another of these places. With this is joined more or less of tickness, which is just barely, in many people, not sufficient, without affiltance, to excite vomiting. If this pain comes on, as is usually the case, early in the morning, and before any meal is taken, feldom any thing is thrown up but thin phlegm, unless the straining is severe, when some bitter or acid bile is brought up. In this case, the difease begins soon to ahate, leaving a foreness about the head, a squeamishness at the stomach, and a general uneasiness, which induces the fick to wish to repose. Perhaps, after a short sleep, they recover perfectly well, being only a little debilitated by their fufferings.

The duration of this paroxyim is different in different persons; in some it goes off in two or three hours; in others it will last twenty-four, or longer, and with a violence scarcely to be endured, the least light or noise feeming to throw them on the rack. Its returns are very irregular, as must be the case, since the disease for the most part proceeds from accidental causes. It occurs in persons of almost every habit and complexion; chiefly in the early and middle ftages of life, and among the middle and upper ranks in fociety. Those who use but little exercise, and are inattentive to verted into bone; bony projections from the cranium have their diet, both as to the kind and the quantity, are the

This, or a fimilar species of head-ache, is frequently an attendant on a conflipated state of the bowels; so that those who are habitually costive, are frequently subject to habitual head-aches, which are readily removed by laxative medicines, or cease on the supervention of a laxity of the intellines from any other cause. Even in the febrile state, when the head-ache may be considered as originating from other circumstances, constipation of the bowels tends to aggravate it greatly. Hence the necessity for the practitioner to attend to the state of the bowels in all cases of head-ache.

A pain in the head frequently occurs, in confequence of its fympathy with the uterine organs, more especially as a fymptom of retention or suppression of the catamenia. In the latter case, indeed, it may perhaps be considered as the effect of an increased quantity of blood distributed to the head, rather than a sympathetic pain, since a general plethora is induced by the suppression of an accustomed evacuation. In the same way head-ache is the consequence of the suppression of other habitual discharges, such as old ulcers, and issues, the bleeding piles, or the omission of periodical

blood-letting. Head-ache is a symptom of almost all acute schrile complaints, as well of intermittent as of continued and eruptive fevers. It likewife occurs in certain afthenic or debilitated conditions of the body, when it has been called a nervous head-ache. This species of head-ache takes place, as Dr. Willan has remarked, "unconnected with any particular febrile difeafe, from forrow, fatigue, watching, and from fudden changes of temperature in fummer as well as in winter. It is attended with a whiteness of the tongue, and a fenfation of weakness or languor. A sharp and quick pulse, in this complaint, produces a throbbing at the temples, and an acute pain through the whole head. When the pulse is flow and feeble, the pain is defcribed as dull and heavy, fometimes girding round the head, fometimes fixed at the nape of the neck. In persons who have constitutionally a very languid circulation of the blood, the latter species of head-ache recurs on every flight occasion, and often becomes periodical, returning every day, or every other day, without any manifest exciting cause." Reports on the Diseases in London, p. 239.

It is obvious, then, that the causes of head-ache may be confidered under three heads; namely, whatever compresses or in any manner irritates the contents or the integuments of the cranium itself; whatever irritates or injures those parts with which the head is connected by fympathy, especially the organs of digeftion; and, lastly, whatever tends to induce a state of fever or of morbid irritability in the constitution at large. It is frequently extremely difficult, particularly at the commencement of the disease, to ascertain the nature of the cause from which the pain originates. If it arise from inflammation in the brain or its membranes, indeed, it will be eafily diftinguished by the acute fever, with a quick and hard pulse, the intolerance of light, delirium, and other symptoms of phrensy; and if these occur in children, a termination in hydrocephalus, or dropfy in the head, may generally be anticipated. When the pain attacks those perfons who exhibit the marks of plethora before described, and who are affected with great drowfinels, or flight loss of memory, there can be no doubt that the fullness of the veffels of the brain is the immediate cause of the head-ache. And when symptoms of lues venerea, or of rheumatism, in other parts of the body, have preceded or accompany the head-ache, it may be pronounced fyphilitic or rheumatic accordingly. But it is not only extremely difficult, if not impossible, to determine what the internal organic cause of the head-ache is, or in what part of the brain it is fituated,

but also to ascertain whether the cause be really organic, or whether it may arise from sympathy with some other organ, or from the state of the constitution in general. The duration and pertinacity of the pain are often the only source of conjecture as to its organic origin.

With refpect to the sympathetic head-aches, the abscence of the diagnostic symptoms just enumerated; the obvious condition of the functions of the stomach, bowels, &c.; the known circumstances as to irregularities of diet, &c. which may have preceded the attack; and the feat, the mode, and time of its occurrence, as has been already stated, will contribute to inform us of the nature and origin of the head-ache. And if there be any obvious general debility, languary, or low spirits, with occasional giddines, tremors, and sensations of faintness about the precordia; and, more especially, if grief, watching, statigue, or such debilitating causes have been acting, the althenic head ache, before described from Dr. Willan, may be presumed to exist.

After all these circumstances have been duly investigated and confidered, the method of treatment to be adopted will readily fuggest itself, if the conclusion as to the origin of the complaint be fatisfactory. Where the fymptoms of phrenitic inflammation are prefent, general and local bloodletting, blittering, purging, the application of cold, and the whole of the antiphlogistic regimen, must be reforted to. See PHRENITIS. Where there is apparently some internal organic cause, the nature and seat of which cannot be afcertained, the attempt to cure can only be purfued upon general principles; and therefore, upon the supposition that fome morbid or preternatural enlargement of fome part is taking place, the impetus and quantity of the blood carried to the brain, and the increased action of its vessels, must be diminished by the local detraction of blood, and the application of blifters; which view will also be farther accomplished by the administration of some sedative medicine, such as digitalis, or cicuta; or with the intention of exciting the activity of the absorbent vessels, by which any morbid growth may be diminished, the use of mercury may be also reforted to. The bowels, in such a case, must be kept regularly open; and every thing which can accelerate the circulation, whether stimulating food or drink, or corporeal exertion, should be carefully avoided. Where the head-ache is apparently fyphilitic or rheumatic, it is fearcely necessary to mention that the remedies, which are useful in other forms of fyphilis and rheumatifin, may be administered with fuc-

The "fick head-ache," which depends on a difordered condition of the stomach and bowels, occasioned by irregularities of diet, may be readily removed or relieved by emptying the flomach of its iil-digetted and noxious contents, by means of an emetic or mild cathartic: but the fame paroxylm will be again repeated, unless the causes be avoided. Some perfons possess so httle felt-command, and are so much habituated to indulge in the gratification of the palate, that they pass a great portion of their lives in the conflant fuccession of fuch attacks. The stomach, however, may be threngthened, and its digettive powers aided, by the ule of bitter Itomachic medicines, joined with aikalis or preparations of fleel; and the remora of the food may be in fome degree avoided by the use of rhubarb and magnesia, or the aloetic pills, in moderate quantities. But, as Dr. Fothergill has very judiciously remarked, "whatever process the physician's judgment leads him to pursue, there is one object that will deferve his attention, and will require that of the patient. This disease is not the effect of any fudden accidental cause; it is the effect of reiterated errors in diet, or in conduct, which, by weakening the powers of digettion,

digettion, and otherwise difordering the animal functions, have affected the fecretion of those juices, and perhaps the organs themselves, in such a manner, as to require a steady perfeverance in the use of such medicines as experience has fuggested are most likely to restore them to full health. This change cannot be effected speedily; it requires a patient observance of proper regimen, both in respect to medi-cine and diet. The former ought, therefore, to be so contrived, as to be taken without difgust for several weeks together, and to be repeated at proper diffances, till the end is obtained, digestion rightly performed, and the bile secreted and discharged as health requires; by which means, all that train of evils, which are the confequences of its detention and diffempered state, will be gradually removed. The benefits resulting, in many cases, from the use of the mineral waters, when drank in a proper quantity, and for a proper length of time, are undoubted proofs of the necessity of perfeverance in the use of such medicines as may appear, at first fight, of no great efficacy, yet, if well directed and fleadily purfued, will at length obtain the most substantial advantages.

"There is another part of our assistance," Dr. Fothergill adds, " which is not lefs necessary, in this case, than medicine to a perfect recovery, which, perhaps, is too often difregarded both by the patient and the phytician; and if I have succeeded in removing many complaints of this nature, where very judicious prescriptions had been used in vain, it has been by entering more minutely into that part of the prescription which depended on the patient's own conduct, than by the use of medicines of greater efficacy than those which had been prescribed by others. We are perhaps too ready, in chronic cases, where digestion is concerned, to confide in the Materia Medica, and judge it sufficient to felect and enjoin fuch articles in our prescriptions as are of known use in such cases: but unless the whole plan of diet, both in kind and quantity, is made to conspire with medical prescription, the benefits arising from this are hourly annihilated by neglect or indulgence." Med. Obs. and Inq. vol. vi.

It is not easy to point out the articles of diet, or the quantity of food, which should be taken or avoided by different individuals, fince what is extremely detrimental to one constitution may be taken in abundance and with impunity by another. Individual experience, if it were carefully attended to, is generally a fufficient monitor. There are fome things, however, which, even in fmall quantities, feldom fail to excite the fick head-ache in many conflitutions : fuch are melted butter, fat meats, and spices; and hence meat pies, which contain all thefe things united, are a fertile fource of this complaint. But perhaps an overloading of the stomach with various things, in themselves even not un-wholesome, is one of the most frequent causes of this disorder. By those, therefore, who are liable to this species of head ache, excefs in eating and drinking ought to be Rudiously thunned.

The afthenic head-ache, which is produced by grief, watching, fatigue, and other debilitating causes, may be foothed by anodyne medicines, and ultimately relieved by the bark, or fome other stomachic bitter, which will contribute to restore the strength; and some more disfusible stimulant, such as ammonia (or volatile alkali), in its various preparations, will be used with considerable advantage, especially where the sensations of languor and weakness are very great, and accompanied with giddiness in the head, occasional dimness of fight, &c. The tonic plan, of course, will be also pursued in diet and regimen, and moderate exercife regularly reforted to.

Where the head-ache is a concomitant of general fever, the treatment peculiar to that modification of fever which may be present must be accessarily employed. See Fever.

CEPHALANTHUS, in Botany, (from xequitos, a head, and onlos, a flower; fo called because the flowers grow in a head), button-wood, button-tree, or pond dog-wood. Linn. Gen. 113. Schreb. 147. Willd. 170. Lam. Illust. 153. Just. 209. Vent. ii. 591. Gært. 546. (Platanocephalus, Vaill. A. G. 1722.) Class and order, tetrandria monogynia. Nat. Ord. Aggregatæ, Linn. Rubiaceæ, Juff. Vent.

Gen. Ch. Cal. common perianth none; common receptacle globular, villous, collecting numerous florets into a head; proper perianth superior, small, one-leafed, funnelshaped, angular; border quadrifid. Cor. proper monopetalous, funnel-shaped; tube slender, longer than the calyx; border quadrifid. Stam. filaments four, inferted into the corolla, shorter than the border; anthers globular. Pift. germ inferior; thyle longer than the corolla; fligma globular. [Peric. none. Seeds folitary, long, attenuated at the base, pyramidal, woodly, Linn.] Peric. capfule inferior, crowned with the permanent calyx, inverfely pyramidal, fourcelled; cells one-feeded, feparating from each other as the feed ripens, but without valves, and not opening fpontaneoutly; two of them generally abortive. Seeds oblong. Gært. Lam.

Gen. Ch. Flowers aggregate, fixed to a globular receptacle. Calyx proper superior, quadrifid. Corolla tubular. Capfule four or two-celled, dividing into four or two

Sp. 1. C. occidentalis, Linn. Sp. Pl. Mart. 1. Lam. 1. Willd. Gært. tab. 86. fig. 7. Lam. Ill. tab. 59. (Scabiofa, Pluk. tab. 77. fig. 4.) "Leaves opposite or ternate; heads terminal, forming a kind of raceme." Lam. A shrub, from five to seven feet high. Stem a little branched, weak, cylindrical, greyish, leafy, almost its whole length. Leaves petioled, egg-shaped, acute, entire. foft, smooth above; the nerves of the lower furface, as well as the petioles, fometimes befet with short hairs. Flowers whitish, in small peduncled heads which terminate the stem, three, five or seven together, and form what La Marck calls a kind of raceme, but which, from the terms of his own description, as well as from his figure, is rather an umbel. A native of swamps, in Carolina. A decoction of the wood or root is used as a cure for the bite of venomous animals, and is faid to be efficacious in venereal complaints. 2. C. angustifolius, Mart. 2. Lour. Cochin. "Leaves lanceolate, linear, opposite." A middlefized tree, with ascending branches. Leaves quite entire. Flowers pale, in small terminal heads; common receptacle oblong, villous; fegments of the proper calyx awl-shaped. hairy; befet with fhining, coloured, peduncled glands. Fruit a fmall compound berry; the acini or component parts roundith, crowned, flaccid, two-celled, inferior; cells onefeeded. A native of Cochin-China, 3. C. procumbens, Mart. 3. Lour. "Stem procumbent; leaves ovate-lanceolate, alternate." A thick shrub, with many long funicular branches. Leaves large, quite entire, tomentous, petioled. Flowers violet-coloured, dioicous; in long, interrupted, terminal racemes; the females in a naked globular receptacle, without any perianth, either proper or common; corollas five-cleft, inferior, very many, on long peduncles, forming a ball or head; style capillary, equal to the corolla; stigma limple. Seed single, egg-shaped, compressed, naked. A native of Cochin-China. 4. C. montanus. "Leaves egg-shaped, crenate, alternate." A large tree, with a hempen bark and spreading branches. Leaves acuminate, petioled, rough above, tomentous underneath. Florers divicous, green, on folitary axillary peduncles, forming roundish heads, on a naked globular receptacle; the females without a corolla; proper perianth almost closed, four-clest, fuperior. Seed fingle, compressed, with a subpappous ring, perhaps from the laciniated tube of the calyx. A native of China. 5. C. Stellatus, Mart. 5. Lour. " Leaves ftellated, laciniated-linear." A middle-fized tree, with afcending branches. Leaves by threes, quite entire, imooth. Florets white, collected into a ball, with a small egg-shaped receptacle; no common perianth; proper perianth inferior, with four awl-shaped fegments; corolla superior, with a four-cleft reflexed border, four nearly feffile anthers, a long style, and one naked feed. A native of Cochin-China.

We have followed profesfor Martyn in taking up the last four species from Loureiro, that they might not be entirely omitted; although Loureiro himself confesses that they differ very much from each other, as well as from Linnæus's generic character. The description given by Linnæus of the fruit of his fole cephalanthus is certainly founded on a misconception, and, according to Gærtner, appears to have been made when he was only half awake: fructus negligenter & quasi ex insomnio descriptit. It is, therefore, entitled to no authority in fixing the generic character. But Loureiro's descriptions of his new species are also in several respects so consused, that it is not easy to determine what he means. If, by the fruit of the second species, which he calls a compound berry, we are to understand, as is probably the case, the aggregate fruit of all the proper flowers, it may belong to this genus. What he calls the fingle naked feed of the fifth, may possibly be a pericarp with three abortive cells, and may not contradict any effential part of the generic character. But the third and fourth feem too refractory to obtain admission. La Marck, in the Encyclopedie, has added to the C. occidentalis of Linnæus, two other species, which he calls chinensis and pilulifera, both communicated by Sonnerat: the former he suspected might be found not to differ from nauclea orientalis of Linnæus, but he had then no doubt of its being a real cephalanthus. As, however, he has not inferted them in his subsequent il-Instrations, he appears to have changed his opinion. See

Propagation and Culture. The first species only has been cultivated in England. It has been raifed by cuttings and layers, but is chiefly propagated by feeds. These should be fown before Christmas, and will then come up in the next fpring: but if they are fown in fpring, they generally remain a year in the ground; in which case, the pots should be placed in the shade during the summer, and sheltered under a common frame to protect them from frost in the ensuing winter. The first year, after they come up, they should be shaded from the sun in hot weather; and as they naturally grow in moift ground, should be regularly watered. In the autumn they may be transplanted into sheltered nurfery-beds, where they may remain a year or two, according to the progress which they have made; and should be finally transplanted in October.

CEPHALAS, in Ancient Geography, a promontory of Africa, mentioned by Strabo, fituate at the commencement of the great Syrtis. He adds, that it was elevated, and covered with wood. Ptolemy also mentions it. It is thought to be the present cape Mejurata

CEPHALE, a burgh of Greece in Attica, between Prospette and Aphydne, at some distance from the coast of the Saronic gulf. The Dioscuri, viz. Castor and Follux, were so highly respected in this piace, that they were ranked in the number of the great gods, according to Paulanias. This burgh belonged to the Acamantide tribe.

Ionian fea, now called CEPHALONIA, which fee. It was known in the time of Homer (Odyss.) by the names of Samus and Black Epirus, or Epirus Melæna; and had anciently four cities, one of which bore the name of the island, although Ptolemy mentions only two. Strabo tells us, that in his time there were only two cities remaining; but Pliny (1. iv. c. 12.) speaks of three; adding, that the ruins of Same, which had been destroyed by the Romans, were still in being. Same was the metropolis of the illand, and is supposed to have stood in the place which the Italians call " Porto Guifcardo." The names of the four cities were, according to Thucydides (lib. ii.) Same, Prone, Cranii, and Pale.

This island was subdued by the Thebans, under the conduct of Amphitryon, who is faid to have killed Pterelas, who then reigned there. While Amphitryon was carrying on the war in Cephalonia, then called Samos, one Cephalus, a man of great distinction at Athens, having accidentally killed his wife Procris in shooting at a deer, shed to Amphitryon, who, pitying his case, not only received him kindly, but made him governor of the island, which from that time was called Cephalonia. After it had been long in subjection to the Thebans, it fell under the power of the Macedonians, and was taken from them by the Ætolians, who held it till it was reduced by M. Fulvius Nobilior, who having gained the metropolis after a four months' fiege in the year 189 B. C. fold all the citizens for flaves, adding the whole island to the dominions

of his republic. Liv. I. xxxviii. c. 28, 29. CEPHALICS, in Medicine, from x12ahn, the bead, a term given by the older writers on the materia medica, to those articles which relieve the disorders of the head. Under this term were chiefly included certain fragrant, aromatic, and ilimulant fubitances, which, whether applied as odours to the organs of fmell, or used as ilernutatories, or taken into the itomach, afforded a speedy relief to nervous or asthenic headaches, giddiness, and faintness. In such a condition of the body all cordials would operate as cephalies. The fymptoms arife from a languor of the circulation in the velle's of the head, which is accelerated by the general ftimulus of cordials taken into the stomach, or the local simulus of odours or iternutatories applied to the organ of fmell, and the headache or giddiness necessarily cease. The term is now feldom used.

CEPHALIC vein, in Anatomy, one of the large fuperficial veins of the upper extremity. See VEINS.

CEPHALOIDES, a denomination given by some writers, who discover virtues in plants from their fignatures, to those which bear any resemblance to a human head; such are the poppy, piony, and the like.

CEPHALOMANTIA, from xeçann, and maniera, divination, an ancient species of divination, or method of foretelling futurity by a dead man's skull.

CEPHALON, in Ancient Geography, one of the ancient names of the city of Rome.

CEPHALONIA, or CEFALONIA, in Geography, a confiderable illand of the Levant, in the Mediterranean, near the coast of Livadia to the north-cast, and near the coast of Morea to the fouth-east, opposite to the gulf of Lepanto; about 150 miles in length, and from 80 to 90 at its greatest breadth; anciently called Cephalonia, which fee. Venice acquired the fovereignty of this island, as a gift from Gaio its lord, in 1224; though it was taken by the Turks in 1479, and held by them for about 20 years. On the fall of Venice, it was feized by the French; and by the 6th article of the treaty of Campo Formio in 1797, renewed and confirmed by the third article of the treaty of Luneville in 1801, his majelly the emperor, king of Hungary and Bohemia, confents that CEPHALENIA, or CEPHALLENIA, an island of the the French republic shall posters, in tall sovereignty, the cidevant Venetian islands of the Levant, viz. Corfu, Zante, Cephalonia, St. Maure, Cerigo, and other islands dependent thereon; together with Butrinto, Larta, Vouizza, and in general all the ci-devant chablishments in Albania, which

are fituate lower down than the gulf of Lodrino.

The chief articles of commerce in Cephalonia are oil, muscadine wine, and a species of grapes called currants. The air of this island is very warm; the trees are covered with flowers through the winter, and bear ripe fruit twice a year, in April and November; but those which grow in the latter month are finaller than the others. Corn is fown in the winter, and reaped in June. N. lat. 38° 10' to 38° 54'. E. long. 20° 15' to 21° 30'. Cephalonia, the capital of the island of the same

name; the fee of a bishop united to Zante. N. lat. 38° 30'.

E. long. 28° 40'

CFPHALONNESOS, in Ancient Geography, an island of the Euxine fea, in the Carcinite gulf, according to Pliny. It belonged to European Sarmatia, according to Ptolemy.

CEPHALONOMANTIA, compounded of repain, head, 2005, a/s, and partua, divination, a method of divination, or revealing fecrets, by means of an afs's head broiled on the coals. After muttering a few prayers, the names of feveral persons suspected of a thest, or the like, were repeated over: he at whose name the ass's jaws made any motion, or the teeth began to chatter, was held for convicted.

CEPHALO-PHARYNGEUS, in Anatomy, a term applied by some writers to the middle constrictor of the pha-

rynx. See Constrictores pharyngir.

CEPHALOPHORA, in Botany, (from ×6φαλος, and φτρ. bearing its flowers in heads,) Willd. 1463. Cavan. Ic. 6. tab. 599. Clafs and order, fyngenefir polygamin aqualit. Nat. ord. Composite discoidee, Linn. Corymbiser., Just.

Gen. Ch. Cal. common, composed of two rows of linear, acute leastets; receptacle globular, honey-combed, naked. Cor. florets tubular, hermaphrodite. Sceds folitary, topshaped, itriated, truncated; down composed of fix or seven awl-shaped, transparent, chast-like leastets.

Eff. Ch. Receptacle naked, hemispherical; down chaff-

like, many-leaved; calyx many-leaved, reflexed.

Sp. C. glauca. Root perennial. Stem herbaccous, hard, cylindrical, ftriated, branched. Root-leaves oblong eggshaped, lessening into a petiole; stem-leaves linear, alternate, felli'e, glaucous, rather rough. Flowers terminal, folitary, yellow; peduncles thickened. A native of Chili.

CEPHALOPONIA, from zi \$220 and mores, pain, a denomination given by some to the cephalolgia, or head-ache.

CEPHALOTOMI, in Ancient Geography, a people of Alia, placed by Pliny towards mount Caucalus, and on the borders of the Euxine fea.

·CEPHALUS, a town of the island of Cyprus, watered

CERHALUS, in Ichthyology, the name given by Aristotle, Æ ian, Appian, and others to the mullet, mugil cepbalus,

CEPHENE, in Ancient Geography, a country of Ar-

menia, more generally called Sophine.

CEPHENES, a name anciently given by the Greeks to the Perlians.

CEPHENIA, a name which, according to Agathemerus, was given to Ethiopia; and which feems to have been derived from the fabulous Cepheus.

CEPHESIAS, a lake, to called by Scylax, fituated on

the coalt of Africa.

CEPHEUS, in Aftronomy, a constellation of the northern hemilphere, being one of the 48 old afterilms; whose flars, Vol. VII.

in Ptolemy's Catalogue, are 13; in Tycho's, 11; in Heve-

lius's, 51; in the Britannic Catalogue, 35

Dr. Herschel has given an account of the lustre of the 35 stars in this constellation, in his third catalogue of the comparative brightness of the stars; (Pnil. Trans. for 1797. pt. ii. p. 314;) and he observes that the 15th, in the neck of Cepheus, marked , by Bayer, confills of two stars. Mr. Goodricke infers from a feries of observations on the star I Cephei, that it has a periodical variation of 5d 8h 371/2', during which time it undergoes the following charges; viz. it is at its greatest brightness about one day and thirteen hours; its diminution is performed in about one day and eighteen hours; it is at its greatest obscurat on about one day and twelve hours; and it increases about thirteen hours. In the first point, it appears as a star of between the 3d and 4th magnitude, though its relative brightness does not feem always to be quite the same. In the third point it appears as a star of between the 4th and 5th magnitude, if not nearer the 5th; and its relative brightness is as follows: nearly equal to a and & Cephei, and confiderably lefs than 7 Lacertæ. The relative brightness and magnitude of these stars with which the variable one was compared are as follow: ¿ Cephei. the brightest, is between the 3d and 4th magnitude; Cephei, the next brightest, is between the 4th and 3d; 7 Lacertæ, is less than . Cephei, and of about the 4th magnitude; & Cephei is between the 4th and 5th magnitude; and & Cephei, which is a little less than e, is between the 5th and 4th. The variation of the star I was corroborated by the observations of Mr. Pigott. Phil. Trans. vol lxxvi. p. 43, &c.

CEPHEUS, in Fabulous History, a king of Ethiopia, father of Andromeda by Cassiope. See Andromeda. Cepheus was one of the Argonauts, and after his death, became a constellation. There was another Cephcus, prince of Arcadia, and favoured by Minerva, who transferred to his head a lock from the head of Medufa, by which he was rendered invincible. He is mentioned by Apollodorus as the fon of Lycurgus, and hunter of the Caledonian boar. A third Cepheus is faid, by the fame author, to have been the fon of Aleus, an Argonaut, king of Tegea, father of Sterope, and an affociate of Hercules, in opposition to Hippocoon.

CEPHISIA, in Ancient Geography, a village of Greece, in Attica, near Athens.

CEPHISTA, a fountain of Attica, according to Pliny.

CEPHISSIS, or COPAIS lacus, a lake of Bootia, which took its name from the river Cephiffus, which discharged itself into this lake. Its name, Copais, was formed from the town of Copes, feated upon its banks. Paufanias favs (l. ix. Bootic. c. 24.) that there were two towns on this lake, viz. Athenes and Eleufis, which had been fwallowed up by

its inundations

CEPHISSUS, or CEPHISUS, a river of Greece, which had its fource in the mountains that feparated Phocis from Theffaly, which range of mountains was called Octa. . Its course was from north-west to fouth-east. In its progress it received feveral rivers, fuch as the Lilæa, the Pindus, and the Chacalis; and before it entered Bootia, it ran at the foot of a mountain, where was the diffrict called l'aropotamus. In Bootia it received the Hercyna and the Melas; and to the fouth of Orchomene it discharged itself into the lake Copais, or Cephissis. This river was celebrated in fabulous hittory; as the graces delighted to bathe in it, and were thence flyled the goddeffes of the Cephifus. This river, or rather river god, is faid to have been enamoured of feveral nymphs, all of whom flighted his passion.

In Attica there were two rivers of this name, one, which

was the most easterly and the most considerable, commenced north of Decelia, ran towards the fouth as far as Cephissia, and to the fouth-west on the north of Athens, near the northern wall of the Pireus, and discharged itself in the port of Phalerum. See Athens. The other river commenced N. of Phyla, and slowed into the Saronic gulf, near Scirus. Near its mouth were found several statues, and one in particular of a young man, who cut his hair in order to consecrate them to the river, according to the custom of the ancient Greeks. Pausanias, in Attic. c. 37.—Cephisia was also the name of a river of the Peloponnesus in the Argolide, according to Pausanias.—Ortelus mentions a river of this name in the isle of Salamine; a river of Greece, in Sievenia; and another of the same name in the isle of Seyros.

CEPHRO, or Kephro, a village and defert of Egypt, at the entrance of the deferts of Libya; to which were ba-

CEPHUS, or CEPHUS, in Ornithology, the name by which the black-headed gull has been described by some writers. See Lagus radibundus.

CEPHUS, in Zoology. See CEFUS.

CEPHYRA, in Mythology, daughter of Oceanus, who is

fabuloufly reported to have educated Neptune.

CEPI, in Ancient Geography, a maritime place of Afia Minor, placed by Cedrenus at the mouth of the Meander.—Alfo, a town in the illand of Cococondoma, upon the Euxine fea, at the entrance of the Cimmerian Bofphorus, according to Pliny; who fays, it was a colony of the inhabitants of Miletus. Strabo calls it Cepus; and it is denominated Cepus by Mela and Diodorus Siculus.

CEPI corpus, in Law, a return made by the sheriss, upon a capias, or other process to the like purpose; signifying,

that he hath taken the body of the party.

CEPIANA, in Ancient Geography, a town of Spain belonging to the Celtes of Lufitania.

CEPIC, in Geography, a town of Istria; 4 miles S. of

Pedena

CEPION, in *Antiquity*, the name of a particular air, invented by a difciple of Terpander, and defigned to be played on the CITHARA.

CEPIONIS Turris, in Ancient Geography, a place of

Spain, in Bœtica.

CÉPIONITES, in Natural History, a name given by Pliny, and other ancient writers, to a frecies of flone, feeming to approach to the nature of the JASPER. Pliny tells us that there were many kinds of it, fome more pellucid than others, and fome colourles; others variegated with green and the other colours of the jaspers and agates: they were all used in the ornamenting of houses; and the leaft beautiful forced, when well polithed, to make speculums of.

CEPITES, in Natural History, a name used by the ancients to express a gem which gave the representation of the several clusters of plants and flowers in the beds of a garden, with naked veins, expressing the walks between. The common text of Pliny is unintelligible, where he gives the defeription of this stone; but Salmastus has reflored it from some old copies, so as to make it sense, and expressive of this meaning. The stone was probably no other than a peculiar kind of that agate which the ancients called dendrites, and we the stocoal flones.

CEPOLA, in Ichthyology, a genus of theracic fiftes, which have the head roundith, and comprefled; teeth curved, and placed in a fingle row; gill membrane fix-rayed; body enform, naked; belly rather thorter than the head.

CEPOLA tania, with caudal-fin tapering, wedged; and head very obtufe. It is a native of the Mediterranean fea,

and is sometimes sound of the length of three, sour, or five sect, but more commonly does not exceed two sect in length. The head is short and rounded; mouth large, and the lower jaw rather exceeding the upper one in length. Both jaws are armed with sharp curved teeth, placed in a single row in the upper, and in a double row in the lower jaw. The tongue is broad and rough; the eyes very large, with silvery indees, and black pupil, and placed vertically in the head. The abdomen scarcely longer than the head; body remarkably long, gradually tapering to the tail, and of extreme thinnels in proportion to the length, whence it obtained the name of tenia or ribband-sish among ancient schwloogists. The general colour is silvery, hoary on the back, and the sides are specified, and marked with rather large reddish spots; the lateral line is straight, and the fins reddish. This sish is observed to frequent the neighbourhood of the shores, in order more readily to obtain its food, which consists principally of crabs, and other crustaceous animals. The sless is careely eatable.

CEFOLA rulefears. Caudal-fin tapering; jaws fnarp, printed, Linn. Ophidium macrophthalmum, Syft. Nat. x.

Tania serpens rubescens dicha, Artedi.

Supposed by Gmelin and others to be, perhaps, a variety of the preceding; it is smaller, and of a pale red colour throughout. Inhabits the Mediterranean, and has been lately discovered on the coast of Devonshire. Vide Linn. Transam Donov. Brit. Fishes.

CEPOLA trachyptera. Head floping; both jaws arched

fins prickly, fer. ated, and rough

Found in the Adriatic. The lateral line in this species

is straight, with a single row of scales

The hermannian band-lifth, cepela hermanniana of Dr. Shaw's zoology, appears to differ in fo many particulars from the true cepele, that we are of opinion with Cepede, that it ought to form a genus altogether diffinct from them. CEPOLAPITES, in Natural Hiftory, a name given by

fome to the flone properly called CEPITES, a kind of MOCOL

agale.

CEPPHUS. See CEPHUS.

CEPULA, in Ichthyology, a name by which Gefner and fome other authors have called the common ribband-fifth. It is derived from the Italian word expole, the familiar name of the fame fifth in the markets of Rome. This is the ϵ

CEPUS, or CEPHUS, in Zoology, a name affigned indifcriminately by old writers to feveral monkies of the small rekind that have more or less green among their other colours. The only mankey to named by modern naturalities is the

menslae, simia cephus of Schreber.

CERA prima et estrema, in Roman Antiquity, were terre applied to wills and tetlaments, from the circumitance of their being ufually written on tables covered with-wax, because in them a person could easily erase what he wished to alter. Hence cere is put for tabulæ cerate or tabulæ testamenti, (Juvenal, i. 63.); and prima cera is used for prima pars tabulæ, the first part of the will, (Hor. Sat. ii. p. 53.); and cera extrema or ima for the last part, (Cie. Verr. i. 36. Suct. Juvenal, 83.)

CERACE, in Ancient Geography, a town of Macedonic, o called by Polybius, feated near the lake Lichorydes.

CERACHATES, in the Natural History of the Aneiral, the name of a species of agate of a plain yellow colour. It very much refembling yellow wax. We have it from the East Indies, as also from New Spain, and some other pasts of America; and our jewellers sometimes work it into toys of small value.

CERAM, in Geography, one of the spice islands in the East Indian Sea, about 190 miles in length, and 40 in breadth; low towards the shore, and in the interior parts, which are little known, very mountainous. Several chains of mountains run parallel to one another, in the direction of east and west, and are separated by fertile vallies that support a luxuriant vegetation. Its high mountains, some of which are at least 1,200 toiles in perpendicular elevation, and yet frequented by the natives, afford effectual protection to their inhabitants; fo that the Dutch have only been able to attach to its government of Amboyna a comparatively small number, fettled on the lower parts of the island, near the fea. This island is faid to contain 30,000 fighting men. It produces clove-trees, which the policy of the Dutch has induced them to destroy along the coasts, to which their influence extends; and it has also large forests of the sago-tree, which furnishes a confiderable article of exportation. S. lat. about 3°. E. long. about 128° to 131°

CERAM-LAOUT, an island of the East Indian Sea, near the island of Ceram, above five miles long, and scarcely three broad; mountainous, and uninhabited. It has a bay

on the north coast.

CERAMBYX, in Entomology, a genus of infects in the or-

der Coleoptera.

The generic character of the Cerambyces is variously defined by different writers. Linnæus describes it as having the antenez composed of articulations, which gradually diminish in fize as they approach towards the extremity: thorax either gibbous laterally, or armed with spines: wingcases linear, or of equal breadth throughout; and the feet

confifting of four joints.

This Linnman definition of the genus applies to fuch a vast number of infects, which, in other particulars, possels an evident generical diffimilarity, that later authors have found it absolutely requisite to divide the Linnæan Cerambyces into feveral diffinct genera. Linnæus was himfelf aware of the inconvenience of retaining many of his Cerambyces in this genus; but in order to comprife them, divided the genus into five diffinct fections. Those families, or sections, so far as they relate to the few species known to the Swedish naturalist, may, perhaps, be found sufficiently comprehensive by the Linnzan entomologist; but when we reflect on the vast number of new species, described by the indefatigable Fabricius, by Olivier, and other still later writers, not to mention the many species that are to be yet found in our cabinets, that have not been described by any author, those subdivisions will at once appear incompetent for their arrangement. We must constitute new genera for their reception, or if we are to follow in fervile imitation, we cannot dispense with the institution, at least, of feveral new fubdivisions, to comprise them. The Linnæan subdivisions of the Cerambyx genus stand in the fol-

* Those which have the thorax armed on each fide with moveable spines-This is exemplified in Cerambye Longima-

nus. Linn.

* * Those in which the thorax is margined, and armed at the fides with spines-As in Cerambyn cinnamomeus. Linn

*** Those having the thorax round, and armed with fixed spines-As in Cerambyx Sutor. Linn.

*** Those with the thorax unarmed and somewhat cylindrical-As in Cerambyx puntlatus. Linn.

***** Those with the thorax unarmed, roundish, fomewhat globose, and flattened on the upper fide-As in Cerambyn violaceus. Linn.

Two writers of respectability, Geoffroy and Schaesser, form feveral new genera of the different kinds of Linuxan

Cerambyces. Their genus Prionus confills of those which have ferrated antennæ placed in the eyes, or furrounded and embraced at their base by the eyes. The true Cerambyces, according to these authors, are such as have the antennæ gradually tapering from the base towards their extremity, and are placed in the eye, and have the thorax armed with fpines. Those Linnaan Cerambyces, which have fetaceous antennæ placed in the eyes, and the thorax cylindrical and unarmed with spines, are referred to their genus Leptura; and their genus Stenocorus comprehends those which have the antennæ tapering towards the extremity, but have their base originating before the eyes; and the wing-cases diminishing in breadth towards their point. This last genus Stenocorus is divided into two families, the first of which only belongs to the Linnæan Cerambyces, being such as have the thorax armed with spines; the other to the Linnæan Lepturæ, having the thorax destitute of spines. Scopoli likewise has made some alterations in the Cerambyx and Leptura genera; his character of the first is, however, vague and indefinite; he affigns it the power of emitting a found or noise by the friction of the thorax, where it lies close to the body, as a character of the genus, and has, by this means, placed feveral of the true Cerambyces, which have not this property, among his Lepturæ. The remainder of the Linnæan Cerambyces he separates into two divisions, the first containing those which have the thorax armed with spines, and the other those which have the thorax destitute of fpines.

Olivier found it requifite to divide the Linnwan Cerambyces into several genera; La Marck and Latreille have done the same; but the most important innovations that have been made on the Linnzan genera are to be found in the different entomological publications of Fabricius. Contrary to the Linnwan method, his characters of genera are taken from parts of the mouth, which cannot readily be fo examined as those which Linnæus has taken, or it would be impossible to deny the manifest superiority of the Fabrician genera over those of Linnaus. Notwithstanding that Fabricius constitutes so many genera of the Linnæan Cerambyces, and that his characters are fo diffimilar, those genera appear fo natural and well felected, that other characters, even after the Linnaan method, may be applied with propriety to nearly the whole of them. This is in particular obvious in the genus Prionus, as well as Lamia and Saperda, each of which possess Linnaan characters, if they may be so expressed, distinct from those which characterife the true Cerambyces, although in the fyftem left us by Linnxus, they could not be referred to any other genus. In a work recently published, on the entomology of New Holland, and the contiguous islands, we have endeavoured, under this perfuasion, to reconcile the Fabrician genera, Prionus, Lamia, Stenocorus, and Saperda to the Linnman arrangement, by affigning to each a new generical definition after the manner of Linnous, and conceive there can be neither difficulty, nor impropriety, in reconciling many other of the Fabrician genera to the Linnwan method in a fimilar manner. As fubdivisions of the Linnæan genera, the Fabrician genera might be eminently useful, should increasing the number of new genera be thought objectionable. It muit be regarded as no inconsiderable improvement, in the last edition of the Systema Natura, that Ginelin has availed himfelf, in a great measure; of the Fabrician genera as subdivisions of his genus Ccrambyx.

The genus Cerambyx comprehends an amazing number of the larger and mott-beautiful of all the colcopterous infects. In the larva flate they refemble foft, oblong, flender worms, with a shelly head, furnished with strong jaws,

and fix feet on the anterior part. They live principally in trees, the inner part of which they bore through, reducing the wood to powder, and undergo their changes from the cavities which they bore. In the larva flate, they are fometimes eaten; in the Welt Indies thefe larvæ are collected by the negroes as an article of luxury for the tables of their owners, and are in great esteem. Many of thefe infects poffels a powerful odoriferous fmell fimilar to that of the European species Moschatus. The antennæ, in many of the species, are longer than the body.

mention those first which stand as true Cerambyces in the Fabrician, as well as Linnman, fystems; the other genera Prionus, Lamia, &c. will be also introduced under the pre-

fent article for the fake of perspicuity.

Antennæ setaceous: feelers four: thorax spinous or gibbous: wing-cafes linear: jaw obtufe and armed with a fingle tooth. Feelers four, filiform: jaw obtufe, with one tooth: lip bifid: antennæ fetaceous. Fabr.

CAPRICORNE. Antennæ setaceous, long, situated in the eyes: feelers four, equal: eyes crefcent-shaped: jaws bifid.

La Marck.

CERAMBYX GIRAFFA, black: thorax unarmed, elongated, with transverse rugose strix : wing-cases scabrous at the base, and smooth towards the apex. Donov. Inf. N. Holland. C. Giraffa, Tranf. Linn. Soc.

FICHTELII. Braffy olivaceous: head broad; eyes prominent and divided: wing-cases attenuated, lengthened at the tip, and fomewhat bearded. Donov. Inf. N. Holland.

C. Fichtelii, Tranf. Linn. Soc.

CERAMBYX Moschatus. Thorax fpinous: fhining green and purple: antennæ moderate and blue. Linn. Olivier, &c.

This infect is found on the willow in European countries, and is generally known in England by the name of Goatchafer, or must beetle, which last it merits particularly, the infect emitting a powerful smell of must when alive. Length, including the antennæ, about three inches.

VIRENS. Thorax rounded, and spinous : body green :

thighs rufous. Olivier, &c.

This is a native of Jamaica; the larva is found in the trunk of the amyris balfamifera. Dr. Schwartz. It is obferved of this species, by Fabricius, that it varies in having the antennæ longer or shorter than the body, and the thighs toothed or unarmed. These supposed varieties are most probably diffinct fpecies.

NITENS. Thorax rounded and fomewhat spinous: shining green: thighs clavated, the club of the four anterior ones rufous. Geramby nitens of Olivier. Inhabits Africa. Muf. Donov. Deferibed by Fabricius from the Bankfian cabinct. The antennæ are twice the length of the body, and of a black colour: the body entirely green and shining:

legs black: posterior shanks compressed.

Aftr. Thorax rounded and spinous: body green: antenna and legs rusous. Fabr. This is Cerambyn afer of the Linnwan mantiffa 532. The front is retule: antennæ fearcely longer than the body, and sufous: thorax rugofe: wing-cafes attenuated : four anterior thighs clavated.

VITTATUS. Thorax (pinous, thining green: thorax and wing-cases lineated with black. Fabr. The antennæ are of a moderate fize and black: wing-cufes obtufe: thorax with two dorfal black lines: thighs unarmed and rufous, fhanks black.

Festivus. Thorax fpinous and green: wing-cases violaceous, greenish at the base: thighs ferruginous, and

armed with a fingle tooth. Fabr. Discovered by Mr.

VELUTINUS. Thorax spinous and blackish, with a deep the dorfal stripe velvety; posterior shanks compressed, and spinous at the apex. This kind inhabits America. Dr.

SERICEUS. Thorax spinous, body black and filty: future and stripe on the wing-cases greenish: thighs rusous. Fabr. This insect inhabits South America. The antenne are black; head and thorax deep black, velvety, and fpotted with fhining green.

SUTURALIS. Thorax fpinous; body black; future of

Olivier, &c.

Described by Fabricius from the Hunterian cabinet. It

green and gloffy; wing-cales dufky; antennæ long and tennæ in this species are twice the length of the body.

LATIPES. Thorax spinous, depretled; body greenish; wing-cases cupreous; shanks dilated and compressed. Fabr.

Inhabits the Cape of Good Hope.

LONGIPES. Thorax fomewhat spinous, azure; body green; antennæ twice the length of the body; thighs clavated. Superda longipes. Fabr. Mant. Cerambyx longipes: Fabr. Ent. Syst. Cerambyn fusiformis. Degeer. A native of the Cape of Good Hope. The antennæ are of a blue colour, dufky at the tip; legs long, and of an azure

INTERRUPTUS. Thorax Spinous, deep black; wingcases with three linear white spots; antennæ short. Fabr.

pressed. Native place unknown.

CERDO. Thorax fpinous, rugofe. black; wing-cafes

HEROS. Thorax spinous, rugofe, black; wing-cafes fomewhat spinous, and pitchy; antennæ long. Geoffr. &c.

SPINICORNIS. Thorax fomewhat spinous, and black;

This infect is described by Olivier, under the name of Ceramlyse torridus. It inhabits Africa. The antennæ are joint spinous at the tip; thorax black, with three tubercie

Thorax fomewhat spinous, black; antennæ moderate, and annulated with rufous and black. Fabr. Olivier, &c. Inhabits the Cape of Good Hope. This is much lefs than the last mentioned species. The body is black; breaft cinereous and gloffy; legs black; thighs at the base reddish; potterior legs long.

BATUS. Thorax rugofe and somewhat spinous; wing cases spinous at the apex; antennæ long, with hooked spines. Ceramlyx Bains. Linn. Inhabits South America.

FERRUGINEUS. Thorax armed with sharp spines, ru-

gole and black; wing-cales ferruginous; antennæ long. Cerambye ferrugineus. Linn. Inhabits the East Indies,

Cerambye gigas of the Fabrician Mantiffic

ALPINUS. Thorax fpinous; band, and four fpots on the wing-cases; black; antenna long. Linn. Found in Its fize is rather lefs than that of Cerambye Mefchatus, or Muff: Beetle.

Thorax fpinous and fuscous, with a white longitudinal line; antennæ long. Fabr. A native of South America, described by Fabricius from the Banksian cabinet. The antennæ are three times the length of the body; head fuscous; orbits of the eyes, and dorfal line white; thorax armed with acute foines, fuscous with a dorsal line of white; wing-cales fuscous with a white dot in the middle and indented future.

EBULINUS. Thorax spinous, green and brassy; wingcafes testaceous; antennæ short. Fabr. This kind inhabits Africa, and was first described by Fabricius, from a fpecimen in the collection of Dr. Hunter. The antennæ

are ferrated; thorax uneven, and without spots.

Morio. Thorax furnished with two spines, rugose and black; antennæ long and ferruginous. Fabr. From the fame cabinet, as the preceding. This species inhabits Cayenne. The antennæ are twice the length of the body, cylindrical, and ferruginous, with the first and second joint entirely black, and the three next black at the base; thorax rugofe, with two spines on each side, the posterior one of which is argest; wing-cases smooth, impressed at the base, and at the tip truncated.

KAEHLERI. Thorax fpinous, black; wing-cafes fanguineous, with a black fpot. Linn. Found in the fouth of Europe, and varies in being fometimes without the black fpot on the wing-cases, and sometimes marked with a rufour lateral spot. Wing-cases notched at the extremity.

LUNDII. Thorax spinous, fanguineous; antennæ, tips of the wing-cases, abdomen, and legs black. Fabr.

Described by Fabricius from the cabinet of Lund, who received it from Tranquebar. Size of C. Kaehleri. tennæ short aud black; thorax gibbous, spinous, sangui-neous, and without spots; scutel black; breast sanguineous; abdomen black, with acute rufous tubercle between the fecond pair of legs; thighs flightly clavated.

Successerus. Thorax rugole, with two fpines; wingcases banded with yellow; antennæ very long and compressed. Linn. Inhabits America and Brasil, and is mentioned by Degeer under the title of Cerambyx fusco-costaneus.

Inft. 5. 113, &c.

DESFONTAINII. Thorax spinous, sanguincous, spotted with black: wing-cafes fanguineous and black at the tip and

base; antennæ very long. Fabr.

In the collection of D sfontaines. This kind inhabits Barbary. The head is black; wing-cases smooth, with a fmall black fpot at the base, and a larger one at the apex;

body black and without fpots.

STRIATUS. Thorax fomewhat Spinous, rugole, ferruginous; wing-cases striated with yellow; antennæ long, Olivier. Fabr. &c. Inhabits C yenne. Described from the Hunterian collection. The antenne are cylindrical, twice the length of the body, ferruginous, and black at the tips. Head ferruginous with three vertical black dots; thorax rugofe, with two fpines on each fide, and dotted with black; fcutel black at the tip; wing-cases ferruginous with four yellow threaks; thighs black at the tips.

RUFIPES. Thorax rufous, and armed with two fpines ; wing-cases smooth and black; antennæ long, Fabr. A native of South America. The antenna are longer than

the body, and yellowish, with the tips of the joints ferruginous; posterior thoracic spine largest; wing cases glabrous, with a large impressed dot at the base; legs yellowish with the tips of the thighs black; abdomen black.

DIMIDIATUS. Thorax armed with two spines, and rugged, yellow with black dots; wing-cafes black, yellow at

the base; antenna moderate. Fabr.

The head of this infect is yellow, with three vertical black dots; posterior spine on the thorax largest, and yellow with black dots; wing-cafes glabrous, black, with the future and base yellow; body yellow with half the abdomen black ; legs yellow.

BICOLOR. Thorax armed with two spines, tuberculated and ferruginous; lower half of the wing-cases, and the body black. Olivier, &c. Inhabits Cayenne; first described from the cabinet of Von Rohr. The autennæ are moderate, ferruginous at the base, in the middle yellow, and at the extremity fuscous: head ferruginous; throat prominent and acute; a large impressed dot at the base of the wingcases; legs ferruginous.

DEPRESSUS. Thorax armed with many spines, depressed. black, variegated with cinereous; wing-cases pointed; an-

tennæ long. Olivier, Voet, &c.
The head is black with cinereous villous impreffed spots; thorax befet on each fide, with about four or five fhort fpines; wing-cafes friated; legs black.

FASCIATUS. Thorax spinous, azure; wing-cases banded with yellow: antennæ moderate; yellow, blue at the base and tip. Found in Tranquebar by Dr. Koenig. The antennæ are compressed, and blue; the last four joints but one yellow; the last blue; legs blue, the posterior ones compressed. Olivier, Pallas, &c.

BARBICORNIS. Thorax spinous; four first joints of the antennæ bearded with black: body testaccous, variegated with black. Fabr. This species inhabits the East Indies.

NEBULOSUS. Thorax spinous; wing-cases dotted and striped with black; antennæ long. Linn. Inhabits the trunks of pine trees in Europe, and is found in England.

Donov. Brit. Inf.. Length half an inch.
OBSCURUS. Thorax fpinous, villous and fulvous; wingcases black, with a villous fulvous spot behind; antennæ

moderate. Fabr.

Size of the preceding; antennæ length of the body; wing-cases somewhat scabrous; legs black with yellowish shanks. Inhabits the Cape of Good Hope. Lund.

GRISEUS. Thorax spinous and suscous; wing-cases fmooth with grey bands dotted with black; antennæ very

This species inhabits Germany (Loewenskiold.) It bears a great resemblance to Cerambyx Nebulosus but is larger, and has the antennæ three times the length of the body. The head and thorax are fuscous, very slightly spotted; wingcases with a dusky band at the base, and another in the middle, and also the tip cinereous detted with black; body cinereous; thighs dotted with black; fhanks black at the tip.

Costatus. Thorax spinous, grey; wing cases with elevated lines dotted with black and at the tips fuscous; an-

tennæ very long. Fabr.

Size of the last. The antennæ twice the length of the body, black, with the joints whitish at the base, head and thorax grey, the latter armed with a fingle fpine; wing cafes grey at the base with four elevated lines; legs grey

HISPIDUS. Thorax fpinous; wing-cases whitish at the base, and bidentated at the tip; antennæ of moderate fize and hairy. Lann. Le capricorne à étuis dentelés. Geoffr. Cerambyn fasciculatus. Degeer. Inhabits Europe, and is

found in England. Donov. Brit. Inf. This infect is fmall, the general colour cinereous, fprinkled with black dots, and bended zerofs the middle of the wing-cafes with white.

with three hairy dots; antennæ moderate and hairy. Panzer, Hybner &c. Inhabits Germany. The head and thorax of this species are suscous; wing-cases pale at the base; legs grey. Pilosus. Thorax armed with two fpines; wing-cafes

grey with a fingle tooth at the tip; antenna moderate and

This kind is found in Saxony. Hybner. It is smaller than

Cerambyx hispidus; wing cases grey, palest at the base.

BALTEATUS. Thorax slightly spined, and brown; wing-cases banded with suscous. Lino. Inhabits Portugal.

RUGICOLLIS. Thorax unarmed, very rough and black; antennæ moderate, and with the legs pitchy. Fabr. Inhabits Tranquebar, (Hybner.) The antennæ are compressed : wing-cases black, obtuse at the tip, and nearly truncated; legs pitchy.

BIMACULATUS. Thorax unarmed and rufous; wingcases testaceous with a black spot; antennæ short. Fabr. Found in the East Indies. This is of the middle size; the antennæ are villous, rufous, and thorter than the body; head and thorax villous, rufous and immaculate; thorax

tuberculated, and very flightly fpinous; wing-cases dotted;

legs teffaceous. Muf. Lund.
STLENDIDUS. Thorax fomewhat fpinous and rufous; wing-cases testaceous, black-blue at the base; antenna

fhort. Fabr.

Described from the cabinet of Lund. The species inhabits Tranquebar. It resembles C. bimaculatus; the antennæ are rufous at the bafe, testaceous in the middle, and brown at the tip; head punctured, rufous, and without spots; thorax rounded, dotted and armed with a small short, obtuse spine on each side; wing-cases with three fmooth elevated striæ; body villous; abdomen rufous, with a prominent tooth beneath, and correspondent lateral groove in the thorax; legs rufous.

LONGICORNIS. Thorax unarmed; back flat; body varied with grey and fuscous; antennæ very long. Fabr.

Inhabits the coast of Coromandel. Antenne thrice the length of the body; black, the joints cinercous at the base; head cinercous, base and lateral line black; thorax stat above, and much impressed, brown and cinercous varied; wing cases with punctured striæ; body cinereous. From the Banksian cabinet.

Marginalis. Thorax unarmed; wing-cases some-what testaceous, and surrounded with a black margin. Fabr. A native of the Cape of Good Hope. Antennæ moderate, and pitchy; head brown; thorax ovate, fufcous, bordered behind and in front with black; wing-cafes

fmooth; legs blackish.

dusky; antennæ short and black. Olivier &c. From the

Banksian cabinet.

Obf. The head is green; antennæ compressed; thorax dotted, green and shining; wing cases smooth, and greenish; legs black, thighs clavated; the four anterior ones rufous,

Juvencus. Thorax unarmed, and rugole; wing cases pointed, black, with hoary down; antennæ very long. Linn.

Thorax unarmed, rugofe, grifcous; Holosfricus. wing-cases armed with a single tooth, filky, with a brown and einereous hue; antennæ moderate. Fabr.

Inhabits the East Indies. 'Head grey; body beneath

thining. Olivier &c.

CINEREUS. Thorax unarmed, and fomewhat rugofe, cinercous and without fpots. Fabr. From the cabinet of Lund. This is a native of Tranquebar.

Antenna fetoceous; eyes reniform, embracing the base of the antennæ; thorax flat, and marginate, the margin

Genus PRIORUS. Feelers four; filiform; jaw cylindrical

P. LONGIMANUS. Thorax armed with moveable spines; wing-cases with a single tooth at the base, and bidentated at the tip; antenno and fore legs very long. Fabr. Ceramby: Longimanus Linn. This is an infect of large fize, the body exceeding three inches in length, and having the antennæ, and first pair of legs remarkably long in propororange, and a number of black interrupted lines. It is a beautiful species, and inhabits South America.

LEPIDOPTERUS. Pitchy, rufous; wing-cases with grey villous spots and three elevated longitudinal lines; base gibbous, tip truncated. Donov. Inf. N. Holland. Prionus

lepidopterus. Tranf. Linn. Soc.
This infect is of a large fize; the species is named Lepidopterus from the viilous spots on the wing-cases, which, when attentively examined, appear clothed with a fort of fealy down, or feathering, most exactly resembling that which we observe on the wings of lepidopterous infects.

FASCIATUS. Thorax fomewhat marginated, and unarmed; black, downy; wing-cases chesnut clouded with cllow, and rounded at the tip, with four elevated lines. Donov. Inf. N. Holland. A new species lately discovered

in New South Wales.

Fuliginosus. Thorax with crenated margin, armed with one tooth, and marked with an impressed dorsal line; wing-cases with crenated teeth at the tip. Fabr. Described from a specimen in the British Museum, received

from America.

Thorax marginated, armed with one ROSTRATUS. tooth and rufous; jaws inflected and acute; sternum spi-

This species, which is very large, inhabits Siam. The head is black, and grooved; antennæ shorter than the body, the last joint much serrated; thorax glabrous; wing-cases

black and obtuse; breast and legs rusous.

BIDENTATUS. Thorax fomewhat margined, unarmed, black and downy; wing-cases chefnut, clouded with yellow, and bidentated at the apex, with four elevated lines. Donov. Inf. N. Holland.

LINEATUS. Thorax with crenated margin, and a Thorax unarmed, green; wing-cases single lateral tooth on each side; black, striped with white; wing-cases crenated with teeth at the apex. Fabr. Cerambyx lineatus. Linn. This species inhabits America.

NITIDUS. Thorax with crenated margin and fingle lateral tooth each fide; braffy azure; wing-cafes coppery. Fabr. Described from the Hunterian Muleum. Inhabits Brafil. The antennæ are long and blue; head grooved, and braffy green; wing-cases punctured, and obtuse; abdomen braffy green.

FABER. Thorax margined with a fingle spine on each fide; wing-cases pitchy; antennæ moderate. Fabr. Cerambys Faber. Linn. Schæffer &c. This is a rare species and inhabits Europe; the thorax of the male has the crenated

edges, but is deflitute of the tooth.

MUCRONATUS. Thorax margined, and bidentated;

wing-

wing-cases mucronated and rusous. Fabr. Inhabits Ame- emarginate; thorax rusous at the sides; wing-cases pointed rica. The front is retufe; antennæ short and compressed; thorax with two tubercles on the back; wing-cases velvety and pointed.

DEPSARIUS. Thorax fomewhat margined, armed with a fingle tooth, and downy; body blackish; antennæ short

and red. Fabr.

Described from a Swedish insect in the cabinet of Zschuck.

It is the Cerambys depfarius of Linn.

SCABRICORNIS. Thorax fomewhat margined, and armed with a fingle tooth; fomewhat villous, blackish with fufcous wing-cases, and two elevated lines; antennæ moderate. Fabr. Cerambys feabricornis, Olivier, and Fuell. Prionus fea-bricornis of Scopoli. Leptura Geoffroy. A native of the fouthern parts of Europe; the body is very narrow; thorax very flightly margined, and in one fex nearly unarmed.

ARCUATUS. Thorax bidentated; teeth arched and

black; wing-cases obtuse and testaceous. Fabr. Inhabits Van Diemen's land. Described from the Banksian

Museum.

MACULATUS. Thorax margined and three-toothed;

black; wing-cases with cinereous spots. Fabr.

A native of Senegal, described from a specimen in the museum of the late king of France. This is a large species; the jaws are exferted and dentated; antennæ length of the body and black; thorax armed with three sharp spines; wing-cases much variegated with grey. Mus. Donov.

CERVICORNIS. Thorax margined, with three teeth each fide; jaws advanced and armed outwardly with a fingle spine; antennæ short. Fabr. Cerambys cervicornis. Linn.

This infect is an inhabitant of America; the larva is eaten

by the Indians, and is effected a delicacy.

SPINICORNIS. Thorax armed on each fide with three teeth; black, gloffy; antennæ fhort; exterior joint spinous at the tip. Fabr. Native country unknown. Mus. Brit. Obs. This does not appear distinct from Prionus buphtalmus of the fame author, and Huffarus Ceylonenfis of Voet. Fabricius describes both specifically in the same words "Thorace utrinque tridentato ater nitidus, antennis brevibus; articulis ultimis apice spinosis."

CORIARIUS. Thorax margined, with three teeth; body pitchy; antennæ short. Cerambyx coriarius. Linn. Le Pri-

one. Geoffr. Cerambyx Prionus. Degeer.

This is an European infect, and is rarely found in England. Donov. Brit. Inf. Lives in the trunks of decayed trees. Fabricius supposes the Cerambyw imbricornis of Linnæus (Syst. Nat. 2. 624. 5.) to be only a variety of this infect, and entertains a fimilar opinion with regard to the

Lucanus tridentatus of Linnwus. Syst. Nat. 2. 560. 3.
GIGANTEUS. Thorax armed with two teeth on each fide; body black; wing-cases ferruginous; antennæ short.

The Fabrician Prionus giganteus is Cerambyn giganteus of the Linnwan mantiffa; this kind is of a large fize, as its

name implies, and inhabits Cayenne. CYLINDRICUS. Thorax margined, three-toothed, and

dufky; breaft and abdomen ferruginous; antennæ short.

This is the Cerambyx unicolor of Drury; inhabits North America. Blackburn. The antenna are compressed; head and thorax black; wing-cases pitchy.

ARMILLATUS. Thorax margined, with four fpines on each fide; wing-cases ferruginous with black margin.

This is of a very large fize, and inhabits India. It is the Ceramby: armillatus of Linneus. The front is retule ; jaws nereous-downy beneath; back grooved.

LUZONUM. Thorax margined with many fpines; jaws advanced, armed with a fingle tooth, and bifid apex; anterior legs elongated. Fabr. A native of South America, defcribed by Petiver. The antennæ are of moderate length, and black, with the fecond, third, fourth, and fifth joints muricated beneath; thorax black, ciliated at the edge with twelve spines; wing-cases mucronate, pale ferruginous, and flightly punctured at the base; anterior legs rough and prickly beneath.

SERRIFES. Thorax margined, with many fpines; jaws advanced, and tridentated at the tip; legs spinous and fer-

rated. Fabr. A native of Africa.

DAMICORNIS. Thorax margined, and denticulated; jaws advanced, bidentated; antennæ short. Fabr.

This is Cerambyx damicornis of Linnaus (Mant. 532.).

It inhabits America; and the larva is eaten.

BIFASCIATUS. Thorax margined and denticulated; body black; wing-cases red, with two black bands; antennæ fhort. Linn. Inhabits America, and is the Cerambys bifafciatus of Linnaus.

THOM E. Thorax with crenulated margin; body black; wing-cases glabrous and ferruginous; margin pale yellow. Fabr. Cerambyn Thoma. Acta. Scc. Berol. This is a native of the ifle of St. Thomas in America; wing-cases rounded at

BILINEATUS. Thorax with crenated margin and two white lines; wing-cases ferruginous with yellow margin and speckled with white. Fabr. Inhabits America. Mus. von

Robr.

SPINIBARBIS. Thorax with crenated margin; head spinous below the jaws, which last are armed with three teeth. Cerambyx Spinibarbis. Linn.

This is a native of South America; the jaws are large, thick, three-toothed within, with the tip emarginate.

PALMATUS. Sides of the thorax feabrous, with many teeth; posterior tooth palmated; antennæ short. Fabr. Inhabits Guinea. The head is grooved and black; antennæ compressed and dusky at the tip; thorax stat and glosly; wing-cases smooth, piceous, and mucronated on the suture at the tip; legs ferrated within.

Maxillosus. Thorax with crenated margin; jaws advanced, hairy within, and armed with four teeth. Fabr.

This is the Cerambyx maxillofus of Drury, and Prionus maxillofus of Olivier. It inhabits South America. The colour is gloffy black.

CANALICULATUS. Thorax with crenated margin and a villous white groove down the back; antennæ short. Fabr. Mus. Hunter, and Donov. A native of the American islands. The antennæ are short, compressed, and black; head without spots; scutel white and villous; wing-cases rather rough; legs black.

CINNAMOMEUS. Thorax with denticulated margin ; jaws advanced and armed with three teeth. Fabr. Ccrambyx cin-

namomeus. Linn. Inhabits South America.

MELANOPUS. Thorax with denticulated margin; jaws advanced and armed with many teeth; wing-cales mucronated. Fabr. Cerambyx melanopus. Linn. Cerambyx crenulatus. Drury. From the same country as the lait.

Spinosus. Thorax armed with many teeth, and black ; wing-cases tellaceous and one-toothed. Fabr. Inhabits Tran-

quebar. Mus, Hybner.

The head of this infect is grooved; the antenne fhort, compressed, and black; thorax very slightly margined, ci-

BARBATUS.

BARBARUS. Thorax with entire margin; jaws ferrugi-

Deferibed from the Bankfian cabinet as a native of South America. The antennes are rough, the last joint compressed legs black.

PECTINICORNIS. Thorax unarmed, teffaceous; antennæ

flort and pectinated. Olivier.

body, and greatly pectinated; jaws exferted, with a fingle tooth in the middle.

Anternæ setaceous and elongated; head large, obtuse, deelining; eyes reniform, and embracing the base of the antenow; thorax cylindrical and uneven; wing-cases as long as the abdomen; body cylindrical, Donov. Inf. N. Holland.

Genus Lamia. Feelers four, filiform; jaw horny, and bifid; lip cleft and horny; antennæ fetaceous. Fabr.

characters. Donov. Inf. N. Holland.

Lamia vermicularia is a new species lately discovered in New South Wales, and described among the infects of New Holland. It is of the middle fize, and entirely black, except the vermicular marks.

OBLIQUA. Thorax dentated, cinercous; wing-cases spinous, emarginate at the tip, and marked obliquely behind

with a whitish band. Donov. Inf. N. Holland

This is a fmall but elegant species, general colour pale testaceous and whitish varied with brown, and beset with ·numerous fmall denticulations.

GIGAS. Thorax armed with sharp spines, and rugged; wing-cafes cinereous, with a black marginal fpot, rough with two tubercles at the base; antennæ long. Fabr. Ohv. &c. Muf. Bankf.

This infect, which is of a large fize, inhabits the coast of Guinea. The antennæ are twice the length of the body, and pale testaceous; body brown; second pair of shanks armed with a fingle tooth.

TRIBULUS. Thorax four-spined; scutel and wing-cases

fpinous; antennæ longer than the body. Fabr.

Donov. &c. The antennæ are longer than the body, brown, with the base of the joints einercous; head and thorax brown and cinereous varied; fpines on the feutel two, and short; wing-cafes fame as the thorax, and pointed at the tip with a fhort denticle; a fmall tubercle at the end of the middle shanks of the legs.

Thorax and wing-cases spinous; anterior

thighs cornuted. Fabr.

D. scribed from the Banksian cabinet. This is a native of New Holland. The colour of the head grey; antennæ villous and moderate; thorax grey, rounded, with fix dorfal erect foines; wing-cafes grey, with lunate, marginal, cinereous fpet and band in the middle, and at the bale many erect black spines; horn on the anterior thighs long, tharp and curved.

FRONTICORNIS. Thorax spinous; a projecting recurved notched horn in front; antennæ long. Fabr. Cerambyx 2punchatus. Drury, Inf. Inhabits the Cape. The antennæ are long, and brown, and have the joints black at the tips; head brown, with black mandibles; thorax ipinous, rather rugged, brown with a broad white line on each fide beneath; wing-cases brown, with a few elevated dots at the base, two ocellated black spots in the middle, and a larger whitith one behind : abdomen and legs fufcous.

Thorax armed with five spines; wing-cases

This infect is a native of the Cape of Good Hope. The

CRISTA. Thorax armed with fliarp spines, grey; wingcases with a compressed tridenticulate tubercle at the base.

Discovered in New Zealand by fir Joseph Banks. The part of the wing-cases; thighs clarated and black, the club

AMBULATOR. Anterior part of the thorax furnished

with two spines on each side; body clouded. Fabr.

Described by Petiver as a native of America. The antenwing-cases speckled with numerous minute white vermicular ne are of a moderate length; thorax and wing-cases clouded

antennæ moderate. Fabr. Cerambya textor. Linn. Found in

CRUCIFERA. Thorax spinous, black; wing-cases with a cinereous femicircular fillet, and marginal dot; antenna

Native country unknown. The body is long, and of a dusky black colour; antennæ twice the length of the body; on each fide of the thorax an oblique faint ferruginous line; in the middle of the exterior margin of the wing-cases a

VAGINATOR Thorax fpinous, rugged, and black; wingcases ferruginous and emarginate; autennæ moderate. Fabr. Inhabits the East Indies. Lund. The antennæ are compressed

PULCHRA. Thorax fpinous, black with green dots on the anterior part and dots behind; wing-cases mucronated

at the base. Febr. Cerardys quicker. Duny.

truncated denticles; body varied with black and green;

longer than the body and black; head black, breated with green, and marked beneath each eye with a fulvous spot; thorax black, with three impressed green bands; wing-cases fomewhat flriated, and black; body green beneath; on each

UNDATA. Thorax unarmed, cinercous; a black waved band on the thorax and two on the wing-cafes. Fabr. Ce-

Native country unknown. Size of the L. regalis. An-

tennæ longer than the thorax, and black.

IRRORATA. Thorax fpinous, fuscous and ferruginous varied; wing-cafes black, speckled with ferruginous; antennæ moderate. Fabr. Voet. &c. Cerambye irroratus. Gmel. Inhabits the East Indies. Antennæ moderate, grey-

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ish; head fuscous, and ferruginous; mandibles black and glossy; scutel ferruginous; wing-cases pointed at the tip.

ÆDILIS. Thorax fpinous; with four yellow fpots; wing-cafes obtufe, grey and brown varied; antenne very long. Lamia ædilis. Fabr. Paykull, &c. Cerambyx ædilis. Linn. Gmel. &c.

Found in the trunks of trees in the northern parts of Europe, and is found, though rarely, in England. Donov. Brit. Inf. p. 72. The antennæ are rather more than three times the length of the body, measuring about three inches, the body better than three fourths of an inch. This spe-

cies is molt frequent in Germany.

ATOMARIA. Thorax fpinous, tuberculated, and cinereous; wing-cases suscept and rough, with black elevated dots; antennæ long. Fabr. Gerambyw atomarius.

Gmel.

According to Smidt this infect inhabits Germany. It refembles addils, but it is rather finaller. The antenna as long as the body, cinereous and black varied; thorax [pinous, with four tubercles on the back; wing-cases with four raised lines meeting behind, and sprinkled with black dots; body cinereous, speckled with black.

VARIA. Thorax spinous, and tuberculated; body varied with black and cinercous; thighs clavated; antenna moderate. Fabr. Inhabits the south of Europe, Zschuck, Ce-

rambyx varius. Gmel.

The antennæ are cinereous annulated with black; head brown; wing-cases rounded; body dark brown beneath;

shanks black annulated with cinereous.

Araneiformis. Thorax spinous and tuberculated; wing-cases porous; antennæ long, with a single tooth on the fifth joint. Linn. Sloane, &c. Inhabits South America,

PUNCTATA. Thorax spinous, fuscous, with white dots. Olivier. Cerambys punciatus, Gmel. A native of Cayenne. Antennes of moderate length, and black; head black, with two white detsabove the lip, and two others placed vertically; thorax tuberculate, with two larger marginal white dots, and two smaller dorsal ones; wing-cases black speckled with white. Resembles lamia ædilis.

Cancriformis. Thorax befet with many denticulations; back flat; wing-cafes and anterior shanks with a fingle tooth. Fabr. Cerambys puflulatus. Drury. Inhabits Jamaica. The antennæ are long; the first joint one-toothed at the tip; thorax cinercous, with sive or six small teeth on the margin disposed in two series; wing-cases cinercous, sprinkled with brown elevated dots; thighs clavated.

Nodosa. Thorax fpinous; wing-cases cinereous, with black spots; antennæ very long, with the third joint gibbous at the tip. Fabr. Cerambys nodosus. Gmel.

Described from a specimen in the British Museum, received from Maryland. The antennæ are sour times the length of the thorax; wing-cases slat, rounded, and dotted at the base.

TUBERCULATA. Thorax spinous and tuberculated; wingcases dotted and spined; antennæ long. Fabr. Olivier, &c.

.Cerambyx tuberculatus. Gmel.

Fabricius refers for this species to the Hunterian Museum. It inhabits Jamaica. The body is grey, with an angulated white band on the wing cases; antennæ suscept, with constitution of the cinercous at the tips; jaws black; thorax rough, with numerous elevated obtuse dots; wing-cases beset with many spines, which are sharp and black; legs black, the snanks with a white annulation.

HEBREA. Thorax armed with a sharp tooth, and bicarinated on the back; wing-cases cinereous, striated, and spotted with suscept. Grambyx hebreus. Gmel.

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Found in South America. Antenne floor and black. Thorax cinereous, with a thick and floor pine on each fide; two clevated lines on the back, black and glabrous; wing-cases rounded, cinercous, with the future and three strike brown, and between them numerous spots; legs cinercous. Cabinet of Dr. Hunter.

HORRIDA. Thorax acutely fpined, cinereous; wing-cafes fpinous; antennæ long. Fabr. Ceramlyæ horridut. Olivier. Inhabits Cayenne, and is rare. Muf. Donov. The antennæ are long, greyift, with the joints black at the tip; thorax greyift, with a thick, fomewhat bent, and

sharp-pointed spine; wing-cases spinous and grey.

SCORPIO. Thorax armed with four fpines; wing-cafes with granulated tubercles; anterior thanks dilated at the tip. Fabr. Geramlyn forpio. Fabr. Mant. &c. Inhabits South America. Antennæ short, cinereous, with the joints black at the tip; thorax cinereous, the four spines on the thorax black at the tip; wing-cases cinereous, veined, with black granulated tubercles; legs short.

GLAUCA. Thorax armed with five fpines, and glaucous; wing-cafes muricated, the fides and band black; antennæ long. Fabr. Cerambyw glaucus. Linn. Degeer, &c. This

species inhabits America.

Obf. The extremities of the wing-cases are furnished each

with a fingle tooth.

BIDENTATUS. Thorax fomewhat spinous; wing-cases bidentated, rough, cinereous, varied with susceptible substitutions. Fabr. Gerambyx bidentatus. Mant. Gmel. &c. Inhabits America. The antennæ are long; thorax unequal, and armed on each side with an obtuse spine; wing-cases rough, with acute elevated dots; thighs clubbed.

SCABRA. Thorax fpinous, and armed with three tubercles; wing-cases scabrous, with bidentated tip; antennat very long. Fabr. Olivier, &c. Cerambys scaber. Gmel.

Scc.

Described by Fabricius from a specimen in the British Museum. The antennæ testaceous, at the base of the tip cinereous; wing-cases testaceous at the base, with elevated glabrous dots; body cinereous; thighs clavated.

glabrous dots; body cinereous; thighs clavated.

PREMORSA. Thorax tuberculated; wing-cafes dotted, cinereous, tip fuscous and bidentated; antennæ long. Fabr. Cerambyx premorfus. Gmel. &c. Inhabits Guadaloupe. Cabinet of de Radier. One of the smallest insects in the lamia family. Antennæ twice the length of the body; thorax cinereous, with three dorsal tubercles, and two black spots on each side at the base; a few elevated dots on the wing-cases; thighs clavated.

SPINIFERA. Thorax fpinous, cincreous, and villous; wing-cafes bidentated, and tellaceous; antennæ long. Fabr.

Gerambyx Spinifer. Gmel.

This is about the middle fize. Antennæ longer than the body, and dufky grey; feutel yellowish; wing-cases smooth; body villous and grey. Inhabits South America. Mus. D. Pflug.

GRISATOR. Thorax unarmed, and greyift; two tubercles at the base of the wing-cases; apex spinous; antennæ short and villous. Fabr. Inhabits Tranquebar. Schlan-

busch

ÆDIFICATOR, Thorax fpinous and tuberculated; cinereous; wing-cafes with two tubercles at the bafe; antennæ moderate. Fabr. Inhabits the East Indies. Mus. Lund.

AMPUTATOR. Thorax spinous; wing-cases cinercous, sprinkled with black, and numerous tastaccous spots. Fabr. Inhabits the American islands, and is reported to gnaw round and cut off the larger branches of trees.

STERNUTATOR. Thorax spinous; wing-cases porous at

the base; antennæ moderate. Fabr. A native of Barbadocs.

Obf. The antennæ are blackifa, the extreme joint acute; thorax unequal; wing-cases obtuse and black; beneath cover-

ed with yellow hair.

SPINATOR. Thorax spinous, and, with the base of the wing-cases, finely wrought; apex grey; antennæ moderate. Fabr. Inhabits the Cape of Good Hope. Mus. Lund.

GUTTATOR. Thorax spinous; wing-cases testaceous, fprinkled with white; base with elevated glabrous spots.

Fabr. Olivier, &c. Gerambyn guttator. Gmel.

An African insect, described from the British Museum. The head is tellaccous, marked with a black longitudinal line; thorax testaccous, with a transverse ridge in the middle; wing-cases obtuse, speckled with yellow, and a few elevated red dots at the base

REPANDATOR. Thorax fpinous, dufky; wing cafes with a whitish serpentine band behind, and elevated black dots at the base. Fabr. Cerambyn repandator. Gmel. A native

of Cayenne.

NEBULOSA. Thorax unarmed, ferruginous, lineated with black; wing-cafes varied with fulcous and ferruginous, and a marginal cinercous spot; antennæ moderate. Fabr. &c. Inhabits Europe, and is found in England. Cerambyx ne-

VARIOLATOR. Thorax spinous and lineated; wing-cases fuscous, with a semicircular white line. Fabr. Inhabits the Indies. Antennæ longer than the body; thorax fuscous,

with white dorfal and lateral line.

SUTOR. Thorax spinous; wing-cases black, with ferruginous fpots; foutel pale yellow; antennæ very long. Fabr. Cerambyx futor. Linn. Cerambyx atomarius. De Geer. Inhabits the woods of Europe. The species has been found in England, according to Harris; (Vide Donov. Brit. Inf. &c.) but is very rare.

SARTOR. Thorax fpinous, black, with yellow fcutel; wing-oafes immaculate; antennæ very long. Fabr.

This refembles the laft, but is larger, and has the front between the antennæ, deeply grooved. Found by Zschuck on the horse-chesnut, &c. in the vicinity of Dresden.

DENTATOR. Thorax spinous, varied with suscous, and

cinereous. Fabr.

This refembles lamia futor, and inhabits Carolina. antennæ are thrice the length of the body, and of a ferrugi-

nous colour, but black at the base.

RETICULATOR. Thorax spinous, black; thorax fulvous, and lineated with black; wing-cases sulvous and reticulated with black. Olivier. Donov. Inf. China, &c. This very rare species inhabits China, and the bordering parts of India. length, and ferruginous, the first joint at the base black, the fecond gibbous at the base and tip, villous and black. Length of the body about an inch and an half.

SCALATOR. Thorax armed with acute fpines, and black; wing-cases with numerous interrupted white lines; antennæ moderate. Fabr. A native of Louisiana. Size of the last. The head is black; band above the shield and orbits white; fides of the thorax and two broad lines white; shells black and gloffy, the edge and future ramifying into numerous in-

terrupted ilreaks; body cinereous and downy.

Molaron. Thorax fomewhat fpinous, dufky, cinereous, with fulcous spots; wing-cases rusous at the tip. Fabr. Inhabits Cayenne. The antennæ are of moderate lize and suscous; head cinercous, rufous in front; thorax rufous on the anterior and polterior margins; wing-cales obtule; abdomen

TITILLATOR. Thorax spinous; wing-cases cinercous,

clouded with glaucous, and brown; antennæ very long and rufous. Fabr. This is a native of Carolina. The antennæ are red, with the first joint suscous; on the anterior part of the thorax two very small tubercles; wing-cases punctured, cinercous, with irregular brown and glaucous foots; fnanks of the legs rufous, the fecond pair with a flight gibbolity.

VITTATOR. Thorax spinous; wing-cases cinereous, and finely speckled or powdered, with two yellow stripes, and

This is the Cerambyx incanus of Forster, Nov. Sp. It is described by Olivier and Petiver, and has been found on the shores of Campeachy. The antennæ are of moderate size, varied with cinereous and fuscous; head cinercous, powdery, with two gloffy black lines; thorax cinercous, with three gloffy, black, longitudinal lines; wing-cases with a few black fpots at the base.

Oculator. Thorax spinous, black; wing-cases with

four subocellated spots; antennæ long. Fabr. Cerambyz oeulatus. Degeer. Inhabits the Cape of Good Hope. Thoray marked before and behind with two very thin, yellow, impressed lines; wing-cases somewhat striated, with four vellow foots encircled by a white ring, that nearest the base gin, the third in the middle, and the fourth near the tip. This is an infect of large fize, and very beautiful.

CAPENSIS. Thorax armed with two spines, black; wingcases with four rusous bands; antennæ moderate. Fabr. Cerambyx catenfis. Linn. This, as its name implies, is 2

HOTTENTOTTA. Thorax spinous and rusous; wingcafes black, with a band and two marginal spots, sanguincour. Fabr. Cerambyn hottentottus. Gmel. Cerambyn hottentotta. Brown's Illust. The antennæ are moderate; thorax feabrous, dusky, rusous; wing-cases with a brassy tinge; legs

FERRUGATOR. Thorax spinous, dusky, ferruginous; wing-cases dulky, greenish, with an interrupted sanguineous

flripe; antennæ long. Fabr.

Described from the cabinet of Spengler as an inhabitant of the Cape of Good Hope. The antenna are black; thorax fomewhat rugged, with a fmall denticulation on each fide; wing-cafes punctured, dufky, greenith, and gloffy; nous, the latter with black tarfi, and the shanks of the middle legs flightly toothed outwardly.

HUMERALIS. Thorax spinous; wing-cases vellow, fas-

ciated with black, and mucronated anteriorly. Fabr.

This elegant species is described by Fabricius from a specimen in the cabinet of the late Mr. Drury, now in Mus. Donov. The native country is unknown, but supposed to be South America. The antennæ are longer than the body, and black; head yellow, with four black lines; thorax yellow, with three black bands; the base emarginate at each fide; wing-cases yellow, with confluent bands; sternum advanced, and bidentated at the tip.

BIFASCIATA. Thorax spinous, and sinuate behind; wingcases yellow, with two bands and rhombic spot of blue. Fabr. Inhabits Jamaica. Mus. Brit. The antenna are rather longer than the body, and black; head yellow, with the orbits of the eye blue; thorax yellow, with blue poferior band; soutel at the base and tip blue; legs pale yellow,

with blue thighs.

TRIFASCIATA. Thorax fomewhat fpinous, black; three yellow bands on the wing-cases; antennæ moderate. Fal .. Cerambyx trifasciatus. Gmel. The thorax flightly tub. lated on each fide; yellow bands on the wing-cases broad; legs black, the shanks of the middle ones tuberculated at the

tip. This is a native of Sierra Leona. Herbst. Olivier,

5-FASCIATA. Thorax armed with two fpines, and black; wing-cases with five red bands; antennæ moderate. Pabr. Inhabits the coast of Guinea. Mus. Dr. Hert. The antennæ of this species are black; thorax scabrous, black, with short fpines on each fide; wing-cases scabrous at the base; body

Nobilis. Thorax fpinous and black; margin yellow; wing cases black, with three yellow bands, and two white dots. Fabr. A native of Cayenne. The antennæ are of moderate length, and black; head black, with yellow frontal spots, and two dots between the eyes; thorax velvety, black with yellow margin, and white at the bafe; fpine near the base black; wing-cases velvety, black, with an interrupted yellow band at the base, the middle band sinuate, that at the tip abbreviated; the two white dots fituated between the fecond and third band.

CURCULIONOIDES. Thorax unarmed, fuscous, with four black ocellated fpots on the thorax and body. Fabr. Ccrambys curculionsides. Linn. Inhabits the fouth of Europe.

Geoffr. Schæffer, &c.

AETHIOPS. Thorax fpinous; black; wing-cafes with two yellow bands and a dot at the tip; antennæ moderate.

The antennæ are black; head grooved; thorax rather rough; wing-cases velvety, black, with two yellow bands; the dot at the tip very finall, and fometimes wanting; legs compressed and black. Mus. Brit. Inhabits the Cape of Good Hope.

VARIEGATOR. Thorax spinous and cinereous; thorax and wing-cases varied with brown; antennæ long. Fabr.

From the Bankfian cabinet. Found in Africa. The antennæ are fuscous; head, thorax, and wing-cases with an intermixture of brown and cinereous; mouth black.

Lusca. Thorax spinous, rough, black sprinkled with ferruginous; at the base of the wing-cases a large black ocellar spot; antennæ very long. Fabr. Cerambyn luscus. Gmel.

This inhabits Siam. The antennæ are black; head blackith, with a few ferruginous dots; thorax fomewhat rough, black, with a feries of ferruginous dots on each fide; wingcases obtuse, and nearly truncated; legs black; shanks of the middle pair armed with a fingle tooth on the back.

NOTATA. Thorax spinous, dusky, two approximate black dots on the wing-cases. Fabr. Gerambys notatus. Gmel. &c. Inhabits Cayenne. The antennæ are moderate; body above fuscous, beneath black; a series of impressed dots on the thorax; wing-cases dotted, and fuscous. Mus.

LUGUERIS. Thorax acutely spined and black; wingcafes rough, with obfolete ferruginous; antennæ very long. Fabr. Cerambywitalicus. Gmel. Inhabits Italy. Schlanbufch. The antennæ are twice the length of the body, and black; body black; legs black, with a small elevated obtuse tooth at the extremity of each of the four anterior shanks.

TRISTIS. Thorax spinous, fuscous, with rough wingcases; with two black spots; autenna moderate. Fabr.

Is found on the cypress in the fouth of France, Olivier. The antennæ in one fex is twice the length of the body, in the other the same length as the hody.

FENESTA. Thorax spinous, suscous; wing-cases smooth

with two black spots; antennæ short. Fabr.

Lives in the fouth of France, chiefly on the Elder. Dr. Broufonet. This is only half the fize of the preceding spe-

PUNCTATOR. Thorax spinous black; wing-cases dotted with white; antennæ long. Fabr. Donov. Inf. China, &c.

This kind inhabits China, and has been described under feveral names by different writers; it is the Cerambyx farinofus of Drury. Cerambys punctator. Olivier. Cerambys chinenfis. Forster. nov. Sp .- Obs. The antennæ are black, with the joint at the base pale; wing-cases rough at the bafe; legs black.

FASCICULATA. Thorax fpinous and hairy: wing-cafes tufted with hair. Fabr. Lamia fasciculata. Oliv. Cerambys fascicularis. Gmel. A native of Cayenne. This species is of the middle fize. The antennæ are of moderate length, black, with the first articulation yellow and villous; thorax armed with sharp spines, and thickly covered with palish hairs; wing-cates fuscous, with one or more whitish dots, black elevated futural line, three tufts of hair near the bafe, and two contiguous pair near the apex; legs variegated.

ROTATOR. Thorax fpinous and cinereous; wing-cales fomewhat fasciated; antennæ moderate. Fabr.

The joints of the antennæ are cincreous with fuscous tips; head furrowed, cinereous, with black feelers; wing-cases cincreous, and fomewhat banded with brown. This species inhabits India.

GLYCYRRHIZE. Thorax spinous, black; wing-cases bicarinated and lineated with white; legs ferruginous; an-

tennæ thort. Fabr. &c.

Discovered by Pallas in Siberia. Described by Subzer under the name of Cerambyx ovatus. Head black, with a whitish daub at the base; antennæ short, black, the first joint ferruginous and black at the tip; three white lines on the thorax; future white; legs ferruginous and white at the

CRUCIATA. Thorax spinous, black, a white cross in the

middle of the wing-cases. Fabr.

The antennæ of this infect are short and black; head black; thorax black, with a dorfal white line; legs black. Inhabits the fouthern part of Ruffia. Boeber. Cerambyx cru-

ciatus. Pallas, Icon. &c.
Fullginator. Thorax fomewhat fpined, and black; wing-cases greyish; antennæ short. Fabr. Cerambys fuliginator. Linn. Geoffr. &c. Inhabits the fouth of Europe. This infect is faid to become gradually darker as it advances in age.

CINERARIA. Thorax spinous, cinereous; antennæ short.

Fabr. Cerambyx cinerarius. Pallas, Icones.

This is a native of Russia, and is about half the fize of the preceding species.

CARINATA. Thorax spinous, black; wing-cases piccous; elevated lateral ridge whitish; antennæ short. Fabr. Ceram-

byx carinatus. Gmel.

This is a Siberian species, described from a specimen in the Banksian cabinet. The antennæ are short, thick, and black; head and thorax punctured with impressed middle line; wing-cases obtuse; body beneath whitish.

Cocuus. Thorax flightly spinous, and hirsute; wingcases obtuse, furrowed, black, with the anterior part ferruginous; antennæ moderate. Linn. A native of North

America. The thoracic spines are very minute.

RUSPATOR. Thorax Ipinous, brown, with two ferruginous dots; wing-cafes brown, variegated with cinereous. Fabr. Inhabits Africa. The antennæ are moderate, and fuscous; head fuscous; scutel ferruginous; wing-cases ob-

tufe and dotted; body brown.

TORNATOR. Thorax spinous with four dots; wingcases rusous, with four black spots; antennie short. Fabr.

Cerambys tetrophialmus. Forster. A native of North

Ppz

America. The antennæ are black; head rufous with an elevated black dot at the bafe of the antennæ; thorax obtufely fpined at the fides, rufous with four black dorfal dots; body beneath black changeable to cinercous.

BANKII. Thorax fpinous grey; wing-cafes fprinkled with ferruginous, with two cinercous bands. Fabr. This kind inhabits the Cape of Good Hope. It is of a fmall fize. Antennæ moderate, varied with fufcous and cinercous; thorax with two fhort spines at the anterior part on each fide, and sprinkled with ferruginous.

SALTATOR. Thorax unarmed, greyift; with two abbreviated white bands, composed of three or four white spots, and a white punctured streak behind; antennæ short.

Fabr.

Native country of this species unknown. This is of a small fize; thorax with a white dorsal line; wing-cases dotted, obtuse, safeiated, and spotted with snowy white.

HISTRIO. Thorax unarmed and yellowish, fprinkled with numerous snowy-white dots; antennæ short. Fabr. Inhabits Tranquebar. Must. Lund. The antennæ are short and greyish; head punctured, yellowish with obsolete whitish spots; thorax rounded, unarmed, dusky, yellowish, with many distinct snowy dots; wing-cases punctured, yellowish, with numerous snowy dots; body yellowish.

TESTATOR. Thorax spinous, with a short recumbent horn; body testaceous; antennæ short with black tip. Fabr.

The body of this infect is fhort, villous and teflaceous; head large, and flat in front; thorax with a fhort broad recumbent horn in the middle having the tip retufe; wingcafes villous, ftriated, and without fpots.

PEDESTRIS. Thorax fpinous and black, with an entire white stripe; antennæ moderate. Fabr. Cerambyæ pedef-

tris. Linn. Inhabits the fouth of Europe.

RUFIPES. Thorax fpinous, black, future of the wingcafes white; bafe of the antennæ and legs rufous. Fabr. Inhabits Hungary. Refembles L. pedgfris in fize and appearance. The antennæ are compreffed and black, except the first joint at the base which is rufous; head and thorax rusous and without spots; wing-cases smooth and black, with white suture; legs rusous.

MGRIO. Thorax prinous, black; wing-cases of one colour; antennæ short. Fabr. Inhabits the south of Germany, Zschuck. Rather larger than Lamia pedestris; the elytra of one colour, sometimes black, sometimes tellaceous; antennæ black, with the first joint usually tesseus.

taccous.

LINEATA. Thorax fpinous black; margins of the wingeafes, and two longitudinal lines, that unite at each end, white. Fabr. Cerambyx Scopoli. Herbit. Inhabits Germany. Head and thorax black with a white line on the

back; legs black.

MOLITOR. Thorax fpinous, and fuscous, with three entire white stripes; antennæ moderate. Fabr. Inhabits India. Deferibed from a specimen in the British Museum. The body is brown above, with three white lines, extending from the head to the extremity of the wing-cases, a small line between the broader one at the base of the latter; thorax with a lateral tubercle.

TUBERCULATOR. Thorax unarmed, grey; wing-cases with two tubercles at the base, and two common white

spots: antennæ short. Fabr.

The antennæ are cinereous; tubercles on the wing-cafes compressed near the suture; anterior spot large.

MUTATOR. Thorax unarmed, cinercous, with a pale line on each fide; body villous; antennæ and legs teltace-

Inhabits Otaheite. From the Banksian cabinet. The antennæ are of a moderate length; wing-cases punctured and obtuse.

Rubus. Thorax armed with two fpines, and bimaculated; wing-cafes rough at the bafe, and mucronated at the bafe and apex. Fabr. Cerambys rulus. Linn. A native of China, and fome parts of India. Donov. Inf. China.

S-MACULATUS. Thorax fpinous and bimaculated; wingcases spotted with white; at the base rough and mucro-

nated; tip bidentated. Fabr.

Nearly allied to L. Rulus, of which it is supposed by some to be a variety. The antenne are longer than the body, rough and black; thorax unequal, acutely spined, with two lunate impressed yellowish dorsal lines; scutel whitish; wing-cases cinereous, and rough, with black raised dots at the base; in the middle four whitish spots, the second of which is largest, the fourth small and rounded; side white.

Spinicornis. Thorax fpinous and rough; wing-cases truncated and grey; antennæ compressed, joint at the tip

fpinous. Fabr.

A native of Africa. The antennæ are moderate, and compreffed, joint at the tip acutely fpined outwardly; head black; thorax rough and grey: wing-cases smooth, truncated, and somewhat spinous.

SCABRATOR. Thorax fpinous, fomewhat teflaceous; wing-cafes with rough black dots at the bafe. Olivier, &c.

Antennæ moderate, with the joint at the tip black; wingcafes fomewhat emarginate at the tip, and pointed at the future. Inhabits the East Indies. Banksian cabinet.

Spengleri. Thorax fpinous, and tuberculated; cine-reous; wing-cafes rough, with two lateral black fpots.

Fabr.

From the cabinet of Spengleri. A native of South America. The antennæ are long, cinereous, with the joiats fuscous at the tip; thorax obtusely spined on each side, with three dorfal tubercles.

FUSCATOR. Thorax armed with two fpines, and tuber-culated; wing-cases three-toothed at the tip, and grifeous,

with a cinereous band. Fabr.

Inhabits Tranquebar. This is of the middle fize. The antennæ are rather shorter than the body, and greyish; thorax unequal, with two spines, the anterior one largest, recurved, and above them a large obtuse tubercle; wingcase cincreous, or griscous, sprinkled with numerous ferruginous dots; legs grey.

BIDENS. Thorax acutely fpinous, grey; wing-cases bidentated at the tip. Fabr. This species inhabits New Holland. The antennæ are long and suscous, and the legs

unarmed.

CRANTOR. Thorax unarmed, cinereous with black dots; wing cases pale testaceous; tips bidentated, cinereous.

with black spots. Fabr.

Inhabits China. Cabinet of Schlanbusch. The antennæ moderate and black; head cinereous with two dots, and small black line at the base; scutel black, with cinercous margin; wing-cases pale testaccous, dotted at the base, and bidentated at the tip, cinereous, with a black spot; body and legs black, with cinereous down.

Lerrossa. Thorax spinous; wing-cases variolous at

the base, with a large lateral spot of black; antennæ long.

Fabr. Cerambyx leprofus. Gmel.

A native of America. The antennæ are dusky and rufous; thorax uneven on the back; wing-cases with large impressed dots at the base; behind smooth and cinereous, with a small spot in the middle; on each side, at the base of the abdomen, a snowy spot; legs cinereous. SOLANDRI. Thorax fomewhat spinous and black; wingcases bidentated, sprinkled with suscepts and cinereous. Fabr.

Inhabits New Holland. The antennæ are moderate and black; thorax fomewhat rough, and black with a small acute anterior spine each side; scutel black; wing-cases dotted, black sprinkled with cinereous; gibbous at the shoulder, and bidentated at the tip; legs black, with the soles of the feet susceptible.

CORNUTOR. Thorax obtufely spined; jaws cornuted at

the base; antennæ very long. Fabr.

Inhabits America. It is figured by Olivier from a specimen in the British Museum. The antennæ are black; head grooved and black; jaws advanced, sharp pointed, with a thick horn-shaped clevated tubercle at the base; thorax black and without spots; wing-cases dotted, black, with yellow spots, a small inflected spine at the base; tip rounded and unarmed.

UNGARICA. Black; head and thorax fpinous; longitudinal line, future, and three lines on the wing-cases white.

Herbit. Cerambys Ungaricus. Gmel.

TRIFASCIATA. Thorax fpinous; wing-cafes convex, black, with three interrupted fearlet lines; narrow towards

the apex; autennæ long. Gmel.

Daviesii. Black, thorax fpinous, with numerous fulvous dots and fpots; wing-cafes fomewhat triangular. Swederus, Nov. Act. Stockh. This inhabits the bay of Honduras.

Genus STENOCORUS.

Antennæ long and filiform; eyes reniform, embracing the base of the antennæ; thorax round; wing-cases length of the abdomen, frequently with two teeth at the aptx; body somewhat cylindrical. Donov. Inf. N. Holland.

Genus STENOCORUS. Antennæ .four, anterior ones filiform, posterior clavated; antennæ setaceous. Fabr.

PUNCTATUS. Thorax fomewhat fpinous and fufcous; wing-cafes dotted, anterior part fubrugofe, apex bidentated, with three yellow fpots. Donov. Inf. N. Holland. A new species recently discovered in New South Wales.

SEMIPUNCTATUS. Thorax fpinous, and fuscous; anterior part of the wing-cases rough, with dots, and banded with yellow; posterior part smooth; apex bidentated with two yellow spots. Donov. Inf. N. Holland. From the same country as the preceding.

Lamed. Thorax pubescent; wing-cases fastigiate, livid, with a dusky sinuate stripe down the middle. Fabr. Ceram-

byx lamed. Linn. This inhabits Europe.

CYANEUS. Thorax fomewhat spinous, azure, with the

wing-cases yellow at the base. Fabr.

This is an Indian species, first described by Forster under the title of Cerambyx palliatus. The antenna are short and blue, with clavated joints; thorax narrow in front, behind somewhat spinous.

BIGUTTATUS. Thorax without spines, and serruginous;

BIGUTTATUS. Thorax without spines, and ferruginous; anterior part of the wing-cases rugose with dots, and spotted with testaccous; posterior part smooth, bidentated, and marked with a yellow spot. Donov. Ins. N. Holland.

marked with a yellow fpot. Donov. Inf. N. Holland.
GARGANICUS. Thorax fpinous; wing-cafes bidentated, and greyifh, with a yellow fpot; antenna very long. Fabr. Defenbed by Fabricius from a fpecimen in the British Mu-

feum. It is a native of Maryland.

FESTIVUS. Thorax armed with two teeth each fide; wing cases bidentated and greenish, with a yellow lateral line. Fabr. Cerambyx fellivus. Linn. Common in America.

Obscurus. Thorax rugofe, fpinous, fuscous; anterior part of the wing-cases rough, with dots; posterior part fmooth, glossy, and bidentated at the tip. Donov. Inf. New Holland. A new species.

MARYLANDICUS, Thorax depressed, tuberculated, unarmed; wing-cases bidentated, clouded with sulcous and cinereous; antennæ moderate, Fabr.

This infect inhabits Marvland The antennæ are forewhat fpinous; body entirely varied with cinereous and fuf-

cous.

SPINICORNIS. Thorax unarmed, tuberculated; wing-cases bidentated; joints of the antonnæ with two spines; body variegated. Fabr.

Inhabits America. The body is cinereous with raifed

cous dots.

BIDENS. Thorax unarmed, and fomewhat tuberculated; joints of the antennæ armed with two fpines; body tellactous. Fabr. Cerambys bidens. Olivier. Inhabits South America. Paykull.

IRRORATUS. Thorax unarmed and unequal; wing-cases bidentated and sprinkled with white; antennæ long and aculeated. Fabr. Cerambyx irroratus. Linn. A native of

America.

GLABRATUS. Thorax unarmed and cinereous, with a glabrous brown line; wing-cases bidentated. Fabr.

The antennæ of this species are moderate, brown with three joints spinous; wing-cases varied with grey, and brown. Inhabits the islands of South America. Rohr.

FARINOSUS. Thorax spinous, pitchy; wing-cases sprinkled with powdery dots; antennæ long. Fabr. Cerambyx fari-

nosus. Linn.

6-MACULATUS. Thorax fpinous, and ferruginous; wingcess pointed, with three yellow fpots. Fabr. &c. Cerambys
fex-maculatus. Olivier. This infect inhabits Cayenne. The antennæ are moderate, villous, and ferruginous; thorax ferruginous, with a small black spine on each side; wing-cases with
three large, oblong, yellow spots, and black spine at the apex.
5-MACULATUS. Thorax somewhat spinous, and rusous;

5. MACULATUS. Thorax fomewhat fpinous, and rufous; with four yellow fpots; wing-cases bidentated and rufous; two spots and line at the apex white; antenno very long.

Fabr.

This infect inhabits the island of Guadaloupe. Dr. Ifert. The antennæ are ferruginous; head ferruginous with the orbits of the eyes cinereous; thorax rough with lateral line and four dorfal fpots pale; fcutel whitish; wing-cases ferruginous with whitish spot, and double yellow pupil: body beneath whitish.

4-MACULATUS. Thorax spinous, and rough; wing-cases bidentated, with two pair of glabrous spots. Fabr. Cerambys quadrimaculatus. Linn.

A native of South America. Obf. The four posterior

thighs are fpinous.

Maculosus. Thorax fpinous, and fuscous; wing cases bidentated with two pair of glossy spots; antennæ moderate and black. Fabr. Cerambya maculosus. Olivier.

The head is fuscous with ferruginous lip; thorax fpinous, fuscous, and without spots; wing-cases pale; legs black

with rufous thighs.

GEMINATUS. Thorax unarmed, black, with rufous foot on each fide; wing-cases black; with two pair of glabrous

fpots; antennæ very long. Fabr.

A native of Sierra Leona. Pflug. The antennæ are biack; head rufous with a black dot in front; wing-cafes truncated at the tip, and gloffed with cinereous; legs black; thighs rufous; the four posterior ones spinous at the tip.

PALLENS. Thorax unarmed and pale: wing-cafes with a fingle spine and three black dots; antenne long. Fabr.

This kind inhabits South America. It is of the middle fize. The antennæ are long, and pale, testaceous; eyes palish.

STREPENS.

STREPENS. Thorax unarmed, tapering in front, and fer-

The autenum are compressed, moderate, and ferruginous; maculate; body ferruginous. Olivier describes this infect as a native of Provence, and observes that it flies by night with a buzzing noife.

FASCIATUS. Thorax unarmed and black; wing-cafes

This kind inhabits Africa. The antennte are moderate, and black; head yellow, with three black lines; thorax black above, beneath yellowith; wing-cafes dotted at the

of the bafe, and black tip.

CIRCUMPLEXUS. Thorax unarmed, ferruginous; wingwifes fingle toothed and teffaceous, with two dots and un- ne are longer than the body and fuscous; head and thorax dulated fuscous streak. Fabr. Inhabits Cayenne. Von Rohr. The antenue are moderate, and ferruginous, wing-

NANUS. Thorax rounded, unarmed, grifeous, with tel-

The country of this species is unknown. The fize is imail; antennæ moderate, villous, and cinereous; head and thorax grey, without fpots; wing-cafes grey, with two longitudinal abbreviated black lines; legs testaceous with very thick thighs.

10-Maculatus. Thorax fomewhat fpinous, with four ipots; wing-cases bidentated, ferruginous, with yellow and cinereous spots. Fabr. A native of America, described from the Banksian cabinet. The antenno are long and fer-

Annulatus. Thorax lineated; wing-cases armed with a fingle tooth; antennæ long, with three white rings. Fabr. Cerambyx annulatus. Olivier. Cerambyx hirtipes. Degeer. The antennæ are ferruginous, with the third, fourth, and latt joint annulated with white; head fuscous with two white lines; thorax grey with four white lines; wing cafes grey, with fuscous tip and white margin, truncated and

fingle toothed; legs fuscous, with cinereous rings.

Lineola. Thorax spinous, ferruginous; wing-cases cointed and teffaceous, with three small giosfy yellow lines. Fabr. Gerambyx brafilianus. Gmel. A native of Brafil. The head is ferruginous; antennæ longer than the body, black, with the first joint ferruginous; wing cases armed with a fingle fpine at the tip; legs black; thighs yellow, the four posterior ones armed with a thick black spine at the tip.

VARIUS. Thorax fomewhat spinous; wing-cases bidentated, cinereous, fuscous, and yellow varied; the base at the

angle compressed. Fabr. Cerambys: eayennensis. Gmel.
This is an insect of small size. The general colour is cinercous; antennæ longer than the body, cinercous, with the and dots; wing-cases emarginated, and bidentated at the tip.

Pubescens. Thorax fpinous, and black; wing-cafes with a fingle spine at the tip, base tellaceous; antennæ long. Fabr. Cerambyx pubescens. Olivier. A native of Cayenne. This species is small; the antennæ are longer than the body, black and spinous at the joints; thorax spinous and tubercu-

VILLOSUS. Thorax unarmed, dufky, with cinereous down; wing-cases bidentated. Fabr. Inhabits Carolina.

DRURII. Thorax fomewhat spinous; wing-cases truncated, bidentated, ferruginous, with cinercous bands; antennæ short. Fabr.

Deferibed from a specimen in the cabinet of Drury. The violaceous. Fabr. Cerambyn ebulinus. Lian.

antennæ are shorter than the body, and piccous; thorax armed with a fmall spine on each fide, and marked with a few raifed tranverse lines; wing-cases truncated at the tip, binereous bands, which unite at the future; break ferruginous, with two large white spots on each fide; abdomen with three

UNDATUS. Thorax fpicous, cinereous; wing-cases bidentated, with two waved black lines. Febr. Inhabits America. The head is cincreous; eyes black; antenna,

Rusticus. Thorax fpinous, ferruginous brown; wing-

An infect of middle fize, that mhabits India. The antendusky, ferruginous and downy; wing-cases smooth, paler and bidentated at the apex. Corumbys ruricola. Ginel

QUADRIGUTTATUS. Pale tellaceous; thorax fomewhat

Stockh. Inhabits Honduras.

A native of Europe.

FERRUGINOS s. Blackish; wing-cases ferruginous; antennæ spinous inwardly. Rozier Journ de Phys. A native

of America.

HIEROGLYPHICUS. Beneath houry; head and therax

of each wing-cafe. Pallas. Inhabits the fame country as

Genus Callidiums

Antennæ setaceous; head ovate-obtuse, and inserted; eyes lateral, reniform, and embracing the bair of the antenne; thorax flat, with rounded and rather prominent margin; fomewhat depressed, and often pubescent; legs elongated and formed for running; thighs often clavated.

Genus Callidium. Feelers four, clavated; jaw mem-

branaceous and bifid; lip two-cleft; antennæ setaceous.

OBSCURUM. Thorax fomewhat villous, fufcous; wingcases tellaceous, varied with cinereous; antennæ moderate.

The antenna are pubefcent and fuscous; wing-cases dusky

at the bafe; legs tellaceous.

Bajulus. Thorax villous, with two tubercles; body FENNICUM. Thorax tuberculated and rufous; wing-cales

violaceous; antennæ moderate. Fabr. Cerambye fennicus. Linn. Leptura atra. Geoffr. A native of Europe.

RUFICOLLE. Thorax fomewhat cylindrical, spinous, and rufous, black; wing-cafes violaccous; antenræ moderate, and pitchy. Fabr. Saperda ruficollis. Fabr. Mant. Cerambyx ruficellis. Cimel. Inhabits Italy. The head is black, antennæ moderate and pitchy; thorax hairy, and rufous; legs black; thighs fomewhat clavated. Fabr

EBULINUM. Thorax tuberculated and black; wing-cases

Found

Found on plants in Africa. Vahl. The antennæ are moderate, ferruginous, with the first joint thick, and black; body black; wing-cases smooth, violaceous and glossy; thighs clavated.

AENEUM. Fuscous, thorax and wing-cases brastly green; thighs ferruginous. Fabr. From the Hunterian muleum.

The antennæ are black; thorax without tubercles, pubefcent and braffy; wing-cafes pubefcent, and gloffy; body black; legs black, thighs somewhat compressed and rusous, with the knees black. Inhabits India.

FULCRATUM. Thorax naked and gloffy; body black; thighs rufous; antennæ moderate. Fabr. Inhabits Saxony,

Hybner. Obf. All the thighs are compressed.

VIOLACEUM. Thorax fomewhat pubefcent; body vio-

laceous; antennæ short. Fabr.

Linnæus describes this insect under the name of Cerambyx violaceus. It inhabits woods in Europe, and is rarely found in England. Donov. Brit. Inf. This kind is highly detrimental to timber, especially fir, that has been felled fome time, and has not been divested of the bark, beneath which it bores ferpentine cavities in the wood in various directions. Tranf. Linn. Soc.

FEMORATUM. Thorax naked; body black and opake; thighs red; antenne moderate. Fabr. This is Cerambya fe-

moratus. Linn. Inhabits Germany.

Spinosum. Thorax fpinous, naked, black, antennæ fhort. Fabr. Inhabits Hungary. Hybner. The antennæ are black; head grooved; thorax flat, naked, fmooth, black and without fpots, with a sharp spine each side; wing-cases fmooth, gloffy and black; legs black, thighs thick.

CLAVIPES. Black, opake, all the thighs clavated; antennæ long. Fabr. A native of Germany. Mus. Hattorff.

AMETHYSTINUM. Pubefcent, azure, with rufous legs; thighs clubbed and black. Fabr.

This infect is small, pubescent, azure, and glossy; antennæ short, black, and rufous at the base; legs ferruginous, with all the thighs clavated; club large and black.

BIFASCIATUM. Thorax pubefcent, black; wing-cafes

with two rufous bands.

Described from a South American insect in the Banksian cabinet. Fabr. The antennæ are moderate, with the joints two-spined at the tip; thorax with two tubercles; legs

black; thighs fomewhat clavated.

ACUMINATUM. Thorax warted and blackish; wingcases pointed and greenish. Fabr. A native of the Cape of Good Hope. The antennæ are moderate, fuscous, with the tips of the joints spinous; thorax rounded, black, with many elevated tubercles; wing-cases greenish, with blue suture, tip sharp-pointed; legs black; thighs clavated, the club red.

Russicum. Thorax warted, black, wing cases tellaceous, with a black spot in the middle, and black tip. Fabr. Inhabits Ruffia. Head black, antennæ moderate; legs un-

armed and black.

VARIABILE. Thorax glabrous; body fuscous, and braffy; antennæ and legs rufous. Fabr. Cerambye variabilis. Linn. Callidium ungaricum. Herbit. Inhabits Europe.

RUSTICUM. Thorax naked; body lurid; antennæ short. Linn. Syft. Nat. Inhabits woods in Europe, and is found

in England.

SERICEUM. Thorax velvety, cinereous; wing-cases teltaceous, with red elevated dots, and fnowy foutel. Fabr. Callidium bolofericeum. Rofs. Fu. Etr. Inhabits Barbary. Vahl. Antennæ moderate, filky; body entirely cinereous velvety; wing-cases testaceous, with many elevated red dots.

TENEBROSUM. Thorax tuberculated, dusky, rufous, with black dorfal lines; wing-cafes cincreous, depressed, with two elevated black lines. Fabr. Inhabits Cayenne. Olivier.

VITTATUM. Thorax rounded, naked: wing-cases ferruginous, with a black stripe in the middle; antennæ long as the body. Fabr.

The antenna are ferruginous, fecond joint long, incurved, and fomewhat fpinous at the tip; body dufky; thighs cla-

vated.

AGRESTE. Thorax naked, black; wing-cases striated, fuscous; antennæ short. Fabr. Inhabits Saxony. Hybner.

STIGMA. Thorax dotted; body black; wing-cases smooth, with a white fligmate spot. Cerambyx fligma. Linn. A native of America.

FUGAX. Thorax hairy, fuscous; joints of the antennæ

rufous at the bafe. Fabr.

Found in Provence. Olivier. The head is small, entirely black and fufcous; thighs clavated, shanks testaceous.

PYGMÆUM. Thorax naked; body fuscous; antennæ long and yellowish. Fabr. Saperda minuta. Fabr. Mant.

This kind inhabits Italy, and has been found in England; antennæ longer than the body, and yellow; thighs cla-

EQUESTRE. Thorax unarmed, naked, black, and gloffy; wing-cases with a red interrupted band. Fabr. A native of Cayenne. Muf. von Rohr.

FULVICOLLE. Thorax unarmed, fulvous, black, with

very long antennæ. Fabr. Inhabits Surinam.

HIRTUM. Thorax rounded and hairy, wing-cases point-

ed, and pale testaceous. Fabr.

Described from the Banksian cabinet. The antennæ are compressed, and black; legs black.

PUBESCENS. Thorax rounded, pubescent, and testaceous; wing-cases greenish, and at the base testaceous. Olivier, &c. A native of the Cape of Good Hope.

BARBATUM. Thorax rounded, beneath on each fide a downy ferruginous spot, antennæ very long and bearded. Olivier. This infect inhabits Tranquebar. Dr. Kocnig.

GRISEUM. Thorax rounded and pubefcent; body dufky, cinereous; antennæ very short. Fabr. Found in Barbary. Desfontaines.

COMPRESSUM. Thorax smooth, dusky, black; antenna: long and with the legs testaceous. Olivier. Gerambyw compressus. Gmel. &c.

Inhabits Siam. Described from the Banksian Cabinet. The head, thorax, wing-cases, and body are smooth; abdo-

men testaceous; thighs much compressed.

VARIEGATUM. Back of the thorax glabrous, black, with four white lines, and the wing-cases sprinkled with yellow-Fabr. Olivier, &c.

The antennæ are of moderate fize, black, with the two extreme joints ferruginous; head black, with two whitish lines, and transverse threak; fides of the thorax sprinkled with yellow; three lines on the wing-cases rather elevated, black, and thickly sprinkled with yellow dots; abdomen black, and speckled with yellow on both sides; legs blackish, with elongated thighs, the posterior ones ringed with white. Banksian Cabinet. Inhabits New Holland.

LINEATUM. Thorax with two white lines, and four on the wing-cases, the middle ones uniting, and abbreviated.

Fabr. Olivier, &c.

Antennæ short, with the first joint ferruginous; lip whitish, with three black lines; scutel whitish; wing-cases obtufe; abdomen whitish, in the middle black; legs ferruginous, with black joints. A native of New South Wales. Cerambyx australis. Gmel. &c.

SULCATUM. Tho ax downy cincreous; wing cases white,

striated with black. Olivier.

This is a native of New Zealan!. The antenne are short

and fuscous; head cincreous, with a black, frontal, elevated line; lines on the wing-cases elevated and gloffy; legs

Testaceum. Thorax fomewhat tuberculated; body tellaccous; antennæ moderate and fuscous. Fabr. Ceram-Lyn teflaceur. Linn. Found in woods in Europe.

SANGUINEUM. Thorax fomewhat tuberculated, and,

with the wing-cases, sanguineous; antennæ moderate. Fabr. La lepture veloutee couleur de feu. Geoffr.

A Linnwan species, Cerambys fanguineus of that author. Inhabits European woods; once met with in Wales. Muf.

PILICORNE. Thorax forewhat tuberculated and ferruginous; wing-cafes tellaceous; antennæ moderate and villous;

Inhabits South American islands. This is of the middle fize; head ferruginous; wing-cafes fmooth; legs tella-

ceous, with the thighs much compressed.

PREDUSTUM. Thorax flightly tuberculated and teftaceous: wing-cafes violaccous at the tip. Fabr. Allioni.

Perhaps a variety of the Linnman Cerambyn teflacous. The antennæ are moderate, fuscous at the tip; thighs cla-

LIGNEUM. Thorax tuberculated, villous, and black; wing-cases red, with spot and tip violaceous. Fabr.

The body is black; thorax flat, villous, black, with gloffy elevated tubercles; legs black, with compressed thighs. Schulz.

LURIDUM. Thorax fomewhat tuberculated, naked, black; wing-caf s fmooth and testaceous. Fabr. Cerambyx

luridus. Linn. Inhabits European woods.

FLAVITLS. Thorax rounded, pubefeent, ferruginous; FLAVITIES.

legs tellaccous. Fabr.

A native of the Cape of Good Hope. This is small; ferruginous, with the eyes black; thorax rounded, downy, fomewhat tuberculated, and ferruginous; wing-cafes rather paler.

Fuscum. Thorax fomewhat tuberculated, grooved, and naked; wing-cases striated, dusky, testaceous; antennæ moderate. Fabr. Inhabits Saxony. Hybner.

The antennæ are fuscous; legs black, with short, thick,

and compressed thighs.

4-MACULATUM. Thorax villous, fuscous; wing-cases with two ferruginous spots on each; antennæ long. Fabr.

A native of the island Guadaloupe, and described by Fabricius from the cabinet of Badier. This is of a small fize, and dufky; antennæ longer than the body, somewhat ferruginous, and dusky at the base; head and thorax villous and fuscous; legs dusky, ferruginous, with clavated thighs.

HAFNIENSE. Thorax fomewhat villous and black, with four white lines, the inner ones abbreviated. Olivier, Fabr.

&c. Cerambyn lisiatur, Linn. Inhabits Europe.
RUFIFES. Thorax fmooth and gloffy; wing-cafes violaceous; shanks rufous; antennæ short. Fabr. Cerambyw

erythropus. Gmcl. &c.

Inhabits Germany. Muf. Hattorff. Antennæ fufcous, and, at the base ferruginous; head and thorax smooth, violaceous, and gloffy; body braffy; legs violaceous, with rufous shanks; posterior thighs clavated, and rufous at the

STRIATUM. Thorax glabrous; body black; wingcases striated; antennæ short. Fabr.

Europe; is faid to have been found in England.

BICOLOR. Thorax glabrous and yellowish; head and wing-cafes greenish; antennæ moderate and black. Fabr. Inhabits South America. Smaller than the last; thorax

flat, fmooth, and yellow; wing-cafes fmooth, green; legs black. LYNCEUM. Thorax rounded, fomewhat spinous, villous,

Fabr. Cerambys: lynceus. Olivier.

A native of the Cape of Good Hope. Thorax armed on

Salicis. Thorax tuberculated, fpinous, and rufous: breatt and wing-cafes black. Fabr. Rhagium etrufeum. Roffi. Stenocorus ruficollis. Herbit.

Inhabits Europe, and is found on willows. Antennæ fhort and rufous; wing-cafes flightly ftriated; abdomen and

legs rufous.

CYANEUM. Thorax flat, tuberculated, villous, and vialaceous, last fegment but one ferruginous; antennæ mode-

fhanks teltaceous. Fabr. A native of Germany. Ceram-

BIMACULATUM. Thorax rounded, villous, fuscous, with two ferruginous fpots on the wing-cufes. Fabr. A native of the Cape of Good Hope. Banksian Cabinet.

FLAVUM. Thorax fomewhat rou ded; body yellow; thighs clavated; antennæ moderate. Fabr. Inhabits America. Obf. The antennæ are yellow; eyes black; all the thighs thickly clavated.
UNDATUM. Thorax tuberculated: wing-cafes black,

with two waved white bands, and fhort antennæ. Fabr.

Cerambyse undatus. Linn. Inhabits Europe.

Colonum. Thorax rounded; wing-cases livid, with three fuscous bands; antennæ short. Fabr. Olivier, &c. A native of Carolina.

VARIUM. Thorax rounded and rufous; wing-cafes rufous at the bale, with two white bands. Fabr. Inhabits North America,

FLEXUOSUM. Thorax rounded, with yellow bands: wing-cases with seven yellow bands, the anterior ones curved upwards, the posterior downwards. Fabr. Leptura robinia of Forter. Leptura pilla. Drury. A native of America.

MINUTUM. Teffaceous, with an abbreviated white band on the wing cases. Fabr. Discovered by fir J. Banks in

FLORALE. Thorax globole, and banded with white; five white bands on the wing-cafes, the fecond and third of which are lunated.

FULMINANS. Thorax globole and fpotted; wing-calca black, with angulated, waved, white bands. Fabr. Olivier, &c. Inhabits North America.

ATOMARIUM. Thorax globose, with cinereous spots; wing-cases black, with whitish dots, and posterior, slexuous, whitish line. Fabr. Inhabits Saxony.

GAZELLA. Thorax rounded, black; wing-cafes black, with yellow bands, the fecond bent; legs ferruginous;

thighs black. Fabr. A native of Europe.

MUCRONATUM. Thorax rounded and spotted; wingcases mucronate and black, with three bent yellow lines and ferruginous base. Fabr. Found in America.

ANGULATUM. Thorax rounded, and muricated; wingcases mucronated, with three dorsal spots, and two yellow

dots in the middle. Fabr. Country unknown.

ENTHROCEPHRALUM. Thorax rounded, fomewhat fpinous; wing-cases bidentated and fuscous, with four yellow This is the Linnxan Cerambys Striatus. A native of bands; thighs compressed and clavated. Olivier. A native of America.

GLAU-

GLAUCUM. Thorax rounded, black; wing-cases glaucous, spotted at the basewith black. Olivier. Inhabits India.

SEX-FASCIATUM. Black; thorax with two, wing-cafes with four yellow bands. Fabr. Described from a specimen in the British Museum.

TRIFASCIATUM. Thorax globofe, ferruginous; wingcases black, with three white bands, the first annular. Fabr.

A native of Europe.

ORNATUM. Thorax rounded, fasciated with black; wing-cases greenish, with three entire black bands, the first annular. Fabr. Callidium ornatum. Herbst. Stenocorus du-plex. Scopoli. Inhabits Germany.

4-Punctatum. Thorax rounded, greenish, with four dots oblique yellow spots. Fabr. &c. An European species. on the wing-cases. Fabr. &c. Inhabits France. Geoss. CLATHRATUM. Thorax somewhat spinous; black;

Annulare. Thorax rounded, and spotted with black; wing cases bidentated, and somewhat greenish, with three black bands, the first of which is annular. Fabr. Callidium annulare. Olivier. A Siamefe species.

ÆGYPTIACUM. Thorax rounded and ferruginous; wing-

cases greyish, with three fuscous bands, the first annular.

Found in the East Indies. Forskahl.

VIRENS. Thorax rounded, greenish, with black antennæ,

and tellaceous legs. Fabr. Inhabits Barbary.

GIBBOSUM. Thorax rounded, black; wing-cases fasciated with cinercous; at the base tuberculated, and pointed at the tip. Fabr. Inhabits Italy. Daldorff.

UNIFASCIATUM. Thorax rounded, brown; wing-cases black, with a fnowy band in the middle; base chesnut.

Olivier, &c. Inhabits Provence.
PICIPES. Thorax globofe, black, with an oblique streak on the wing-cases.

Genus CALOPUS.

Antennæ filiform; feelers four, anterior ones clavated? posterior filiform; jaw bisid; thorax gibbous; wing-cases linear. Gmel. &c.

Genus Calopus. Feelers four, anterior clavated, pofterior filiform; jaw bifid; lip membranaceous and bifid; an-

tennæ filiform. Fabr.

SERRATICORNIS. Fuscous, with compressed antenna. Fabr. Gmel. Cerambyx ferraticornis. Linn. Inhabits north-

HISPICORNIS. Somewhat fuscous; joints of the antennæ with a small spine behind. Gmel. Doubtful if of this

Pygmæus. Very fmall and fuscous; antennæ serrated with hairs. Gmel. Gerambyx pygmaus. Degeer.

Genus RHAGIUM.

Antennæ fetaceous, elongated, approximate, and inferted between the eyes; feelers four, capitate; jaw armed with a fingle tooth; eyes rounded; thorax narrow, cylindrical, and spinous each side; wing-cases rigid; legs formed for running; feet formed of four joints.

Genus RHAGIUM. Feelers four, capitate; jaw fingle toothed; lip membranaceous, and bifid; antennæ setaceous.

MORDAX. Thorax spinous, grey; wing-cases clouded, and somewhat banded with testaceous. Fabr. Inhabits

INQUISITOR. Thorax spinous, and black; wing-cases clouded, and subfasciated with testaceous. Fabr. Cerambys. inquisitor. Linn. Resembles the last but is rather smaller. Inhabits Europe: not uncommon.

INDAGATOR. Thorax spinous, cinereous; three elevated lines on the wing-cases; specklings and two bands black. Fabr. Degeer, &c. An European species.

CURSOR. Thoram spinous; wing-cases rufous; suture and line black. Fabr. Cerambyx Curfor. Linn. Inhabits

northern Europe.

CINCTUM. Thorax fpinous, and black; wing-cafes thighs with a fingle tooth. Fabr. Inhabits Germany. Saldoner.

Noctis. Thorax fpinous, and black; base of the antennæ ferruginous. Fabr. Linn. &c. Bears fome affinity to Rhagium Curfor, but differs in being entirely black.

Inhabits northern Europe.

BIFASCIATUM. Thorax fpinous; wing-cafes with two

wing-cases somewhat reticulated with yellow; legs rusous. Fabr. A native of Austria. Schneider.

Ornatum. Thorax fpinous, and black, wing cafes with a broad yellow band. Fabr. Inhabits Pennfylvania.

MINUTUM. Thorax fpinous; wing-cases with elevated firiz, cinereous, waved with black. Olivier, &c. A native of Europe.

MUTICUM. Thorax unarmed, rufous, with two black spots; wing-cases suscous, with rusous strix, and bidentated at the tip. Fabr. Found in Sweden. Obf. This is small. The head is cinercous; antennæ brown annulated with white at the base; wing-cases somewhat dotted; body cinereous: legs ferruginous.

Genus SAPERDA.

Antennæ fetaceous; eyes lunate, and embracing the base of the antennæ; thorax short, somewhat cylindric, and unarmed; head retracted; wing-cases rigid and as long as the abdomen; body elongated, cylindrical, and emarginate. Donov. Inf. N. Holland. &c.

Genus Saperda. Feelers four, filiform ; jaw membrana. ceous and bifid; lip heart-shaped and truncated; antennæ

fetaceous.

NIGROVIRENS. Blackish-green; thorax with rufous characters; wing-cases rough, with a testaceous spot at the base; sides yellow; tip truncated and bearded. Donov. Inf. N. Holland. A species lately discovered in New South

COLLARIS. Black, thorax encircled with four white rings; fide of the wing-cases, spot at the tip, and body beneath covered with white down. Donov. Inf. N. Ho!land. This also is a new species from the same country as the preceding.

CARCHARIAS. Body grey with black dots; antenna moderate. Fabr. Cerambys carcharias. Linn. Inhabits European woods.

SCALARIS. Wing-cases with indented futural yellow line, and dotted with yellow; antennæ moderate. Linn. Inhabits Europe, rarely England. Donov. Brit. Inf.

CANDIDA, white; thorax and wing-cases suscous, with two white stripes. Fabr. From the Hunterian Museum.

Country unknown.

DETRITA. Black with cinereous hairs, and white dorfal line, and a white stripe on the wing-cases; antennæ short. Fabr. Inhabits Barbary.

IRRORATA. Black; wing-cafes dotted; antennæ long. Fabr. Found on plants in Africa. Vall.

Modesta. Black; head, thorax, and vent ferruginous. Fabr. Inhabits Africa.

ATRICORNIS. Ferruginous; antennæ and tip of the abdomen above black. Fabr. Inhabits China. Schestedt. Obf. The head and thorax are smooth, glabrous, rufous, and immaculate: Qq

immaculate; wing-cases striated with dots, dusky and emarginate at the tip; wings ferruginous with black tip.

OCULATA. Thorax pale yellow, with two black dots: wing cases black. Fabr. Cerambye oculatus. Linn. Lives

in woods in Europe.

TRICOLOR. Ferruginous; wing-cases bidentated, striated with dots, and greenish; antennæ moderate and black. Fabr. A native of the East Indies. Muf. Schelledt. Obf. The head is rufous with black eyes; thorax rufous with 3 fmall dots at the base; body rufous; the legs black at the apex.

HIRTA. Ferruginous with greyish hairs; scutel and orbit of the eyes fulyous, Fabr. Inhabits New Zealand. Head greyish with four yellowish spots at the base; wing-cases

covered with grey hairs; and obtufe at the tip.
UNICOLOR. Testaceous; antennæ and legs same colour; antenoæ long. Fabr. Deferibed by Fabricius from a specimen found in Amsterdam island.

LINEARIS. Cylindrical, black, with pale yellow legs; Antennæ moderate. Fabr. Gerambyx linearis. Linn. Found

on the nut tree.

NIGRIPES. Cylindrical, black, with two lines on the thorax and fentel cinercous; legs black. Fabr. Inhabits

CYLINDRICA. Cylindrical, black, with the anterior legs

pale yellow. Fabr. Cerambyx cylindricus. Linn.

TRIPUNCTATA. Cylindrical, biack; thorax ferruginous above, with three black dots. Fabr. Inhabits Virginia. Obf. The antennæ are moderate, villous, and black; wing-cases striated with dots.

MELANOCEPHALA. Thorax rufous, body black; legs rufous. Fabr. Inhabits Africa. Vahl. The antennæ are

moderate and black; head and body black.

PILICORNIS. Violaceous, with the first and second joint of the antennæ clubbed, and hairy. Fabr. Inhabits South America. Hybner.

BARBICORNIS. Head and thorax rufous; wing-cafes azure; antennæ moderate, and bearded before the tip. Fabr. Native country unknown. This is of the middle fize.

ERYTROCEPHALA. Thorax villous, rufous; antennæ, breaft, and wing-cases black. Fabr. A native of Germany.

Cerambys erytrocephalus of Schrank.

RUFICOLLIS. Thorax villous, rufous; antennæ and wing cases fuscous. Fabr. A native of Virginia. Obf. The head is rufous, antennæ moderate and black; thorax villous, rufous, and immaculate; wing-cafes villous and fuscous.

FASCIATA. Thorax fomewhat spinous, azure; with two rellow bands on the wing-cases. Fabr. Inhabits Siberia. Obf. The antennæ are moderate and black; body entirely violaceous, flightly gloffed with cinercous.

CLAVICORNIS. Green, with three yellow spots on the wing-cases. Fabr. Inhabits the Cape of Good Hope.

From the Bankfian cabinet.

LATIPES. Black; thighs clavated and violaceous at the tip; posterior shanks compressed; antennæ long. Fabr.

From the fame country as the preceding.

Obf. The antennæ are longer than the body, the first and fecond joint thick and black, the rest rusous with black tips, except the last joint which is entirely black; four anterior legs rufous with clavated thighs.

VITTATA. Greyith, with three dentated white flripes; antennæ long. Fabr. Geramlyse trilineatus. Linn. Inhabits America. Drury. Obf. First and second joint of the antennæ

very finely bearded beneath.

SEX-PUNCTATA. Black, with three yellow dots. Fabr.

Inhabits the Cape of Good Hope. Paykull.

The body of this infect is small, black, glossed with blue; wing-cases rough; legs blue with all the thighs

LATERALIS. Black: fide of the thorax and lateral firing on the wing-cases ferruginous. Fabr. Inhabits North

LYNCEA. Thorax black, with a ferruginous dot on each fide; wing-cases greyish and pointed. Fabr. A native of New Zealand. Obf. The head is black; fcutel ferruginous; wing-cases grey, striated at the base; body black, abdomen with four ferruginous dots on each fide; legs fuf-

GRISEA. Greyish; margin of the scutel, and small lines on the wing-cases yellowish. Fabr. Inhabits New Zealand. Obf. The antennæ are fuscous; wing-cases somewhat villous; legs fuscous with clavated thighs.

Analis. Tellaceous; tip of the wing-cases and vent black. Fabr. A native of Africa.

BIDENTATA. Thorax rounded; with four dots of black; wing-cases bidentated at the tip. Fabr. Inhabits Guinea. Dr. Ifert. This is small; antennæ length of the body, with the third and fourth joint yellow; body and legs yellow.

NIGRICORNIS. Fuscour, thorax lineated; scutel yellow; antena e long. Fabr. Ceramby Cardui. Linn. Found on thiftles in fouthern Europe. The body is foscous sprinkled with yellow; lines on the thorax three in

SUTURALIS. Cinercous, with lineated thorax; wingcafes fuscous; antennæ moderate. Fabr. Mus. Leske. Inhabits Europe.

Annulata. Thorax rounded, lineated, greenish; wing-

cases pointed, with white suture. Fabr.

Found on plants in Africa. Vahl. The antennæ are moderate; joints white at the base and black at the tip, the first entirely black; head dusky.

LINEATA. Thorax rounded and fomewhat fpinous; joints of the antennæ white at the bafe. Fabr. Inhabits

TRISTIS. Thorax rounded, black, with white lines; wing-cases bidentated, testaceous with whitish lines. Fabr. This kind inhabits Tranquebar. The antennæ are thort and

POPULNEA. Thorax lineated with vellow; wing-cafes with four yellow dots; antennæ moderate. Fabr. Ceram-

tyn populacus. Linn.
TREMULA. Green, with two black dots on the thorax, and four on the wing-cales. Fabr. A native of Germany.

PUNCTATA. Green, with numerous black fpots; antennæ moderate. Fabr. Cerambys punctatus. Linn. Inhabits the fouth of Europe.

fomewhat attenuated and green. Fabr. Inhabits Italy, Dr. Allioni, and France, Brouffonet.

long and black with a white ring. Fabr. Inhabits Africa.

Bankfian cabinet. FEMORATA. Anterior part of the thorax fuscous, posterior

testaceous; three alternate bands of black, and testaceous

Volvulus. Above black; thorax and wing-cafes margined with cinereous. Fabr. Inhabits Cayenne.

FERRUGINEA. Thorax fomewhat spinous, ferruginous, with antennæ and legs black. Ceramlyw cantharinus. Linn. In-

habits Germany.

BRUNNEA. Thorax rather fpinous, ferruginous; antennee

tonne and legs fame colour. Inhabits Germany. Helwig,

&c.
Testacea. Black with teffaceous wing-cases. Fabr.

A native of Germany.

VIOLACEA. Body violaceous and immaculate. Fabr. Obf. The antennæ are moderate and black; thorax fomewhat pubefcent; wing-cafes rough; legs black.

EPHIPPIUM. Black; dorfal line on the thorax and feutel

cinereous; thighs ferruginous. Fabr. This Inhabits Hungary, Hybner.

PICEA. Pitchy; antennæ and legs ferruginous. Fabr.

A South American species of smail size.

HIRTA. Black, hairy with long antennæ. Fabr. Sa-

perda Filum Ross. Inhabits Italy. Dr. Allioni. Scutellata. Thorax fomewhat spinous, black; antennæ, wing-cases and legs greyish; feutel white. Fabr. A native of Germany. The antennæ are shorter than the body, greyish, with the joints ferruginous at the base; and black at the tip, the first entirely black; head black; wing-

cafes fmooth, and cinercous; shanks dusky ferruginous. LINEOLA. Biack; dorfal line on the thorax, and thighs

rufous at the tip. Herbit. &c. Inhabits Italy.

Genus CLYTUS.

Antennæ fetaceous; eyes reniform, and embracing the base of the antennæ; thorax glofe, and broad as the wing-cafes; elytra rigid; length of the abdomen; legs long and formed for walking; thighs compressed; four joints in the fect.
Donov. Inf. N. Holand.
THORACICUS. Thorax black, with a rusous spot; wing-

cases fulvous; suture at the base, and two oblique bands black. Donov. Inf. N. Holland. A lately discovered species. Mus. Francillou.

SEXMACULATUS. Black; thorax covered with filvery down; wing cases with three yellow spots, and somewhat emarginate at the tip. Donov. Inf. N. Holland.

PUNCTULATUS. Brownish-testaceous; wing-cases sprinkled with impressed black dots. Donov. Inf. N. Holland Discovered by Mr. Bailey the astronomer in Captain Cook's

expedition. Muf. Doney.

CERAMIC gulf. Sinus Ceramicus, in Ancient Geography, a deep guif of Afia Minor, forming the separation of Caria and Doris, and deriving its name from Ceramus, a maritime town of Caria; which Pliny places in the island of Arconnefus, but all other geographers on the continent, between Cnidus and Halicarnaffus. This bay is called by some writers the Ceraunian bay, and the city from which it borrowed its name. Ceraunus. In our time this gulf is called the gulf of STANCHO, from the name of the island fituate at its entrance. Its fite and name are now to be found in a

place of little importance, called Keramo.

CERAMICUS, to called from Ceramus, the fon of Bacchus and Ariadne, the name of a place at Athens, which was furrounded with walls, and in which were to be feen the tombs and statues of all the illustrious men who had died in the service of their country, with inscriptions recounting their praifes and exploits. And in order to render thefe known and familiar to all, to animate every citizen to a love of virtue and of glory, and to excite in youthful minds an ardent defire of imitating those celebrated worthies, it was made a public walk or promenade. There were two places at Athens bearing this name; one in the city, and the other in the suburbs, in which were the academy and other edifices, at the diffance of fix stadia from its walls; the former was a place of refort for proflitutes, and much frequented on account of its walks; the other was appointed for the burying-place of illustrious men above-mentioned. See ATHENS.

CERAMIS, the name of a burgh in Greece, in Attica. belonging to the Acamantide tribe; which was the place

CERAMIUM, in Betany, a genus formed by Roth for fome species of sea-weed arranged by Linnaus and other authors under either fucus or conferva, with the following generic character : filaments membranaces-cartiloginous, fomewhat geniculated; capfules with generally one feed feattered on the outfide of the branches. His generic character of fucus, in contradiffinction from the preceding, is, vehicles, aggregate, imbedded in the fubiliance of the frond, furnished with mucifluous pores; and of conferva, fmall tubes, or berbaceous filaments, with graunles of fructification feattered on the infide coats of the tube. The fame name was given by Stackhouse in the first Fasciculus of his "Nereis Britannica, to another felection of plants from the genus Fuens, which he afterwards called palmaria. See Nereis Brit. Introd. p. 15. 24. 31, 32. See Palmaria. Ceramium, an ancient measure, answering to what was

otherwife called AMPHORA and CADUS.

CERAMORUM FORUM, in Ancient Geography, a town of Afia Minor, which, according to Xenophon, was fituated on the confines of Mysia.

CERAMUS. See CERAMIC gulf.

CERAMUSSA, or CERAMUNA, an episcopal see of Africa, in Numidia, and near Mileva.

CERANÆ, a town of Phrygia, according to Pliny. CERANGA, a town of India, placed by Ptolemy on

this fide of the Ganges. CERANTHUS, in Botany, Schreb. Gen. 27. See

CHIONANTHUS incrassatus. CERASO affinis, fruelu coccinco, Sloan. Jam. See Cor-

DIA collococca. CERASO affinis, fruelu flavo, Sloan. Jam. See EHRETIA

tinifolia.

CERASO affinis, Bauh. Pin. See PRUNUS mahaleb. CERASONT'E, in Ancient Geography, a Greek town, fituate in the territory of Coichis, on the fea-coaft. It was a colony of Sinope, according to Xenophon.

CERASSON, or GERASON, an episcopal see of Asia,

under the metropolis of Bottra.

CERASTES, one of the names of the isle of Cyprus, according to Pliny. Some fay that it bore this appellation on account of the ferocious manners of its inhabitants. Others fay that it was called Cerafies (from x1025, horn,) or horned, because it was furrounded with promontories, which projected into the fea, and exhibited the points of rocks at a distance, appearing like horns.

CERASTES was also the name of a people who inhabited this island, and who had an altar dedicated to Jupiter, the Flospitable, and which was always stained with the blood of strangers. Venus, offended at this inhumanity, changed

CERASTES, in Zoology, the horned fnake. See COLUBIA

CERASTES was also the name given by the ancient Greeks to a flag when at his full growth, or at the end of his fourth year. CERASTIUM, in Botany, (so called from xegation, a little born, in allufion to the shape of the capfule), Linn. Gen. 585. Schreb. 797. Willd. 221. Gært. 761. Juff. p. 301. Vent. vol. iii. p. 242. (Myofotis, Tourn. Cl. 6. Gen. 10.) Moufe-ear, or moufe-ear chick-weed. Clafs

and order, decandria pentagynia. Nat. ord. Caryophyllii, Linn. Juff. Vent.

Gen. Ch. Cal. perianth five-leaved; leaslets ovate-lanceolate, acute, spreading, permanent. Cor. petals sive, bisid, obtuse, creck-spreading. Stam. silaments generally ten, siliform, shorter than the corolla; alternate ones shorter;

Qq2

anthers roundish. Pift. germ ovate; styles generally sive, that Linnaus has by no means been happy in his specific capillary, erect, the length of the stamens; stigmas obtuse. Peric. capfule ovate-cylindrical, or globular, obtufe, oneroundish, (attached to a free columnar receptacle, Gært.)

Est. Ch. Calyx five-leaved. Petals bisid. Capsule one-

celled, opening at the tip; orifice toothed.

* With oblong capfules.
Sp. 1. C. perfoliatum, Linn. Sp. Pl. 1. Mart. 1. Lam. 1. Willd. 1. (Myofotis orientalis perfoliata, lychnidis folio, Tourn. Cor. 18. Dill. Elth. tab. 217. fig. 284.) " Leaves connate, quite smooth, glaucous; petals smaller than the calyx." Lam. Root annual. Whole plant smooth, glaucous, with the habit of a lychnis. Stem about a foot high, cylindrical, leafy, upright, weak, fometimes fimple, more frequently a little branched. Leaves opposite, connate, refembling those of saponaria vaccaria or Lobel's catch-fly; lower ones oblong; upper ones short and oval. Flowers terminal and axillary, white, on short peduncles; calyx bell-shaped. Capfule as long again as the calyx. Discovered by Tournefort in the Levant. Cultivated by Miller in 1731. 2. C. vulgatum, Linn. Syst. Nat. Ed. 10. Lightfoot. Flor. Scot. Smith Flor. Brit. Eng. Bot. tab. 789. C. viscosum, Huds. With. Relh. Sibth. Curt. Flor. Lond. tab. 35. Alfine hirfuta major, foliis subrotundis dilute virentibus, Morif. vol. ii tab. 23. fig. 10. A. hirfuta myofotis latifolia præcecior. Rai. Syn. 348. Myofotis arvensis hirfuta parvo flore, Vaill. Par. tab. 30. fig. 3.) Broad-leaved mouse-ear chickweed. "Hairy, viscid, forming tufts; leaves ovate; petals equal to the calyx; flowers longer than the peduncle." Root annual, fibrous. Herb pale green, hairy, viicid. Stems feveral, a span high, round, leafy, paniculate-dichotomous, many-flowered; outer ones diffuse at the base, afterwards erect. Leaves broad, ovate, or elliptical, obtufe. Flowers, from the divisions of the stem, peduncled, erect; upper ones crowded; peduncles shorter than the calyx, lefs viscid; leassets of the calyx lanceolate, acute; inner ones with a fcarious white margin; petals oblong, white, fearcely longer than the calyx; itamens all fertile, glandular at the base. Capfule cylindrical, twice as long as the calyx, a little incurved. Seeds ftreaked, tubereled, tawny. Dr. Smith. A native of England and other parts of Europe, flowering in April and May. 3. C. vi/cofum, Linn. Sp. Pl. 2. Lightfoot Fl. Scot. p. 240. Smith Flor. Brit. 2. Eng. Bot. Pl. 789. (C. vulgatum, Hudf. With. Relh. Sibth. Curt. Lond. Pl. 34. Alfine hirfuta altera vifcofa, foliis longis faturatius virentibus, Morif. tab. 23. fig. 11. A. hirfuta myofotis, Rai Syn. 349. Vaill. Par. tab. 30. fig. 1.) Narrow-leaved moufe-ear chick-weed. " Hairy, viscid, spreading; leaves lanceolate-oblong." Rost perennial, fibrous, fmall. Herb deep green, hairy, more or lefs viscid. Stems feveral, various in their length, diffuse, erect in meadows, round, leafy, paniculate-dichotomous. Leaves lanceolate-oblong, rather obtufe. Flowers from the divisions of the stem; peduncles viscid, nearly twice as long as the calyx; leaflets of the calyx generally featious at their edges; petals commonly longer than the calyx, inverfely egg shaped; stamens all fertile. Capfule cylindrical, nearly double the length of the calyx, a little incurved. Seeds rugged. A native of meadows, pastures, walls, and waste places in England and other parts of Europe. In naming the last two species, we have followed Dr. Smith, who is supported by the authority of the Linnæan Herbarium, in opposition to all the English authors, except Lightfoot. The error is faid by Dr. Smith, (Eng. Bot.) to have arisen from Linnœus himfelf, who, in the Species Piantarum, misquoted Vaillant's admirable figures. It must be confessed, however,

names; fince the latter, as far as our observations have extended, is generally the least viscid of the two. 4. C. celled, opening at the tip; orifice toothed. Seeds numerous, femi-decandrum, Linn. Sp. Pl. 4. Mart. 4. Willd. 5. Curt. Lond. Pl. 33. (C. hirfutum minus, parvo flore, Dill. in Rai Syn. 348. tab. 15. fig. 1. Vaill. Par. tab. 30. fig. 2.) "Hairy, viscid, flowers pentandrous, petals emarginate." Smith. B. C. pumilum; Curt. Lond. Pl. 30. Root annual, fibrous. Herb with the habit of the preceding, but smaller and often reddish. Stems erect, decumbent only at the base, hairy, viscid near the top. Leaves ovate-oblong, lower ones frequently smooth. Flowers white; peduncles longer than the calyx, bent down immediately after flowering, finally erect; calyx viscid, dilated at the edge, white; petals generally thorter than the calyx, emarginate; framens five, rarely more. Capfule nearly twice the length of the calyx, incurved. Seeds tawny, granulated, compressed. Dr. Smith. A native of England and other parts of Europe, flowering in March and April. The variety, figured by Curtis as a diffinct species, was gathered by Mr. Dickson on dry banks near Croydon, Surry; but is thought by Dr. Smith to have no permanent character which can jultify its feparation from C. semi-decandrum. The last three are considered by La Marck, but furely without reason, as only varieties of one and the same species. 5. C. pentandrum, Linn. Sp. Pl. 5. Mart. 5. Lam. 4. Willd. 6. Læst. it. 142. "Flowers pentandrous; petals entire." Very small, resembling the preceding, but differing from it in its green colour, and in its petals, which are not acutely emarginate. Linn. A native of Spain. 6. C. anomalum, Willd. 3. Waldstein and Kitabel, pl. rar. Hung. " Erect, with viscous hairs; leaves linear; petals longer than the calyx; flowers trigynous." Willd. Root annual. Herb befet with hairs, glandular and viscid at their tip. Stem erect, half a foot high and more. Root-leaves linear-spatulate, petioled; stem-leaves linear, feffile. Peduncles one-flowered, in the divisions of the stem. Petals a little longer than the calyx, bifid, ftyles conftantly three. Capfule oblong, fix-toothed. A native of Hungary. 7. C. refractum, Mart. 17. Allion. ped. n. 1728. (C trigynum; Villars Dauph. 3. 645. Myofotis; Hal. helv. n. 890.) " Leaves lanceolate, fmooth; petioles broken." Root perennial. Stems feveral, a finger's length, fmooth, or fomewhat hairy, two-flowered. Peduncles long; one broken or jointed, with two stipules at the joint. - Corolla larger than the calyx; petals cleft one third of their length; fegments linear; styles fometimes four. Capfule conic-polygon, opening by fix or feven valves, and parting as far as the middle. A native of mount St. Bernard. S. C. tetrandrum, Curt. Lond. Pl. 31. Smith Flor. Britt. 4. (Sagina cerathoides; Smith in Linn. Trans. vol. ii. p. 343. and Eng. bot. Pl. 166.) "Hairy, fomewhat viscid; flowers with four stamens and four petals; petals bifid, shorter than the calyx." branched. Herb of a bright green colour. Stems numerous. diffuse, leafy, dichotomous, scarcely panicled. Leaves elliptic-oblong; upper ones egg. shaped. Flowers white, peduncles three times the length of the calyx, at first erect, afterwards bent down; leaflets of the calyx four, hairy, acuminate, fcarious at the edges; two inner ones narrower; petals inverfely heart-shaped. Capfule cylindrical, a little longer than the calyx, with eight teeth. Seeds roughith on the outer fide. In cultivated plants there are fometimes five stamens and five petals. A native of Scotland, flowering in May and June. First observed by Dr. Smith, in 1782, on walls about Edinburgh, and on Calton hill and Arthur's feat; afterwards by Mr. Dickson on Inch Keith and Inch Combe in the Frith of Forth, and on the beach below

below Preston Pans. Q. C. arvense, Linn. Sp. Pl. 6. Mart. 6. Lam. 8. Willd. 7. Curt. Lond. Pl. 29. Eng. Bot. Pl. 93. Flor. Dan. tab. 626. (Caryophy'lus arvensis hirsutus flore majore; Rai Syn. 348 Myosotis arvensis hirsuta fl re majore; Vaill. par. tab. 30. fig. 4. and according to Haller and Dr. Smith also fig. 5.) Field chickweed. " Leaves linearlanceolate, obtufe, ciliated at the base; petals twice the length of the calyx." Dr. Smith. Root perennial, creeping. Stems four or five inches high, decumbent, forming thick tufts, pubescent. Leaves linear-lanceolate, often densely pubefcent, fometimes only ciliated at the bafe. Flowers large, white; leaflets of the calyx egg shaped, obtuse, scarious at the edges; petals heart-shaped, veined. Capfule cylindrical, ftraight, the length of the calyx; orifice with ten teeth. A native of England and other parts of Europe, on a gravelly or chalky foil. 10. C. lineare, Willd. S. Allion. ped. 2. App. tab. 88. fig. 4. " Leaves linear-lanceolate, acute. pubefcent; petals larger than the calyx, acute, bifid." Willd. Root perennial. Leaves flaccid, awned. Peduncles generally one-flowered, tomentous. Capfules oblong. A native of mount Cenis and the Piedmontese Alps. 11. C. dichotomum, Linn. Sp. Pl. 7. Mart. 7. Lam. 2. Willd. 9. (Myofotis hifpanica fegetum; Tourn. 245. Lychnis fegetum minor; Bauh. pin. 204. Alfine corniculata; Cluf. hist. 2. p. 184.) " Leaves lanceolate; stem dichotomous, much branched; capfules erect. Linn. longer than the calyx. Willd. Root annual. Stem fix or feven inches high, jointed. Leaves more than an inch long, narrow-lanceolate, greenish, slightly hairy. Flowers white, at the end of the branches and in the divisions of the stem; calyx hairy; petals very small. Capfules twice the length of the calyx, flightly curved. A native of Spain. 12. C. longifolium, Willd. 10. (Myosotis orientalis longissimo folio; Tourn. Cor. p. 18.) "Leaves linear-lanceolate; stem dichotomous, peduncles, when the fruit ripens, horizontal; capfules the length of the calyx." Willd. Root annual. Stem erect, round, befet with viscous hairs. Leaves the length of the internodes, acute, feffile, hairy on both fides. Calya hairy; leaflets membranous at the edges; petals shorter than the calyx. Capfule oblong, the length of the calyx, with ten teeth. Wilid. from a dried specimen. 13. C. alpinum, Linn. Sp. Pl. 11. Mart. 8. Willd. 11. Eng. bot. Pl. 472. Flor. Dan. tab. 6. (C. latifolium; Lightfoot Flora Scot. Pl. 10. Alfines myofotis facie, lychnis alpina, flore amplo niveo, repens; Rai Syn. p. 349. tab. 15. sig. 2.) "Leaves elliptical, naked or clothed with long hairs; panicle dichotomous, few-flowered, bracteated; capfule oblong, recurved." Root perennial, creeping. Stems from three to five inches high, erect, fimple, dichotomous at the top, fometimes only oneflowered. Leaves elliptical, rather obtufe, various in their breadth; on moilt ground generally fmooth; in dry fituations clothed with long, foft, jointed afcending hairs. Flowers large, white; peduncles about three, one-flowered; bractes opposite, lanceolate; calyx leastets scarious at the edges; petals inverfely heart-shaped, half as long again as the calyx. Capfule cylindrical, longer than the calyx, recurved. A native of high mountains in Wales, Scotland, and other parts of Europe. 14. C. dioicum, Mart. 18. Ait. Hort. Kew. 2. 121. " Hairy, viscid; leaves lanceolate; flowers dioicous; petals three times larger than the calyx." A native of Spain; cultivated in 1766, in the botanic garden at Oxford.

** Capfules roundifb.

15. C. repens, Linn. 9. Mart. 9. Willd. 12. "Leaves lanceolate; peduncles branched; capfules roundifh." Linn. Stems feveral, trailing, putting out roots at the joints. Leaves about two inches long, and little more than half an

inch broad, very hoary; those next the root smaller than the upper ones. Flowers white, on slender peduncles. Miller. It is doubted by La Marck and others, whether it be specifically different from C. arvense. Cultivated by Mr. Miller in 1759, and for some time employed as an edging for borders under the name of fea-pink. 16. C. Aridum, Linn. Sp. Pl. Mart. ro. Lam 9. Willd. 13. Allion. ped. n. 1729? (Caryophyllus holofteus alpinus gramineus; Bauh. pin. 210. Myofotis; Hall. helv. n. 892.) " Leaves linear, acuminate, smooth; peduncles one-flowered, somewhat downy; capsules globular." Linn. Root perennial. Stems from three to five inches long, partly recumbent, pubefcent on their upper part. Leaves green, near together. Flowers white, few, peduncled, terminal; calyx nearly smooth. Lam. A native of mountains in Switzerland. 17, C. fuffruticofum, Linn. Sp. Pl. 11. Mart. 11. Lam. 10. Willd. 14.
(Myofotis tenuisimo folio rigido; Tourn. Inst. 245.) "Stems in tufts, knotty, perennial; leaves linear-awl-shaped, rigid, fomewhat pungent; calyx striated." Lam. B. Alfine orientalis fruticofa, camphoratæ folio; Tourn. Cor. 18. The habit of arenaria juniperina. Root perennial. Stems numerous, from fix to eight inches long, a little decumbent towards the base, very slender towards the summit, slightly pubefcent. Leaves five or fix lines long, opposite, often fasciculated in consequence of the smaller branches not being developed. Flowers white, in a terminal cyme; calyx fmooth; peduncles forked. Capfules oblong, a little curved, longer than the calyx. A native of the fouth of Europe. β. Leaves about an inch long. A native of the neighbourhood of Smyrna. 18. C. maximum, Linn. Sp. Pl. 12. Mart. 12. Lam. 11. Willd. 15. Gmel. Sib. 4. p. 150. tab. 62. fig. 2. "Leaves lanceolate, scabrous; petals crenated; capfules globular." Root annual. Stems near a foot long, more or less erect, hairy towards the bottom, smooth near the top. Leaves in diftant pairs, fessile, very acute. Flowers large, disposed nearly in an umbel; petals toothed or laciniated. A native of Siberia. 19. C. aquaticum, Linn. Sp. Pl. 13. Mart. 13. Lam. 12. Willd. 16. Curt. Lond. Pl. 34. Eng. bot. Pl. 538. (Alfine major repens perennis; Rai Syn. 347. Alfine maxima folanifolia; Tourn. Inft. 242. Hall. helv. n. 885.) Water chickweed. " Leaves heart-shaped, fessile, peduncles lateral. folitary, reflexed as the fruit ripens; capfule egg-shaped, orifice five-toothed." Dr. Smith. The habit of stellaria nemorum. Root perennial, creeping. Stems two feet long, weak, branched, round, hairy on all fides. Leaves acuminate, waved, hairy; lower ones often petioled. Flowers white; peduncles lateral, intrafoliaceous, one-flowered; leaflets of the calyx egg flaped, harry, vifcid; petals generally the length of the calvx, fometimes longer, deeply bifid; fegments fomewhat linear; stamens always ten; ftyles five. Capfules egg-shaped, splitting almost to the middle into five teeth. Seeds kidney shaped, rough, pale brown. A native of moift ground in England and other parts of Europe. 20. C. latifolium, Linn. Sp. Pl. 15. Mart. 14. Lam. 5. Willd. 18. Jacq. Coll. vol. i. tab. 20. Eng bot. Pl. 473. (C. tomentofum; Hudf. Flor. Ang. Ed. 1. Alfine myofotis lanuginofa alpina grandiflora; Rai Syn. 349.) Broad-leaved rough chickweed. " Leaves elliptical, feabrous; peduncles terminal, fimple, generally folitary; capfule egg-shaped." Root perennial. Stems in tufts, short, feabrous, one-flowered. Leaves fet near together; feabrous, with short, rigid, spreading, and often jointed hairs. Flowers white; peduncles as long as the stem, without brackes. Capfules short. A native of mountains in Wales, Scotland, Switzerland, and Austria, flowering in June. 21. C tomentofum, Linn. Sp. Pl. 16. Mart. 15. Lam. 7. Willd. 19. (Myofotis incana repens; Tourn. Intt. 245. Lychnis; Bauh.

pin. 206. Ocymoides lychnitis, reptante radice I. B. 3, 333. Rai hift. 1031. Col. Phytab. App. tab. 31. Myofotis; Hail. helv. n. 891.) "Leaves linear, tomentous, hoary; pedun-eles branched, fom what panicled." Lam. Rost perennial, creeping. Stems live or fix inches long, cottony, branched near the bottom; outer branches procumbent, more abundantly leafy or barren. Leaves white, from fix to eight lines long. Flowers white, large, on branched peduncles; calyx cottony, half the length of the corolla. Capfules fhort but cylindrical. A native of Spain, Switzerland, and Italy; and faid, but on very dubious authority, to have been found in Ripton wood in Huntingdonshire. 22. C. manticum, Linn. Sp. P. 14 Mart. 16. Lam. 13. Willd. 20. (Alline caryophylloides glabra; Segn. Veron. tab. 4. fig. 2. Hall. helv. n. 883?) "Smooth; stem stiff; leaves lanceolate; peduncles very long; capsules globular." Linn. The habit of stellaria graminea. Root annual, flender. Stem half a foot high, commonly simple, sometimes branched. Leaves narrowlanceolate, very acute. Flowers white, in a trifid panicle; petals twice as long as the calyx, roundifth, entire or flightly emarginate (deeply trifid; Hal.); flyles three. Capfule with ten teeth. Seeds kidney-shaped, wrinkled, brownish. A native of the neighbourhood of Verona in Sylvula Mantica, and of the Grifons.

CERASTIUM, in Gardening, contains plants of the herbaceous low growing kind; of which the species cultivated are the perfoliate mole-car, (C. perfoliatum), and the creeping moufe-car or fea-pink (C. repent); but other species

may be cultivated.

Of these, the sirft, which is an annual plant, rifes with an upright stalk a foot high; the leaves have much resemblance of some forts of catch-fly; they are placed by pairs, embracing the stalks; the flowers come out at the top of the stalks, and also from the wings of the leaves in the upper part of them; are white and shaped like those of chickweed; appearing in May and June. It is a native of Greece.

In the fecond fort many weak stalks are sent out which trail upon the ground, and put out roots at their joints; the leaves are about two inches long, and little more than half an inch broad, very hoary; and the flowers come out from the side of the staks upon slender peduncles, which branch out into several smaller, each supporting a white slower. It

is a native of France, &c.

Method of Culture. These plants are readily increased, either by feeds, sips from the rooting branches, or parting the roots, each of which operations may be performed either in the autumn or spring season, placing them in proper lituations in the epen ground. The training branches root as they extend themselves, at each joint, by which they easily multiply and extend themselves.

From their foreading growth, they are highly useful for covering naked banks, and running over artificial rock works, ruins, grottoes, and other finilar parts of pleasure grounds. And the last fort was formerly often used as an

edging in gardens or other places.

CERASUS, in Bolany, capenfis, Petiv.—Africana, Pluk. See CASSINE maurecenia.

CERASUS americana, Pluk. See Malpigia punici-

CERASUS, Bauh. &c. See PRUNUS.

CERASUS, in Gardening, the cherry-tree. See PRU-

MUS

CERASUS, in Ancient Geography, a town and gulf of Pontus Cappadocius, on the fouthern coalt of the Euxine fea. It was a handtome Greek city, built by the inhabitants of Sinope in l'aphlagonia, at the bottom of a bay, between two fleep rocks which defended it, according to Pliny and Arrian; and to whom it paid a yearly tribute, according to Xenophon (Cyri Exped, lib. v.). This city was much improved by Pharnaces, grandfather of Mithidates, who gave it his own name, and peopled it with barbarians from Colchis; though Ptolemy diffunguishes Cerasus from the city of Pharnacea. It was in this city that the unfortunate Monimia terminated her life, as Sillust informs us in his Fragments. This city was episcopal. From hence, as Pliny says, Lucullus sirit brought cherries into Italy, A.U.C. 680, which were introduced 120 years after into Britain; called therefore by the Latins Gerass. Tourselort tells us, that the country is very hilly, and that the hills are covered with forests, in which cherry-trees grow naturally.

CERATA, the name of two mountains of Greece, which separated the territories of Megara and Athens, ac-

CERATE Sec CERATION

CERATIA, in Botany, Plinii, Col. ecplir. See DENTARIA

CERATIA Siliqua, Lob. See CERATONIA Siliqua.

CERATIA ogressis virginiana, Rai. dend. See CERCIS canadensis.

CERATIA, Bauh. Pin. See ERYTHRINA.

CERATIÆ quodam modo affinis, Pluk. See Mimosa

CERATIAS, among Ancient Naturalists, denotes a horned comet. The word is formed from x5725, a horn. Such is that faid to have appeared when Xerxes passed his

army into Greece.

CERATINUS, JAMES, in Biography, a learned Dutchman of the 16th century, whose family name was Tryng, but who assumed the name Ceratinus, of Greek etymology, from xegus, the appellation of his native place, Horn or Hoorn. He combined fingular modelly with diffing nished attainments commended by Erafmus. Such was his extreme diffidence, that, upon being examined for prieft's orders, a quettion was The confequence was his rejection; but when be acquainted a friend with the reason of it, this friend immediately remiffed the most learned man in Louvain, who had given ample evidence of his endition by an eligant Latin translation from Chryfoflom's works. Upon receiving this information, they feat for him again, and o brained him, with many apologies for their former rejection of him. Being Tournay, he became a private teacher of Greek at Louvain; George elector of Saxony, he was chosen to succeed Mofellanus in the university of Leipsic. But returning to works were " A Translation of Chrysostom's Treatife con-" Græco-Latin Lexicon," printed in 1524, with a preface by Erasmus; and a treatise " De Sono Gracarum Literarum," printed in 1529. Gen. Diet.

CERATINUS Sinus, in Ancient Geography, a gulf of the

Thracian Bofphorus.

CERATION, CERATIO, in Chemistry, the operation of

waxin

CERATITES, a name given by many authors to the fubliance more utually called by authors unicerna fuffile, and found in great pleaty in the caverns of Hartz forcit in Germany.

CERATIUM, or CERATION, a name given by the

Ancies

Ancient Physicians to a finall weight. The ceration is properly the name of a tree called the carob, or filingua dulcit, the fweet pipe-tree: this tree bears a long pod, in which are contained feveral feeds among the pulp: these feeds are also called ceration and jembut by the Arabians; and being dried, they were used as a weight to proportion the dof's of medicine. Thus the small weight which took its origin from them, was called ceration; as that small weight, which took its origin from a grain of barley, was called granum.

CERATIUM was also a small silver coin, the third part of an obolus, and the same with what the Romans called

fallic

CERATOCARPUS, in *Botany* (from 16925, a horn, and 18207005, fruit), Linn. gen. 10;5. Schreb. 1392. Gært. 728. Juff. p. 86. Clafs and order, monæcia monandria. Nat. ord.

Holoracca, Linn. Atriplices, Juff.

Gen. Char. Male flowers. Cal. perianth one-leafed, tubular, wider at the top, thin, coloured, bind (two leaved, Gent.). Cor. none. Stam. filament fingle, capillary, fearcely longer than the calyx, inferted into the receptacle; auther two-celled, oval, upright. Female flowers. Cal. perianth one-leafed, inverfely egg-flaped, compreffed, keeled on both fides, permanent, two-horned; horns ftraight, awl-flaped, divarieated. Cor. none. Pifl. germ oblong, fuperior; ftyles two, capillary; fligmas fimple, flanding out between the horns of the calyx. Peric. none, except the permanent enlarged calyx, inclofing and clofely adhering to it. Seed fingle, oblong, leffened at the bottom, compreffed.

Eff. Ch. Male. Calyx one-leafed, bifid. Corolla none. Female. Calyx one-leafed, keeled, permanent, two-horned. Styles two. Seeds fingle, compreffed, inclosed, and covered

by the calyx.

Sp. C. arenaria, Linn. Sp. Pl. Mart. Lam. Buxbaum Act. Petrop. 1. 244. tab. 9. Gulden Hat. Nov. Act. Petrop. 16. 553. tab. 17. fig. 7—12. Gært. tab. 127. fig. 7. Lam. Illuf. Pl. 741. (Ceratoides orientalis major & muor, Tourn. Cor. 52.) Root annual. Stem about a foot high, branched, villous. Leaves about an inch long, alternate, linear, very zente, villous. Flowers axillary, generally folitary, almost fessile. A native of the fandy defarts in Tartary.

CERATOCEPHALUS, in Botany, ballotes folio, Vaill.

See SPILANTHUS acmeila.

CERATOCEPHALUS foliis sordatis, Vaill. See BIDENS nivea.

CERATOCEPHALUS foliis lanceolatis, Vaill. See COTULA frilanthus.

CERATOCEPHALUS delphinii foliis, Vaill. See Coreopsis

CERATOGLOSSUS, in Anatomy, is that part of the hyoglollus muscle which arties from the cornu of the os hyoides, and which is deferibed by fome anatomitts as a dittinct muscle. See TONGUE.

CERATOIDES, in Botany, orientalis fruticofa, Tourn.

See Axyris ceratoides.

CERATOIDES orientalis major & minor, Tourn. See

. CERATOMALAGMA, a cerate or cerecloth.

CERATONIA, in Botany (κιρατωνια, Galeo, Paulus Bezineta, fo called from its hornlike legume), Linn. gen. 1167. Schreb. 1612. Juff. p. 347. Vent. vol.iii. p. 368. Gart. 852. Ciaís and order, polygamia triacia. Nat. ord. Lomentaceae, Linn. Leguminofe, Juff.

Gen. Ch. Hermaphrodite, male and female flowers each on a different plant. Male. Cal. perianth small, open, with five divisions. Cor. none. Stam. slaments sive, rarely six or seven, awl-shaped, very long, expanding, opposite to the di-

vilious of the calyx, proceeding from the margin of a fielly disk, which occupies the middle of the flower; anthers large, furrowed, two celled.

Female. Cal. perianth one-leafed, divided by five tubercles. Cor. none. Pill. germ fuperior, in the centre of the flefhy disk or receptacle which covers the inner part of the calyx; flyle long, filiform; fligma capitate. Peric. legume long, obtufe, flattened, tetragonous when dry, smooth, coriaccous, not opening by valves, divided by transverse partitions into many cells. Seeds one in each cell, bedded in a fucculent pulp, roundish, compressed, hard, shining.

Eff. Ch. Hermaphrodite. Calyx with five divisions. Cor. none. Stamens five. Style filiform. Legume coriaceous,

many-feeded.

Observ. Fasano, in Act. Neap. 1787, calls the fleshy disk or receptacle of other authors a permanent co-

roll

Sp. C. filiqua, Linn. Sp. Pl. Mart. Lam. Illust. Pl. 859. Falano Act. Neap. tab. 18. fig. 2. Gært. tab. 146. fig. 1. 1) d. Pempt. 787. fig. 1. (Siliqua edulis, Bauh. Pin. 402. Blackit. tab. 209.). Carob tree, St. John's bread. Fr. Caroubier. An evergreen tree of a confiderable fize. Trunk rugged. Branches crooked, spreading like those of the apple tree. Leaves winged, without an odd one; leaflets in fix or eight pairs, three inches broad, roundish, entire, thick, rigid, nerved, dark green above, paler beneath. A native of the fouth of France, of Naples, Spain, Egypt, and the Levant. Its fruit, when ripe, has a tolerably pleafant fweetish taste, and is eaten in times of scarcity by the country people, but is apt to purge and gripe the bowels. It is commonly given to cattle. As a medicine, it has the same properties as cassia, but in a less degree. The pulp, which has the confiltence of a blackish fyrup, mixed with liquoriceroot, dry raisins, and several other kinds of fruit, forms the sherbet of the Turks. It was long supposed to have been the food of John the Baptist in the wilderness; but a better acquaintance with natural history has now rendered it nearly certain that the axiss, or locust of the evangelic history, is the well-known destructive insect of that name. It is much more probable that the shells of the carob tree were the husks intended by our Saviour in the parable of the prodigal fon. Its leaves are of an altringent nature, and may be used as a substitute for oak bark in the tanning of hides. Its wood is efteemed in the fouth of Europe equal to that of the evergreen oak, and is used for the same purposes.

CERATONIA, in Gardening, contains a plant of the evergreen, exotic, (hrubby kind; of which the species cultivated is the carob-tree, or St. John's bread, (C. filiqua), which rifes with an upright, thick, woody stem, to the height of 15 or 20 feet in its native situation; the head being divided into many branches; the leaves are pinnate, of a dark green colour, three inches in breadth, and rather more in length; and the slowers small, and of a dark purple colour. It is a

native of Syria, &c.

Method of Galture. These plants are increased by sowing the feeds produced from their native situations in pots of light earth in the spring, plunging them in moderate hotbeds; and after the plants have attained sufficient growth, removing them into separate pots, shade, water, and fresh air being occasionally given, and the pots continued in the hotbed. As soon as the weather becomes sine in the summer, they should be gradually hardened by exposure to the free air, and be placed out till the approach of autumn, when the protection of the green house will be necessary to preferre them during the winter season, free air being given in sine days as much as possible; and afterwards they require only to be managed as other green-house plants, in which situa-

tion they have a good effect by the variety which they

CERATOPETALUM, in Botany (from χερας, a horn, and πεταλον, a petal), Willd. 861. Smith Nov. Holl. 1. p. 9.

Class and order, decandria monogynia.

Gen. Ch. Cal. perianth five-cleft, bearing the stamens permanent. Cor. petals five, pinnatifid. Stam. filaments ten, anthers spurred. Pifl. germ superior; style one. Peric. capfule two-celled, seated in the bottom of the calyx.

Sp. C. gummiferum, Smith Nov. Holl. tab. 3. A lofty tree. Leaves opposite, petioled, ternate; leastest sessible, lanceolate, toothed, veined, smooth. Flowers in terminal panicles; calyxes yellow; segments reddish; petals yellow. A

native of New Holland.

CERATOPHYLLUM (compounded of *1725 and \$\text{cv3.20}\$, fignifying a horned leaf), Linn. gen. 1665. Schreb. 1430. Juff. 18. Vent. vol. 4.5. Gært. 258. Clais and order, monacia polyaudria. Nat. ord. Inundatæ, Linn. Naides, Juff. Undetermined, Vent.

Gen. Ch. Male. Cal. perianth with many divisions; divisions awl-shaped, equal. Cor. none. Stam. filaments double the divisions of the calyx, from fixteen to twenty, very short;

anthers oblong, creet, longer than the calyx.

Female, Cal. and Cor. as in the male. Pifl. germ egg-fhaped, compressed; style none; stigma obtuse, oblique. Peric. nut small, with a thin, somewhat coriaccous rind, hard, one-celled. Seed attached to the bottom of the shell.

Eff. Ch. Cal. many parted. Cor. none. Stam. from fixteen to twenty. Pift. one. Style none. Seed one,

coated

Sp. 1. C. demerfum, Linn. Sp. Pl. Mart. Lam. Illust. Pl. 775. fig. 2. Flor. Dan. tab. 510. Gært. tab. 44. Eng. Bot. Pl. 947. (Hydroceratophyllum folio afpero, Vail. Act. 1719, tab. 2. fig. 1. Millefolium aquaticum cornutum, Rai. Hift. 191.) " Fruit armed with three spines." Root perennial. Herb floating under water. Stem branched, threadshaped. Leaves about eight in a whorl, dichotomous; segments most frequently four, linear, channelled, toothed on the back, fomewhat fpiny. Flowers axillary, folitary, feffile. Fruit elliptical, round, with one long terminal fpine, formed of the lengthened flyle; and two, generally florter, divaricating lateral ones. Dr. Smith. Common in stagnant waters and flow streams, flowering in September. 2. C. Submerfum, Linn. Sp. Pl. Mart. Lam. Illuft. Pl. 775. fig. 1. Eng. Bot. Pl. 679. Flor. Dan. tab. 510. (Hydroceratophyllum folio lævi, Vaill. tab. 2. fig. 2.) "Fruit destitute of fpines." Root perennial, the habit of the former. Leaves generally more compound, more flender, and often without fpines. Fruit smaller, egg-shaped. Less common; found by Dillenius in ditches by the road from Chichester to Selfey ifland, and by Mr. Dawfon Turner between Yarmouth and Gorieltone

CERATOPORUM, in Ancient Geography, an episcopal fee of Asia Minor, in the Pacatian Phrygia, according to

the acts of the council of Ephefus.

CERATOSANTHES, in Botany, (compounded of x1725 and oxfor, denoting a horned flower). Jufficu, p. 396. Vent. vol. iii. p. 518. A genus formed out of the Trichofanthes of Linnæus, for fuch species as have a four-celled fruit and the inner segments of the calyx not ciliated, but divided at the summit into two revolute horns.

CERATOSPERMUM, (compounded of περες, and σπερικ, denoting a horned feed). Lam, Encyc. Mich. nov. gen. 125. Tab. 56. fig. 1. Hal. helv. n. 2212. Class and ord. Cryptogamia Algar. A plant acknowledged to be very rare, and to have been feen by few botanits.

It is faid to grow on the bark of trees, and to confift of numerous crultaceous, orbicular, diffinit warts, charged with a fugacious powder, and containing, in finall cavities, oblong, curved capfules refembling little horns. But Dillenius suffects that Micheli imagined more than he faw, and that his ceratofpermum is no other than Lichenoides verrucosum and rugosum, cinereum glabrum of the Historia Muscorum; Lichen pertusus of Linnœus. Deprehendat, quisquis poterit, sores Michelio visos, tab. 56. lit. A, B, C, D. Quidam plus vident, quam ali, quoniam nempe imaginatione pollent. Hit. Musc. p. 129.

CERATOSTEMA, (xspas and ssum, denoting a horned stamen.) Just. 163. Class and order, decandria mo-

nogynia. Nat. ord. Campanulacea, Just.

Gen. Ch. Cal. Perianth top-shaped, five-cleft; fegments large. Cor. coriaceous, tubular-cylindrical; border five-cleft, erec't. Stam. ten, situated on the calyx; filaments short; anthers very long, attenuated at the tip, and ending in two horns. Pist. stigma one. Peric. Capsule? crowned with the fegments of the calyx, somewhat downy, five-celled, many-feeded.

Sp. Ch. A shrub. Leaves coriaceous, sessile. Flowers coriaceous, large, in loose terminal spikes, pedicelled, bracteated. A native of Peru, described from a specimen with

unripe fruit in the collection of Jos. Justicu.

CERATUM, CERATE, in the Materia Medica, a kind of this unguent or linimest, made of oil and wax, with other ingredients; used externally in feveral diseases, especially those of the skin.

It takes its name from its capital ingredient, wax, called

n Latin cera.

Its confidence is thicker than that of a liniment; the last having usually two ounces of wax to two of oil; but the cerate four of wax to two of oil: yet it is thinner than a platter.

There are cerates of various kinds, refrigerative, stomachie, &c. cerate of sulphur, of saunders, restringent cerate of bricks,

divine cerate, &c

There is a particular one, called the refrigerative cerate of Galen, made of white wax and oleum rofat. omphacin.

CERATUM epublicium, a name given ii. th: late London Difpenfatory to the composition commonly called Turner's cerate, called in the last London Pharmacopeia "Ceratum lapidis calaminaris," and ordered to be made in this manner: take olive oil a pint; yellow wax and prepared calamine, of each half a pound; melt the wax in the oil, expose it to the air, and when the mixture begins to congent again, sprinkle in the powder of calamine, and continue stirring it till the whole is cold.

CERATUM cantharidis is prepared by mixing fix drams by weight of cerate of fpermaceti foftened by the fire, and one dram by weight of finely powdered cantharis." This may fupply the place of the," Epithema velicatorium of the former dispensaror; and in order to quicken its action, an addition of puly, cantharid, may be made at diferetion.

CERATUM lithargyri acedati compositum, or compound cerate of acetated litharge, is composed of 2½ ounces by measure of water of acetated litharge, four ounces by weight of yellow wax, nine ounces by measure of olive oil, and half a dram by weight of campher. Rub the camphor with a little of the oil: melt the wax with the remaining oil, and when the mixture begins to thicken, pour on gradually the water of acetated litharge, filtring it till it is cold; and then mix in the camphor, which was before rubbed with the oil.

CERATUM refine flave, or cerate of yellow refin, is prepared by melting together half a pound of ointment of yellow refin with one ounce by weight of yellow wax.

CERATUM

CERATUM fatonis, or foap cerate, is composed of the following ingredients; viz. 8 ounces by weight of foap, 10 ounces by weight of yellow wax, one pound of powdered Intrarge, one pint of olive oil, and one gallon of vinegar. Boil the vinegar with the litharge by means of a flow fire, conflantly flirring, till the mixture unites and thickens; then mix in the other ingredients in order to form a ce-

CERATUM Stermatis Ceti, or cerate of spermaceti, is prepared by mixing together half an ounce by weight of spermaceti, two ounces by weight of white wax, and four ounces by measure of olive oil, and ftirring it till the mixture

CERATUM mercuriale, a form of medicine preferibed in the late London Pharmacopæia, and ordered to be made in the following manner: take yellow wax and tried hog's lard, of each half a pound; quickfilver, three ounces; fimple balfam of fulphur, a dram: melt the wax and lard, and then add to them gradually the quickfilver, first well divided by the balfam of fulphur.

CERATUS, or CERATUS, in Ancient Geography, a small river of the ifle of Crete, which, according to Strabo, ran

near the town of Gnoffus

CERAULA, in Antiquity, a kind of mufician, who blows or plays on the horn.

In which fenfe, the word amounts to the fame with the

Latin cornicem. CERAUNIA, in Ancient Geography, a town of the Peloponnesus, in Achaia, according to Polybius. It was one

of the twelve cities which formed the Achæan state. CERAUNIA, now Cerines, an ancient town on the north

coast of the island of Cyprus; which, like Paphos, exhibits nothing but ruins, as a tellimony of its pall grandeur.

CERAUNIA, CERAUNIAS, OF CERAUNIUS lapis, in Natural History, a fort of flinty figured flone, of no certain colour, but of a pyramidal or wedge-like figure; popularly fupposed to fall from the clouds in thunder-storms, and to be possessed of divers notable virtues; as of promoting sleep, preferving from lightning, &c. The word is formed from κεραυνος, a thunder bolt. The cerannia is the same with what is otherwise called the thunder-stone, or thunder-bolt; and fometimes also fagitta, or arrow's head, on account of its shape.

The ceraunia are frequently confounded with the OMBRIA and BRONTIA, as being all supposed to have the same origin.

The generality of naturalists take the ceraunia for a native stone, formed among pyrites, of a faline, concrete, mineral juice. Mercatus and Dr. Woodward affert it to be artificial, and to have been fashioned thus by tools. The ceraunia, according to these authors, are silices, or heads of the ancient weapons of war, in use before the invention of iron; which, upon the introduction of that metal, growing into difuse, were dispersed in the fields through this and that neighbouring country.

Mr. Dorthes has found, among the worn stones of the Mediterranean shore, javelin-heads of porphyry, jasper, hornflone, schorl, variolite, &c. probably fabricated by the ancient inhabitants, the Gauls. These javelin-heads, made of jasper, &c. on account of their excessive hardness, of which even the favages of Canada have availed themselves in the construction of such weapons, are commonly known by the name of thunder-stones, and are distinguished by the Litho-

logills by the name of Ceraunites or Ceraunia.

CERAUNIAS albus, a name given by Pliny to a gem or precious stone, of the nature of the asteria, but Vol. VII.

with a cast of bluish; and that it was found in Caramania. Solinus gives us much the same account, but makes Germany the place of its origin. It is, indeed, written Germania in feveral of the old copies in Pliny, but the most correct have it as it is printed, Caramania; and Caramania was a country from which the Romans had many gems.

CERAUNII, in Ancient Geography, a people of Illyria, who, according to Pliny, were divided into 24 decuries.

They are also mentioned by Ptolemy.

CERAUNII Montes. See ACROCERAUNIA. Pomponius Mela gives this name to a part of mount Taurus, which proceeded from the coast of the Euxine sea, the Palus

CERAUNILLA, or CERAUNEA, a town of Italy, which Diodorus Siculus places in the country of the Samaites;

and which, he fays, was taken by the Romans.

CERAUNITES, in Natural History, a name given by

CERAUNIUS, or Fulminator, in Mythology, an epithet

CERAUNUS, in Ancient Geography, a river of Asia, in Cappadocia, according to Pliny.

CERAUSIUS, a mountain of Peloponnesus, in Arcadia; which, according to Paulanias, formed a part of mount Lyceum.

CERBALITANUS, an episcopal see of the proconfular

CERBALUS, now Cervaro, a river of Italy.

CERBANI, a name given by Pliny to an ancient people of Arabia Felix; called Cerdanitæ by Steph. Byz.

CERBANIUM, a town of Italy, mentioned by Proco-

CERBERA, in Botany, (so called from Cerberus, on account of its poisonous qualities), Linn. Gen. 294. Schreb. 415. Willd. 475. Just. 149. Gart. 708. (Ahouai, Tourn. 434.) Class and order, pentandria monogynia. Nat. ord. Contorta, Linn. Apocina, Juff.

Gen. Ch. Cal. Perianth five-leaved, or five-cleft. Cor. monopetalous, funnel-shaped; tube clavated, longer than the calyx; orifice pentangular, nearly closed by five converging teeth; limb large, five-cleft; fegments oblique, obtuse, more gibbous on one side. Stam. filaments sive, awl-shaped, in the middle of the tube; anthers erect, converging. Pifl. germ roundish; style siliform, short; stigma capitate, two-lobed. Peric. drupe large, roundish, fleshy, hollowed on one fide by a longitudinal furrow. Seed, a nut, containing one, two, or four kernels.

Est. Ch. Corolla contorted. Drupe one-seeded.

Sp. 1. C. Abouai, Lion. Sp. Pl. 1. Mart. 1. Willd. 1. Lam. 1. Illust. Pl. 170. Bot. Mag. Pl. 737. (Ahouai, Thev. Antarct. 66. Tourn. Inst. 658. tab. 434. Thevetia, Linn. Hort. Cliff. Arbor Americana, foliis pomi, fructu triangulo, Bauh. Pin. 434.) " Leaves egg-shaped, acute." A tree, ten feet high, yielding in all its parts a poisonous milky juice. Stem and branches irregular and crooked. Leaves three inches long, one and a half broad, thick, fucculent, bright green, smooth. Flowers in clusters at or near the extremity of the branches, cream-coloured; calyx divided half way down into five acute reflexed figments; tube of the corolla dilated in the upper part; orifice closed; marked with five deep furrows; fegments of the limb, oval, oblique, with undulated margins; anthers on short filaments, enclosed in the inflated part of the tube; flyle the length of the tube; stigma bifid, top-shaped, surrounded at the base by a circle of greenish glands, which secrete a colourless, very fomewhat inferior to it in beauty. Pliny tells us that fweet honey, perfectly free from any acrid or naufcous tafte. it was a very bright gem, of a crystalline appearance, but A native of Brazil and the West Indies. Cultivated by

CER

Mr. Miller, in 1730. It flowers in July and August, but never produces fruit in England. Its wood has a very offensive fmell; and the kernels of the nuts are a deadly poison. 2. C. ovata, Willd. 2. Cavan. Ic. iii. p. 35. tab. 270. " Leaves elliptical, obtuse." Leaves scattered, nearly fessile. Flowers terminal, about five together. A native of New Spain. 3. C. thevelia, Linn. Sp. Pl. 2. Mart. 3. Lam. 2. Willd. 6. Jacq. Amer. 48. tab. 34. Pick. 20. tab. 47. Lam. Ill. Pl. 170. "Leaves linear, very long, crowded." An elegant thrab, from twelve to fifteen feet high. Stem round, abounding in a poisonous milky juice, dividing at the top into numerous weak branches; branches simple, loofe, smooth, marked with the fears of fallen leaves. Leaves on thort petioles, feattered, narrow, linear, acuminate, four or five inches long, full of a milky juice. Flowers yellow, large, odorous, generally folitary, nodding, axillary, and terminal; peduncles shorter than the leaves; teeth of the tube ciliated; filaments very thort; germ five-fireaked, furrounded by a yellow, fleshy, nectareous navel. Fruit greenish, round, sleshy, milky; containing an obscurely three or four-cornered nut, which opens by a kind of furrow on one fide. A native of Cayenne and the West Indies. Received by Mr. Miller in 1735, by the name of French physic-nut. 4. C. manghas, Linn. Sp. Pl. 2. Mart. 2. Lam. 3. Willd. 4. Ofb. It. 91. Petiv. tab. 16. fig. 4. (Manghas fructu venenato, Bauh. Pin. 440. Burm. Zel. 150. tab. 70. fig. 1. Arbor lactaria, Rumph. Amb. ii. p. 243. tab. 81. Odollam, Rheed. Mal. i. p. 71. tab. 39.) "Leaves lanccolate; nerves transverse." A milky tree, from eighteen to twenty feet high. Wood white and tender; bark even; branches rather spreading, crooked, cylindrical, marked with fcars of fallen leaves. Leaves alternate, but scattered near the ends of the branches, ten or twelve inches long, and three broad, on short petioles, quite entire, fmooth, even above, furnished underneath with transverse parallel nerves, which proceed from the midrib, and terminate in a nerve-like cord at the border of the leaf. Flowers white, in terminal, branched, unequal, racemes; calyx five-leaved; leaflets lanceolate, fpreading, coloured, deciduous; tube of the corolla longer than the calyx, angular within; lobes of the border egg-shaped, large; filaments very fhort, inferted into the upper part of the tube; anthers egg-shaped, covered with the down of the tube; germ bifid; Hyle filiform, fomewhat shorter than the tube; stigma eggshaped, cloven. Fruit egg-shaped, the fize of a goose's egg, green, marked with minute white spots, compressed on one fide, with an obfolcte furrow; inclosing two large feeds which refemble chefnuts, and have a poisonous, vomiting quality. A native of the East Indies, and of the Society islands. In the island of Amboina its bark is used as a purgative.

Swartz has observed that this species would form a genus distinct from the two preceding, it is were not desirable not omitiply genera without absolute necessity. Gentner afferts that on account of the difference in the structure of the fruit it cannot be associated with them under the same genus. He maintains moreover, that the Arbor lackaria of Rumphius and the Odollam of Rheede, quoted by Linnæus as synonyms, are distinct species strongly marked by the characters of the fruit. He gives the tollowing description of the former fr. m a specimen in the collection of Sir Joseph Banks, and of the latter from a specimen preserved in the museum at Amtlerdam. C. Manghas, Tab. 123 and 124. fig. 1. Peric. Drupes two, dry, large, ovate-oblong, gibbous and obsoletely striated behind, more even with a flightly depressed furrow before; outer cuttele membranous, thin, dark brown; Besh sungous, resembling the dried puth of elder, intermingled

with the filaments of the putamen or fiell; putamen woody; confilting of round fibres proceeding from the inner part in a radiate manner towards the circumference, and there changed into new, rather even, longitudinal furrows which form a peculiar woody kind of bark; femibivalved by means of a dehiftent future in the anterior part, and continued to the middle of the back; one ceiled, but divided into two chambers by a moveable membraneus partition placed between the valves. Receptacle none, except the moveable partition, to one furface of which the feed closely coheres its whole length. Seed one, (the other constantly abortive) large, evate-oblong, Icnticularly compressed, attenuated at the tip, of a dull rully colour.

5. C. Odollam, tab. 124. fig. 3. Drupe generally fingle, elliptic-globular, very convex on one fice, greenish yellow; cortical firatum of fibres as in the preceding, woody; fibres broader, more branched and frequently one-celled, but divided into two chambers; partition part clothed on its inner fide (that towards the axis of the fruit) with an irregular tiffue of crooked fibres, and on its outer fide bearing the feed. Seed one in each chamber, ovate-acuminate, on one fide remarkably coavex, flat on the other, and fo closely adnate to the partition as to leave only the tip free. Gartner describes also a feed communicated but unknown species. He calls it 6. C. platyspermos, tab. 124. fig. 2. Putamen woody, egg-shaped, muricated on all fides by multiform upwardly incurved fibres, nearly two-valved by means of a future extended to the base, divided into two very compressed chambers by a moveable partition; partition coriaceous, confifting of two lamellæ, opposite to the future of the valves. Seeds two in each chamber, foliaceous-compressed, free on both sides, unequal; one larger, ovate-spatulate superior; the other smaller, somewhat kidney-shaped, inferior. 7. C. parvisiora, Willd 3. Forst. prod. 121. (Ochrofia borbonica; Gmel. Syft. nat. p. 439). "Leaves stellated, inversely egg-shaped." A native of the friendly Islands and of Savage Island in the Pacific ocean. 8. C. maculata, Willd. 5. (Ochrofia borbonica; Just. O. maculata; Jacq. ic. rar. 2. tab. 321. Dryander in Linn. Tranf. 2. p. 227.) "Leaves lanceolate, veined, spotted; cymes axillary, branched, divaricated," It differs from the preceding in the form of its leaves. A native of the Isle of Bourbon. 9. C. falutaris, Mart. 5. Lour. Cochin. 136. (C. oppositifolia; Lam. 4. Lactaria falubris; Rumph. amb. 3. 255. tab. 84.) "Leaves and fruit oval." A middle-lized tree, with a milky juice, and spreading branches. Leaves oblong-oval, obtufe, quite entire, shining, crowded at the ends of the branches, on thort petioles. Flowers white, inodorous, in fmall nearly terminal racemes; calyx five-cleft; fegments awl-shaped, long, erect; corolla falverfhaped, with a long incurved tube; fegments of the border oblong, fleshy, spreading, not contorted; germ egg-shaped, always buriting the tube of the corolla; thigma top-shaped, vertically compressed, truncated. Drupe oval, large, with a fmooth skin, yellow on one side, red on the other, containing a fibrous-woody nut, with a fingle kernel, not poifonous. The want of a contorted corolla renders its genus dubious. A native of Cochin China near the coaft, and of the Moluccas. 10. C. mufeuliformis, Lam. 5. (Fructus mufculiformis; Rumph. Amb. z. Append. 185. tab. 60.) " Fruit muscle-shaped." Leaves alternate, scattered, petioled, oval-oblong, obtufe, fmooth furnished with lateral transverse nerves, from fix to eight inches long and two broad. Flowers

Flowers in a simple raceme, according to Rumphius refembling those of C. manghas, but smaller: Fruit oblong, acute, full of a milky juice like the leaves and all other parts of the plant, about three inches long and one broad, a little compressed laterally, with a longitudinal surrow, having firm flesh, and containing two or three irregular kernels. empty dried shell is half split in two on the upper part and bears some resemblance to a muscle. A native of the Moluccas and the Sunda isles. La Marck judges this as well as the preceeding to be a doubtful species.

Propagation and Culture. These plants may be propagated by nuts procured from their native countries, and require the same treatment as other tropical trees and shrubs, but as they abound in milky juice, they should be sparingly

watered, especially in the winter season.

CERBERUS, in Astronomy, a small northern constellation near Hercules, confifting, in Hevelius's Catalogue, of four stars, which are enumerated under HERCULES in the Britannic Catalogue.

CERBERUS, among Chemifls, denotes MERCURY.

The name cerberus is also given by some to a famous purging powder, more usually called pulvis cornachinus, and pulvis comitis Warwicensis. See CORNACHINE powder.

CERBERUS chemicus, in Chemistry, a phrase used by Hoffman and others to express the common nitre of faltpetre, which they have called also fal infernalis.

CERBERUS, in Entomology, Sphine cerberus of Pallas. See

ZYGENA caudata of Fabricius.

CERBERUS, in Mythology, a name which the ancient poets have given to a dog with three heads and mouths, born of Typhon and Echidna, and stationed at the gate of hell. Those who entered were careffed by him; but to such as would return he was more terrible than hell itself; except in the instances of Bacchus and Hercules, and Mercury and Orpheus. The "dog of darkness" of the Edda bears, in

fome respects, a resemblance of this monster.

Some have supposed that Cerberus is the symbol of the earth, or of all-devouring time; and that its three mouths represent the present, past, and future. Accordingly they derive the name from x500 Soco;, carnivorous; it being the property of the earth to devour dead bodies. The victory obtained by Hercules over this monster, denotes the conquest which this hero acquired over his passions. The Platonists consider him as the evil dæmon, who, as Porphyry expressed it, is found in the three elements, air, water, and earth; whence they derive his three heads. In a monument, preserved by Montfaucon, Cerberus is represented on a box, with one head of a man, another of a dog, and the third of an ape; and two ferpents twifting round him bind together his legs. This figure was brought from Egypt. Hesiod gives to Cerberus 50, and others 100 heads; but he more commonly appears with three. He is faid by some to have had the tail of a dragon; and instead of hair a skin, shagged over with snakes, whence probably is derived the epithet Medusean.

Dr. Bryant supposes that Cerberus was the name of a place, and that it fignified the temple of the Sun; deriving it from Kir-Abor, the place of light. This temple was also called Tor- Caph-El, which was changed to TrixTexhos; and hence Cerberus was supposed to have had three heads. It was likewife called Tor-Koren, Turris Regia; whence To exprises, from Tiers, three, and xaervor, head. Anal. of Mytho-

logy, vol. i. p. 409, &c.

CERBIA, in Ancient Geography, a town of the island of Cyprus.

CERBICA, Stekkah, a town of Africa, fituate 18 leagues

S.W. of Capfa, according to Ptolemy. In this place are found fome velliges of the Romans.

CERBOLI, in Geography, a small island, or rather rock, in the Mediterranean, near the coast of Tuscany, a little to the north of the island of Elva.

CERCAPHUS, in Ancient Geography, a mountain of

Afia Minor, in Ionia, near the town of Colophon.

CERCARIA, in Zoology, a genus of animalcules, defined by writers vermis nudo oculo inconspicuus, pellucidus, caudatus, Gmel. Vermis inconspicuus, pellucidus, caudatus, Müller, &c. A worm, invisible to the naked eye, pellucid, and furnished with a tail.

The animals of this tribe which, from their extreme minuteness, can only be discovered by the assistance of a microscope, are found in vegetable and animal infusions of water, in stagnant waters of every kind, in salt-water, even in pure water, and in spermatic fluids, according to some French writers. The most copious history of these animalcules is to be found in Miller's Hist. Vermes, Havnix, 1786. Om infusions dyrenes forplantelses-maader, &c. The following are the principal species of this genus.

* Depressed.

PLEURONECTES. Orbicular, the tail confishing of a fingle briftle. Müll. Gmel. This is membranaceous, rather round, and white. In the fore-part are two blackift points, and in the middle orbicular intestines of various sizes, the larger of which appears remarkably bright. When fwimming, it is observed that one edge of the lateral membrane is upwards, and the other folded down. It is found in water that has been kept several months. Müll. Adams,

TENAX. Membranaceous, anterior part rather thick and truncated; tail three times as short as the body. Müll. This appears an oval pellucid membrane, the anterior part thick, and truncated, the posterior acute, or terminating in a short tail; its motion in the water is circular, whirling about in various directions with great velocity.

CYCLIDIUM. Oval, somewhat emarginate behind, with an exfertile tail. Mull. Found frequently in pure water. The body is oval, fmooth, membranaceous, pellucid, with a black margin; the posterior part is somewhat notched, and furnished with a tail which it thrusts out at pleasure. The

intestines are remarkably pellucid vesicles.

** Subtrigonal.

TRIPUS. With a pointed, reflected arm on each fide. Müll. This kind was discovered in sea-water by Müller. The body is of a fomewhat triangular form, with a straight tail.

*** Tapering.

LEMNA. Changeable, fomewhat flattened, with an annulated tail. Müll. Refembles, in fome respects, the proteus of Baker, though altogether different. The body is capable of being contracted or extended, changing from oblong, or the shape of a pear, to kidney-shape. The tail is short, thick, and annulated. It vibrates, when stretched out, with fo much velocity, that it appears double. The intestines are not very dillinct. Near the apex is a small pellucid globule, which Müller supposes to be the mouth. Adams, &c. Inhabits flagnant water.

Lugus. Cylindrical, thick, and elongated: tail terminating in two spines. Müll, Lives in stagnant waters. This is one of the largest species of its genus. It is full of muscles, which are capable of being contracted or extended. The head is larger than the body, with the apex bent down like a hook. The two spines at the extremity of the tail are very bright, and moveable.

PODURA. Cylindrical, posterior part pointed, and slightly RT2

eleft behind. Müll. This species was found by Müller in to confiit of a head, a truck, and a tail; the fore part rereplete with black fpiral intellines, and which become more or less ventricose at the pleasure of the animal; when it moves it turns round as upon an axis. It is found in the months of November and December.

CATELLUS. Body three-parted, with a forked tail. Müll. Discovered in water where flowers have been kept. This animalculum is more complex in its form than many others. It has a moveable head, which appears connected to the body only by a point. The abdomen is not fo wide, but twice as long as the head, and is replete with intestines. The fail is fhorter than the head, narrower than the belly, and terminating in two britles, which can unite and separate

at pleafure. It moves with great velocity.

GYRINUS. Rounded, with pointed tail. Müll. Microcerus corpore globoso, cauda crassiore of Hill. The body is white, gelatinous, without any traces of intellines; fore-part fomewhat globular; posterior somewhat globular, long, and pointed. The tail is observed to be in continual vibration while fwimming, like that of tad-poles. Met with in animal infusions, and appears very fimilar to the spermatic animalcules,

**** Parious.

GIBBA. Suboval, convex; antérior part acute; tail cpake, without any visible intestines; the upper part convex or gibbous. Found chiefly in infufions of hay.

INQUIETA. Changeable, convex, with smooth tail. Müll.

Adams, &c. Discovered in falt water.

Turbo. Globular, contracted in the middle, with a briltle-form tail. Müll. Adams, &c. Met with in infufions of duck-weed. This appears to be composed of two globules, the lower one of which is smallest. There are two black points refembling eyes. It fometimes carries the tail perfectly flraight, and at others the tail is bent back on the

SETITERA. Cylindrical, the fore-part smallest, posterior pointed. Adams. Rarely found. Inhabits falt water.

tufe, and terminating in two small points. Adams. This and "Mons Cercetius" by Livy

CRUMENA. Cylindrical and ventricofe; anterior part ing points. Adams, &c.

fnout : tail two small spines. Adams.

probofeis. Adams. Found in marthy places.

CERCAS, in Ancient Geography, a town of Greece, near

the left bank of the Nile, at the place where this river divides to form the Delta. It is mentioned by Herodotus and Pomponius Mela. Its eaftern branch is the Pelufian arm, and the western, the Canopian. Strabo calls this town Cercesura, and places it on the side of Libya.

CERCASI, in the Eastern Military Orders, are a body

CERCEAU, JOHN ANTHONY Du, in Biography, was born at Paris in 1670, and entering at the age of 18 years among the Jefuits, diftinguished himfelf in their fociety by

the vivacity of his talents. Having indulged his tafte for Latin poetry, he published a collection of pieces in 1705, afterwards applied to vernacular poetry, and became an imitator of Marot. But mitaking vulgarity and infipidity for fimplicity, his French poems, with a few exceptions, were generally held in no effects. He afterwards wrote feveral dramatic pieces, blending in Lis comedies character and Revolution in Persia;" " A Critique on Abbé Boileau's among others begun and left unfinished, which was so nearly published it in 1733. He was the writer of feveral articles in the Journal de Trevoux, particularly on the mulic of the ancients. He died in 1732, at the feat of the duke of Aiguillon near Tours, on his return from a tour with the princess of Conti. Nouv. Dict. Hitt. . CERCEIS, in Mythology, one of the nymphs called

Oceanides, the daughter of Oceanus and Thetis. Hefiod.

Theogon, v. 355. CERCELE, in Heraldry. A Cross CERCELE, is a

Tile cross cercele differs from the cross ANCHORED, as the latter turns but a little rounding, whereas the former

CERCENA, in Ancient Geography, a town of Ethiopia, placed by Diodorus Siculus towards the western ocean;

CERCENASCO, in Geography, a town of Piedmont, in the marquifate of Saluzzo; 21 miles S.S.W. of

CERCETÆ, in Ancient Geography, a people who dwelt

CERCETI Montes, mountains of Theffaly, according to

CERCETICUS Sinus, a gulf placed by Ptolemy on

CERCHIARI, a river of Naples, which runs into the gulf of Tarento; 9 miles E.N.E. of Cullano.

CERCII, a people of Italy, who were formed by the Romans into a colony under the confulate of Lucius Vale-

mentions also a town of the name of Cercina. Agathemer,

Strabo, and other ancient geographers, fix the beginning of the Leffer Syrtis at thefe islands; though, from circum-

itanc.;

stances mentioned by Shaw (Travels, p. 112.) it should rai twenty feet, covered with a dark brown bark, dividing upther commence at Ca-poudia.

CLRCINA, a mountain of Macedonia, between Pæonia

and Sintica, according to Thucydides.

CERCINE, a town of Macedonia, at the mouth of the river Pontus in the lake called "Cercinitis palus," which was a marsh extending from west to east, between the town of Cercine and the place called Myrcinus.

CERCINITIS. See CERCINE

CERCIS, in Botany, (xepat, Theophraf.) Linn. 510. Schreb. 696. Willd. 809. Juff. p. 351. Vent. vol. iii. p. 381. Gært. 844. (Siliquaftrum; Tourn. 414.) Judas tree. Fr. Gainer. Class and Order, decandria monegynia. Nat. Ord.

Lomentacea, Linn. Leguminofa, Juff. Vent.

Gen. Ch. Cal. Perianth one-leafed, very fhort, bellfhaped, gibbous below, melliferous, with five erect obtufe teeth. Cor. Petals five, inferted into the calyx, papilionaceous; wings bent upwards, affixed by long claws; flandard roundish, shorter than the wings, and placed beneath them; keel two-petalled, converging into a heart-shaped form, and containing the stamens and pishil; nectary a style-shaped gland under the germ. Linn. (a cavity between the infertion of the stamens and of the pistil. Lam.) Stam. Filaments ten, not united, awl-shaped, curved, slightly downy on the inner tide of their bafe, unequal, inferted into the calyx; anthers oblong, incumbent, rifing upwards. Pift. Germ linear-lanceolate, pedicelled, fmooth; style the length of the flamens; thigma obtute, rifing upwards. Peric. Legume oblong, obliquely acuminate, one-celled. Seeds feveral, roundish, attached to the upper future.

Eff. Ch. Calyx five-toothed, gibbous below. Cor. papilionaceous; flandard fhort, placed beneath the wings;

fruit, a legume.

Sp. 1. C. Siliquastrum. Common Judas-tree. Linn. Sp. Pl. 1. Mart. 1. Lam. 1. Willd. 1. Lam. Ill. Pl. 328. (Siliqua fylvestris rotundifolia; Bauh. Pin. Arbor Judæ; Dod. Rai. hift.) " Leaves orbicular-heart-shaped, smooth." A tree, from twenty to twenty-five feet high. Trunk upright, with a dark-green bark; branches irregular, spreading. Leaves alternate, petioled, quite entire, thickish, pale green above, greyish underneath, deciduous, with diverging leaves proceeding from the extremity of the petiole; flipules oblong, membranous, opposite, caduçous. Florvers red, or bright purplish rose-colour, sometimes white, appearing before the leaves in lateral racemes on the branches, and fometimes on the trunk of the tree. Legumes five or fix inches long, near an inch broad, refembling the cafe of a knife, whence their French name is derived. The flowers are grateful to birds, especially sparrows, who often make great havoc among them and prevent the fruit from coming to perfection. On account of their agreeable poignancy they are used by the French as an ingredient in follads, and are fometimes pickled. A native of the fouthern parts of Europe, flowering in April and May. Cultivated by Gerard in 1596. 2. C. canadenfis, Linn. Sp. Pl. Mart. Lam. Willd. (Ceratia agrettis mucronato folio, Pluk. Alm. 95.) "Leaves acuminate-heartshaped, pubescent." Canadian Judas tree. Red-bud tree of the American. Refembling the preceding in habit, but smaller and less beautiful. La Marck afferts that its leaves, as well as those of the common kind, are quite smooth: A native of most parts of North America. Cultivated by Miller in 1730.

Cercis, in Gardening, contains hardy deciduous trees of the following kind; of which the species are the common Judas-tree (C. Siliquasserum), and the Canada Judastree, or Red-bud tree (C. Canadense). The first in its native place rifes with an upright trunk to the height of

wards into many irregular branches, with the leaves placed irregularly on the branches, on long foot-stalks; they are of a pale-green on their upper, and of a greyish colour on their under side, and fall off in autumn. The flowers come out in the fpring, with the leaves, on every fide the branches, and many times from the ftem of the tree in large clutters, ariting from the same point, on thort peduncles; and are of a very bright purple colour, being in full beauty before the leaves have attained half their fize; and the wood is very beautifully veined with black and green, taking a fine polish. It is a native of the Levant, &c.

It has varieties with white flowers; with flesh-coloured flowers, but without the beauty of the first, and with

broader pods.

The fecond fort grows to a middling fize in the places where it is a native; but in this climate rarely rifes with a them more than twelve feet high, but branched out near the 100t. The branches are weaker than in those of the first fort; the leaves are downy and terminate in points. The flowers are also smaller; but the trees are equally hardy, thriving in the open air. It is a native of North America; where it is known by the title of Red-bull, from the appearance of the flower-buds in spring before the leaves come out. And the wood is of the same colour and texture as in the first kind.

Method of Culture. These plants are raised by sowing the feeds in the spring season, as about March, in beds of common ground, to the depth of half an inch. When the plants appear, they should be kept clean, and occasionally watered; and when of fufficient growth be removed into the nurfery, planting them in rows at the distance of one foot, and two feet between the rows. After they have remained in this fituation for two or three years, they become proper for planting out in the shrubbery parts of pleasure grounds.

They are also capable of being raised by layers and cut-tings; but they seldom succeed so well in these ways as in the former. They have a highly ornamental effect when planted out in the clumps, borders, and other quarters, among hardy, flowering, deciduous trees of other kinds in the garden or pleafure-grounds.

CERCITÆ, in Ancient Geography, a people placed by

Ptolemy in Afiatic Sammatia.

CERCLE, Grand Cercle, in Military Language, is that which the ferjeants, and, behind them, the corporals, formed every evening at an appointed hour, to receive orders. After the grand cercle, a small one was formed in each regiment, were the orders were renewed or repeated to the ferjeants of each regiment, who communicated them to the officers of their respective companies. This form was obferved under the old government of France.

CERCODIA, in Botany, Soland. La Marck, Juff. Gært.

See IJALORAGIS.

CERCOPI, in Ancient Geography, a name given by Ovid to the inhabitants of the island of Pathecula .- Alfo, a name given to banditti or robbers, who occupied part of the pass of Anopæa, near the Melampygian rocks, on the confines of the territories of Locris and Melis. See Herodotus, lib. vii. c. 216.

CERCOPIA, a town of Asia, in the Greater Phrygia.

CERCOPITHECUS, in Zoology, a name given by Aldrovandus, Marcgrauve, and other writers, to several species of the monkey tribe. Gmelin forms a distinct section, in the Simia genus, of the Cercopitheci, or those with elongated tails, after the Kn301 of Arittotle. Simia cyno-

furus, Hamadryas, Veter, and nearly twenty other species are of this family. See Simia.

CERCOPONEDRAS, in Ancient Geography, a kind of road or pass in Greece, between mount Oeta and the country of the Trachinians, according to Herodotus; which was occupied by the Cercopi. It was by this pass that the Persians advanced to surprise the Greeks who defended Thermopylæ. This path commenced at Asopus, continued through an opening of the mountain called Anopaus, and having reached the fummit of the mountain, terminated near the town of Alpene, the first in the country of the Locrians, on the borders of the Melians, near the rock called Melampyge, where was the habitation of the Cercopi. Count de Choiseul-Goussier discovered this path in his passage from Athens to Larissa.

CERCOSIS, in Medicine, a preternatural extension and tumidity of the female CLITORIS, so as to project beyond

the labia pudendi.

CERCUS, in Ancient Geography, a hill of Asia Minor,

in Bithynia.

CERCY LA Tour, in Geography, a town of France, in the department of the Niévre, and district of Nevers; 8

miles E.N.E. of Décife.

CERDA, JOHN-LEWIS DE LA, in Biography, a native of Toledo, who entered among the Jesuits in 1574. His literary fame reached Italy, and gained him the particular efteem of pope Urban VIII. His "Commentary on Virgil," 3 vols. fol. has been several times reprinted, and is a work of minute research, and great accuracy, but devoid of taste. His "Commentary on Tertullian's Works," begun in 2 vols. but not completed, is a work of fimilar character to the former. Cerda died in 1643.

CERDAGNE, LA, a country of the Pyrenées, fituate partly in Spain, in the province of Catalonia, and partly in France, in the territory formerly called Roufillon: Puycerda is the capital of the former, and Mont-Louis of the

latter.

CERDANA, in Botany, Bofc. Nouv. Dict. Flor. Peruv. pl. 184. Class and ord. Pentandria Monogynia.

Gen. Ch. Calya tubular, ten-striated, five-toothed. Cor. funnel-shaped; tube the length of the calyx; segments of the border oblong, expanded. Stam. Filaments five, hairy at the base. Pift. Germ superior; thyle bisid; stigmas two, bifid. Peric. Drupe oblong, striated, covered by the permanent calyx and corolla, four-celled. Seeds oval, one in

Sp. C. - A large tree, Leaves alternate, petioled, oblong, acute, entire, even, thining. Flowers white, with red veins, in much branched terminal panicles. A native of Peru. The wood, when the tree is first cut down, has an extremely fetid fmell, refembling that of a fox's urine; it afterwards changes to that of garlie, and finally assumes an agreeable pungent odour. The dried leaves and bark are

used by the Peruvians as articles of cookery.

CERDICESORA, in Ancient Geography, the name of the place where Cerdic the Saxon leader landed, when he invaded Britain in 495, and where he found the Britons drawn up in battle-array to oppose him. This place, according to Camden, was on the coast of Norfolk; but as this is improbable, fome learned men have supposed it to be Calihot or Caldihore at the entrance of Southampton river. Others again feek for it at Charford; and Carte thinks, nor is his opinion improbable, that it was Charmouth in Dorfetthire; a place afterwards famous for hostile invasions.

CERDON, in Geography, a town of France, in the department of the Ain; four leagues S.E. of Bourg en

Breffe.

CERDONIA, in Ancient Geography, Cerdogna, a place

of Italy belonging to the Hirpini.

CERDONIANS, in Ecclefiafical Hiftory, a feet who maintained most of the errors of Simon Magus, Saturninus, and the Manichees.

They took their name from their leader Cerdo, a Syrian, who came to Rome in the time of pope Hyginus, about the year 140; and there abjured his errors, but he did this in appearance only; for he was afterwards convicted of perfifting in them, and accordingly was cast out of the church again. Cerdo afferted two principles, the one good, and the other evil: between thefe, he imagined an intermediate kind of deity, of a mixed nature: this last, according to him, was Creator of the world, and the God that appeared under the old law. To his jurifdiction the Jews were fubject; and idolatrous nations were under the empire of the evil principle. The good Being, whom he called unknown, was the father of Jefus Chrift, who, he taught, was only incarnate in appearance, and was not born of a Virgin; nor did he fuffer death, but in appearance. He was a great admirer of virginity, and recommended it to his followers. He rejected or despised the Old Testament; but probably received the books of the New Testament as other Christians did. Marcion, his disciple, succeeded him in his errors: whence the MARCIONITES.

CERDYLIUM, in Ancient Geography, a place on the confines of Thrace and Macedonia, near a maritime burgh, in the country of the Argilians, and in the vicinity of the town of Amphipolis, according to Thucydides and Lyco-

phron.

CERE, Cera, in Ornithology. See ORNITHOLOGY.

CERE, St. in Geography, a town of France, in the department of the Lot, and chief place of a canton, in the district of Figeac; 10 leagues N.E. of Cahors. The place contains 3798, and the canton 12,169 inhabitants: the territory includes 235 kiliometres, and 12 communes. N. lat. 44° 52'. E. long. 1° 47'.

CERE-CLOTH, found of cere, cera, wax, and cloth, denotes cloth smeared over with glutinous matter, for the purpose of being applied to wounds or bruises, or for other

CEREA, in Geography, a town of Italy, in the Veronese, belonging to the state of Venice; 4 miles W. of Legnano. At this place a battle was fought, in 1796, between the Austrians and French; in which the latter kept the field, and the former loft 100 men killed and 250

CEREALES adiles, two officers of ancient Rome, appointed under Julius Cæfar, to have the superintendency of the corn and grain for the provision of the city. They also

presided in the cerealia. See ÆDILE.

CEREALES ludi, folemn sports held in honour of Ceres, wherein the matrons represented the grief and lamentation of Ceres for the lofs of her daughter Proferpine, and her travels to find her again.

CEREALIA, in Antiquity, feasts of Ceres instituted by Triptolemus, son of Celeus, king of Eleusine, in Attica, in gratitude for his having been instructed by Ceres, who was supposed to have been his nurse, in the art of cultivating corn and making bread.

There were two feaths of this kind at Athens; the one

called ELEUSINIA, the other THESMOPHORIA.

What both agreed in, and was common to all the Cerealia was, that they were celebrated with a great deal of religion and purity; fo that it was esteemed a great pollution to meddle, on those days, in conjugal matters.

It was not Ceres alone that was honoured here, but also Bacchus. Bacchus. The victims offered were hogs, because of the waste they make in the products of the earth. Whether there was any wine offered, or not, is matter of much debate among the critics. Plautus and Macrobius feem to countenance the negative fide; Cato and Virgil, the posi-

The cerealia passed from the Greeks to the Romans: Q. Memmius, the edile, being the first who introduced thefe rites into Rome, as appears from a coin of this magiltrate, on which is the figure of Ceres, holding in one hand three ears of corn, in the other a torch, whilit her left foot trod on a ferpent; with this infcription, "Memmius Ædilis Cercalia primus fecit." The Romans held them for eight days fucceffively; commencing, as generally held, on the fifth of the ides of April. The women alone were concerned in the celebration, and were all dreffed in white: the men, likewife in white, were only spectators. They eat nothing till after fun-fet; in memory of Ceres, who, in fearch after her daughter, took no repast but in the evening. The festival closed with a banquet and public horse-races.

After the battle of Cannæ the defolation was fo great at Rome, that there were no women to celebrate this feath because they were all in mourning, so that it was omitted that year; but after the second Pinic war, it was celebrated with an accession of splendour; statues, paintings of chariots, crowns, and rich plunder taken from the enemy, being carried in the procession. According to Macrobius, an egg made part of the shew, being an emblem of Ceres.

CEREALIA femina, an appellation given by fome to what we call legumina, or pulse. Dr. Cuilen (Mat. Med. vol. i. p. 274.) refers the feveral farinacea to three different heads, under the titles of Cerealia, Legumina, and Nuces oleofe. By this affortment, he tays, they may be diftinguished as they contain more or less of faccharine and only matter, or as these are in proportion to one another. In the cerealia he supposes the fugar to be large in proportion to the oil; in the legumina, the oil to be fomewhat larger in proportion to the fugar; and in the nuces oleofæ, the proportion of the oil to be still greater. But he is of opinion, that in the feveral farinaceous feeds the nourithment they afford is in proportion to the oil they contain. Under the title of cerealia are commonly included the feeds of the feveral gramineous or culmiferous plants, that are employed as the food of men. To this head he refers barley, rye, millet, rice, oats, maize, and wheat; subjoining to his account of each appropriate reflections; and he then enumerates other farinaceous substances which are not of the tribe of gramina, but very much of the fame farinaceous nature with these, such as buck-wheat, fago, falop, potatoe, and chefnut. See each of these arti-

CEREBELLI INFERIOR, in Anatomy, is an artery, which comes off from the vertebral. Sec ARTERIES.

CEREBELLI fuperior, is a branch of the bafilar artery. See ARTERIES

CEREBELLIACA, in Ancient Geography, Chabeuil, a place of Ganl, between Valencia and Augusta.

CEREBELLUM, in Anatomy, that portion of the contents of the cranium, which is contained in the lower fossæ of the occipital bone, and covered by the tentorium. See BRAIN.

CEREBRI ANTERIOR, is the anterior branch of the internal carotid artery. See ARTERIES.

CEREBRI media, is the large polierior branch of the internal carotid artery, which runs in the fiffura Sylvii. See Ar-TERIES.

CEREBRI poslerior, or profunda, is a branch of the basilar artery. See ARTERIES.

CEREBRITES of Knorr, in Zoology, one of the fynonyms of MADREPORA AREOLA, which fee.

CEREBRUM, in Anatomy. This term in common language denotes the brain in general; but anatomists coufine it to that part of the encephalon, which occupies all the upper part of the cranium: indeed by far the largest portion of the cavity. See BRAIN.

CEREBRUM Jovis, in Ichthyology, a name given by Ennius the poet to a peculiar fish of the labrus kind, called by the generality of authors fearus: it is diffinguished by Artedi from the other species of the same genus, by the name of the LABRUS, qui scarus auctorum eft.

CEREFOLIUM, in Botany, foliis glabris, Hall. See SCANDIX cerefolium.

CEREFOLIUM annuum nodofum, Morif. See Scandix no.

CEREFOLIUM foliis triplicato-pinnatis, Hall. See CHERO-PHYLLUM Sylvestre.

CEREFOLIUM latifolium birfutum, Morr. See CHÆRO-PHYLLUM birfutum. CEREFOLIUM rugofo angelica folio, Bocc. See CHERO.

PHYLLUM aromaticum. CEREFOLIUM foliis hirfutis, Hall. See CHEROPHYLLUM

CEREIS, in Botany, a name used by some authors, and supposed to have been used by the ancients for the filiquastrum, or Judas's tree. See CERCIS.

CERELÆUM, a composition of wax and oil.

Some also give the fame denomination to the oleum ceras otherwife called butter of WAX.

CEREMENTS, cloths dipped in melted wax, with which dead bodies were infolded when they were embalmed. Thus the term is used by Shakspeare:

> " Let me not burst in ignorance, but tell "Why canonized bones, buried in earth;

" Have burit their cerements ?"

CEREMONIAL is used for the fet or system of rules and ceremonies which cuftom has introduced for regulating our behaviour; and which perfors practife towards each. other, either out of duty, decency, or civility.

CEREMONIAL, in a more particular fense, denotes the manner wherein princes and their ambaffadors use to receive and treat one another. 'The ceremonial is a kind of law introduced by compact, cultom, prescription, &c. which fovereigns and their ambaffadors are to observe at their interviews, that none of them may either receive more or less marks of respect than they are entitled to. Some distinguish three occasions on which the ceremonial is to take place: viz. when princes meet in person; when they write to each other; and when they fend ambaffadors.

There are endless disputes among sovereigns about the ceremonial: fome endeavouring to be on a level, and fome to be superior, to others. Numerous schemes have been proposed for fixing the place and rank of each prince; but they have not been accepted of by any, except some alternate princes, as they are called in Germany. See PRECEDENCY.

CEREMONIAL is more particulary used in speaking of the laws and regulations given by Mofes, relating to the worthip of God among the ancient Jews.

In which fense, it amounts to much the same with what we otherwife call Levitical law; and stands contradistinguished from the moral, as well as the judicial law.

It is disputed, whether the observation of the sabbath be a ceremonial or a moral law. See SABBATH.

The ceremonial law prescribed the forms, usages, rites, &c. relating to facred places, utenfils, prietts, levites, prophets, congregations, garments, featts, facrifices, fabbaths, &c.

Most of the ceremonial laws of the Jews had fome relation to those idolatrous customs which had been established among them before the publication of the levitical law.

CEREMONIALE, a hook in which is preferibed the order of the ceremonies to be observed in certain actions

and occasions of solemnity and pomp.

The coremonial of the Roman church is called ordo Romanus. The Roman exercmonial was first published by the bishop of Corcyra, in 1516; at which the college of cardinals were so feandalized, that some of them voted to have the author as well as book burnt, for his temerity in exposing the facred ceremonics to the eyes of the profane people.

CEREMONIEUX MILITAIRES, military ceremonies or

ceremonials. See CHEVALIERS.

CEREMONY, an alfemblage of feveral actions, forms, and circumlanness, ferving to render a thing more magnificent and folems. The word cores from the Latin ceremonia, quafi Gereris munia, on account of the great number of ceremonics used in making the offerings to Geres; or because the first religious circumousts were those of Ceres. Hence Cicero calls "Cererem antiquisimam religiosissimam principem omnium facrorum que apud omnes gentes fiunt."

We have an ample and magnificent account of the religious ceremonies and cultoms of all the nations in the world, represented in figures defigned by Picart, with historical explications, and divers, curious differtations, &c. Ceremonies & Coutumes Religeofes de tous les Peuples du

Monde, 6 tom. fol. Amft. 1723.

M. Porree, in 1646, published a history of ancient ceremonies; tracing the rife, growth, and introduction of each rite into the church, and its gradual advancement to supersition therein. Traité des Anciennes Ceremonies. Amst. 1646, 12mo.

Many of them were borrowed from Judaism; but more,

as it should feem, from Paganism.

Dr. Middleton has given a fine discourse on the conformity between the popish and pagan ceremonies; which he exemplifies in the use of incense, holy water, lamps and candies before the shrines of the faints, votive gists or offerings round the shrines of the deceased, &c. In effect, the altars, images, crosses, processions, miracles, and legends; any, even the very hierarchy, pontificate, religious orders, &c. of the present Romans, he shews, are all copied from their heathen ancestors. Who then can doubt of the idolatry of popery, when we see the present people of Rome worshipping at this day in the same etemples, at the same altars, sometimes the same images, and always with the same ceremonies, as the old Romans? See Middleton's Letter from Rome, and Presatory Discourse in his Works, vol. iii.

CEREMONY is also applied to those expressions or tokens of respect and honour which people pay to each other, out of mere civility and good breeding.

CEREMONY, habit of, denotes the ornaments and external

badges of a profession, dignity, or office.

CEREMONY, efficers of, those whose business is to fee the customary ceremonies duly observed in actions of pomp and folemnity. Such are marshals, serjeants at arms, &c.

In our court is a mafter and affiltant of the ceremonies: the French have a grand mafter of the ceremonies, as well as

a mafter and afficiant.

The master of the ceremonies is an officer inflituted by king James I. for the more honourable reception of ambassadard firangers of quality. He wears about his neck a chain of gold, with a medal under the crown of Great Britain, having on one side an emblem of peace, with this motto, "Beati

pacifici," and on the other an emblem of war, with "Dieu et mon droit." His falary is 3001, per annum. The affiffient mafter of the ceremonies executes the office of mafter in all respects, whenever the matter of the ceremonies is abfent. He has a falary of 1411, 138, 4d, per ann. The marghal of the execution is an officer subordinate to both the others, with a falary of 1001, per ann. There are also mafters of the executions in public places, and in private affemblies, &c. whose business it is to direct and superintend the arrangements that are necessary for preserving a due regard to rous and decounts.

In churches of the Romith communion there are also

formed as prescribed in the ritual.

CEREMONY, in the Royal Navy, the form used in receiving the principal officers on board, or in passing any of his majesty's ships; which is as follows. All flag officers are to be received on board his majesty's ships with a guard under arms and heat of drum; which, for the admiral, or flag-officer commanding in chief, is to be a march; for an admiral, three russ! s; for a vice admiral, two; for a rear-admiral, one; but the first captain to the admiral, or commander in chief of the fleet or squadron, is to be received on board by a guard only. If any of these officers passone of his majesty's ships with his flag at the head of his boat, the same ceremony is to be observed.

CERENCES, or CERANCE, in Geography, a town of France, in the department of the Manche or Channel, and

diffrict of Contances, 21 leagues S. of Contances. CERENS, a town of France, in the department of the

Sarthe; 10 miles S. of Le Mans.

CERENZA, or Gerenza, a town of Naples, in the province of Calabria Citra, feated on a rock, with a bifhop's fee; 10 miles N. of St. Severina. N. lat. 39° 45'. E. long.

CEREPOLIUM, in Botany, a name used by Pliny to express the gingidium, an umbelliferous plant of the nature of the chervil or cerefolium; and it is very probable that this name is only a falle spelling of that word. Columella makes the cerepolium and gingidium different; but it may only be that in different ages they applied these names to different species of the same genus of umbelliferous plants. Neophytus tells us, that the gingidium of the ancients was called by the later writers bifacutum; a name very well expressing its feeds, which are long and ilender, and are pointed at both ends.

CERES, in Aftronomy, a new primary planet, discovered on the 1st of January 1801, by M. Piazzi, astronomer royal at Palermo in Sicily. This is an intermediate planet between the orbits of Mars and Jupiter, and appears as a star of the 8th magnitude, being probably about the fixe of the moon. Its distance from the sun is about 23 times that of the earth, and its periodical time nearly 4 years and 2 months. Since the arc of its orbit through which this planet run during the period it was observed by Piazzi was but small, no great degree of accuracy can be expected in stating the elements of its theory: the following, however, communicated by Dr. Hutton of Woolwich to Mr. O. Gregory, and published in his "Treatife on Astronomy," 1803, are the most exact yet known:

Place of the afcending node - 2' 20° 58' 30"
Inclination of the orbit - 10 47
Place of the aphelium 2 8 59 37

Time of the affice through the aphelium 3 8 59 37

Eccentricity January, 1801 1.3328
Log, of the greater femi-axis - 0.4166586
Time of the fidereal period - 4.13 years.

These particulars are deduced from calculations made by Dr. Burckhardt at Paris on the orbit of this planet considered as an ellipsis, and communicated to the celebrated astronomer M. Von Zach on the 21st of June 1801. This ellipsis, he says, represents, within a few seconds, the longitudes and latitudes of five observations; and he addis, it would have been easy to obtain a greater degree of accuracy; but he thought it quite superfluous, as the are run through is so small.

Dr. Herschel, who ciasses this planet, as well as that discovered by Dr. Olbers of Bremen (fee PALLAS), under the new denomination of Afteroids (which fee), has published, in the Phil. Trans. for 1802, part 2. a variety of obfervations which he made on thefe two celefial bodies. Calculating from an observation, in which he had great reason to confide, he inferred that the angle under which Ceres appeared, in the circumstances which he has minutely described, was only o".2159 or o".22. The mean distance of Ceres from the fun, according to the most recent information, and which he admits as sufficiently accurate for his purpose, is 2.6024; and its geocentric longitude and north latitude at the time of his observation (April 1802), were about my 20° 4', 15° 20'. With these data, Dr. Herschel proceeded to calculate the distance of Ceres from the earth at the time of observation, partly by the usual method, and, when the elements were wanting, by a graphical process, sufficiently accurate for his purpose. The computed distance of Ceres was 1.634; and thence he found, that its diameter, at the mean diffance of the earth from the fun, would fubtend an angle of o".35127, and that, confequently, its real diameter is 161.6 miles. When we consider the fize of this new star. there can be no great reason to expect that it should have any fatellite. Dr. Herschel made many observations, with a view of afcertaining this point; from the refult of which he infers, that two very fmall thars which he observed may be fatellites; but the supposed fatellites are so small, that, with a 20-feet telescope they require a power of 300 to be feen; and the planet should be hidden behind a thick wire, placed a little out of the middle of the field of view, which must be left open to look for the supposed fatellites. However, the retention of a fatellite in its orbit, it is well known, requires a proper mass of matter in the central body, which it is evident these newly discovered stars do not contain. The colour of Ceres is ruddy, but not very deep; though it is much more ruddy than Pallas.

The name of Ceres was given to this planet by M. Piazzi, its discoverer. But other names have been suggested as more appropriate. Some have proposed the name of Vulcan; affigning to the god who fabricated the arms of Achilles a place in the heavens near the god of war. Prof. Reimarus of Hamburg is of opinion, that it should be called Cupid; for he would be the nearest (reckoning downwards from Venus) to Mars, the lover of Venus. Others fuggest that the name of Cupid would be proper, because it conveys an idea of blindness; for the new star has the appearance of a star only of the 8th magnitude, and cannot be seen by the unaffilted eyes of man. In Italy it will perhaps retain the name of Ferdinandeum Sidus, and in France that of Planeté Piazzi, till time and circumflances shall have otherwise decided. A friend of M. Von Zach expressed the order of the eight planets (Pallas not being discovered) in the follow-

ing lines :

"Mercurius primus; Venus altera; Terra deinde; Mars potthae; quintam fedem fibi vindicat Hera. Jujiter hanc ultra elt. Sequitur Saturnus; et illum Uranus egreditur; non aufim dicere fummus."

Mr. Maclaurin, and other philosophers, expected, about Vol. VII.

100 years ago, that fuch a discovery as this of M. Piazzi would be made by fome diligent astronomer; and the opinion has been lately revived by the ingenious and fcientific Mr. Capel Lofft. In the "New London Review" for March, 1800, this gentleman, in a critique on the Athenian letters, ventured to offer fome conjectures respecting an intermediate planet between Mars and Jupiter. He fupposed that the distance of the intermediate planet from the fun would be to that of Mars, either as 33 to 15, or as 20 to 15; the mean of which corresponds nearly with the fact. With respect to its diameter, he conceived it might be to that of Mars, as that of Mars to the diameter of the earth: and then, being not much more than half the diameter of Mars, and at five times the perigæan distance, it would be feen from the earth under an angle of 2½" or 3"; while Georgium Sidus would appear under an angle of 4". These fortunate conjectures were founded on a certain kind of Pythagorean harmony, and they were ingenionfly flated and vindicated by

CERES, in Mythology, the daughter of Saturn and Opa Rha; who taught men the art of cultivating the earth and of fowing com, whence she was regarded as the goddess of agriculture; and by metonymy, the appellation of Ceres was used to denote bread and every kind of food. Thus, "Sine Cerere et Baccho friget Venus;" i. e. without bread and wine love grows cold. Terent. Eun. iv. 5, 6. Cic.

Nat. Deor. ii. 23.

Sicily, Attica, Crete, and Egypt claim the honour of her birth; but general fuffrage favours Sicily, where she had her ordinary residence in a delightful part of the island called "Enna," in which were beautiful meadows watered with perpetual fprings. Accordingly, Le Clerc fays, (Bibl. Univ.) that the name of Ceres was Dio, and that she was queen of Sicily, where she rendered her reign illustrious by teaching her fubjects the art of agriculture, as well as by establishing feveral laws concerning policy and the property of lands, that every one might reap what he had fown without moleftation: and from these circumstances this queen acquired the honourable distinction of being considered as the goddess of corn and of the earth. In her youth the was extremely beautiful, and as fable reports, her brother Jupiter fell in love with her; and the fruit of the amour, obtained by the deception of transforming himfelf into the figure of a bull, was Pherephata, Proferpine, or Hecate. Pluto, falling in love with Proferpine, stole her away, and mounting his chariot drawn by four horfes, purfued his way directly to hell, in opposition to the remonstrances of Minerva, who in vain endeavoured to diffuade him from the defign. Ceres, apprized of this circumstance, traversed sea and land in search of her daughter; and after having travelled by day, she lighted a torch, as it is faid, in the volcano of mount Ætna, and continued her fearch by night. In her fruitless rambles she came near the lake of Syracufe, and perceiving her daughter's veil floating upon the water, the concluded that her ravishers must have made their escape that way. At length she was informed by Arethufa, the nymph of a fountain, whose waters slowing from Elis into Sicily, glide under the bottom of the fea and in the confines of Styx, that she had scen Proserpine, and that the had been ravished by Pluto, who had made her queen of hell. She intreated her at the fame time not to indulge any farther refertment against the earth, which had become barren fince she had withdrawn her precious gifts. Upon this intelligence Ceres mounted her chariot, and traverling the immense regions of the air, arrived at Olympus, and proftrating herfelf at the foot of Jupiter's throne, demanded of him her daughter. Jupiter having appealed the anger of Ceres by affuring her that the match of Proferpine with Ss

Pluto was not difadvantageous to her, and by decreeing, that Proferpine should remain fix months of the year with her husband, and the other fix months with her mother, she bethought herfelf how the might repair the calamities occafioned by flerility and famine. As Attica had been more distressed than other countries, she went to Eleusis, where, after having fostered Triptolemus, the fon of Celeus, fovereign of the country, and having instructed him in every thing that related to agriculture, she lent him her chariot, and ordered him to travel through the earth in order to teach its inhabitants this necessary and useful art. Triptolemus, having traverfed Europe and Asia, arrived in Scythia at the court of Lyncus, a tyrannical prince, who for attempting to affaffinate him was transformed into a lynx, an animal which was the fymbol of cruelty. The ancient historians agree with the poets in their account of feveral particulars above recited. Strabo (l. vii.) mentions the meadows of Enna whence Proferpine was carried off; and Cicero (in Verr.) feems to admit the fact, and has given us an elegant and ornamented description of this place. Diodorus Siculus also fays, that Sicily, of all the countries on earth, had been most distinguished by the favours of Ceres, and that the goddels had fixed her ordinary relidence in this illand. "The Sicilians," fays he (lib. v. c. 2.), " hold by tradition from their ancestors, that their island is confecrated to Ceres and her daughter Proferpine; some poets have written, that at the marriage of Pluto with that princess, Jupiter gave them Sicily for a nuptial present; and the historians, who are accounted the most faithful, fay, that it was in Sicily that Ceres and Proferpine shewed themselves to men for the first time, and that this island is the first in the world where corn grew." Homer, the most celebrated of the poets, has followed this tradition, when he fays, speaking of Sicily:

"The foil untill'd a ready harvest yields,
With wheat and barley wave the golden fields,
Spontaneous wines from weighty clutters pour,
And Jove descends in each prolific show'r."
Pope's Odysk, ix. 123.

This author proceeds to give a description of the fields of Enna, whence Proferpine was carried off; and relates all the other circumstances of this fable much in the same manner as we have above flated them. He also adds, that the Syraculans have a cultom of offering oblations every year, each according to his abilities, near the fountain Cyane, which Pluto made to fpring up, when in that place he opened a way to himself with a blow of his trident; and that after those private facrifices they make a public offering of bulls, whose blood they shed over the same fountain. As Attica, fays the same author, was the country, which, next to Sicily, was most honoured with the favours of Ceres, the Athenians instituted, from respect to her, not only facrifices, but the Eleafinian mysteries, which became venerable for their fanctity and antiquity. See ELEUSINIA. The Sicilians also, befide the facrifices which they offered at the fountain Cyane, instituted feasts in honour of Ceres and Proserpine; and they celebrated them in a manner fuitable to a people on whom these goddesses had conferred so many distinguishing tokens of regard. These feaths they placed in different seafons of the year, in allution to the different appearances of the corn. The rape of Proferpine was celebrated about the time of harveit, and the fearch of Ceres in feed time. The latter lafted fix days, with splendid and magnificent accompaniments. Whilit this feast continued, it was also cultomary to intermix in conversation some wanton expressions, because by such kind of intercourse Ceres had been diverted from her affliction for the loss of her daughter. Besides

the cultivation of corn, Diodorus informs us that Ceres had given laws to the Sicilians; and for that reason she was denominated Thefmophoros by the people. "It was not possible," adds the historian, "that she could have given men two more valuable prefents than the fupply of the neceffaries of life and instructions how to live virtuously. The rape of Proferpine has been represented by most mythologists merely as an allegory, which had an obvious relation to agriculture. However, fome ingenious authors, in the number of whom we may reckon Don Pezron and Le Clerc, relying upon the authority of Diodorus Siculus, have referred this event to real history. Several chronologists, and particularly the celebrated fir Isaac Newton, confiding in the relations of Greek writers, have endeavoured to fix the time when Ceres lived; to determine the date of her expedition from Sicily to Athens; and to mention the year of her death, and the worfhip that was paid to her not long after. Banier, however, notwithstanding these authorities, is persuaded that we are not to look in Greece for any other Ceres than the Ifis of the Egyptians, nor for other mylteries beside those of that goddels. We are unquestionably certain, he fays, that almost all the gods of the Greeks and their worship came from the eaftern countries, and especially from Egypt, with the colonies that had peopled Greece at different times; and if there be any concerning whose transportation we may be consident, they are Bacchus or Ofiris, and Ceres or Ifis. Accordingly he thus accounts for the origin of the fable. Greece was infested with a severe famine under the reign of Erechtheus, as we learn from Diodorus Siculus (lib. xviii.), and also from Ovid, who has amply and beautifully described it. The Athenians, whose foil was not very fertile, were more diftressed by it than their neighbours. Erechtheus, on this ocfion, fent to Egypt for corn; and his messengers brought back with them, not only a fupply of corn, but the worship and ceremonies of the divinities who prefided over agriculture. The diffress they had suffered and the dread of its renewal induced them to adopt the mysteries of a goddess, who was thought competent to fecure them from it. Triptolemus at the fame time received that worship into Eleusis. Ambitious of being the first priest of Ceres or Isis, he not only enjoyed plenty himfelf, but took care to affirt his neighbours by teaching them the mysteries in which he had been instructed. Sicily had adopted these mysteries some time before, and hence it was faid that Ceres had come from Sicily to Athens. It was added, that her daughter had been ravished, because the corn and fruit, indicated by her name, had ceased for some time to yield sublittence. Moreover, it was faid that Pluto had carried her away to hell, because the fame fruits had remained all that time as it were buried in the earth; and Jupiter's decision of the quarrel between Ceres and Pluto intimated that the earth was again covered with new harvests.

This is the account that is given of the introduction of the mysteries of Ceres into Sicily and Greece. If, however, fome learned men, with Diodorus Siculus, incline to maintain, that there really was a Ceres in Italy, who gave instructions and regulations relating to a griculture, we may suppose, for the satisfaction of such, that she, having lost her daughter, and come to Attica in quest of her, taught Triptokemus the mysteries of Isis; and that the Greeks having ranked her afterwards among the deities, her worship was thus at length consounded with that of the goddes of the Egyptians. As Triptolemus was one of those who gave the best entertainment to Ceres when she arrived in Attica, it was hence fabled that this goddes had taught him the art of agriculture, and sent him in her chariot drawn by winged dragons, to propagate this art among mankind. It

was added, that the nurfed him with her own milk; thus intimating the care she had taken in the education of this prince. All these mysterious fables, as well as the arrival of Ceres in Attica, which is fo finely represented upon a marble tomb, ingeniously explained by M. de Boze, in a differtation published in the 4th volume of the Memoirs of the Academy of Belles Lettres, have no other foundation, as Banier conceives, but the introduction of the worship of Ceres into Greece, and especially into Attica. Triptolemus, who reigned there, came to Elensis by sea, in order to carry corn into different countries, where at the fame time he taught the mysteries of Ceres, of which he himself was priest. Before he fet out, he had fown corn in a field of Attica, as we learn from the 10th zera of the Arundel Marbles; this, according to the author now cited, (Mythology, &c. b. iv. c. 10.) is the key and folution of this whole fable; for it refers to the time when the worship of Ceres, so ancient in Egypt, was received in Greece; and not to that of agriculture, which had been known there long before; unless we chuse to understand it of a new method of cultivating the ground, which the Greeks learned in their travels into Egypt, and reduced to practice at this time. The marbles now quoted fix this date under the reign of Erechtheus; that is, according to the commentators on these marbles, 1426 years B. C. or about 280 before the Trojan war. The Arundelian marbles, however, point out three dates of these events, which are not ranged in the same manner with that of other authors who speak of them. In the first of those æras, viz. the 12th, they represent Ceres as coming into Attica; in the 13th, they fay that Triptolemus began to fow corn in the fields of Eleufis; and in the 14th they mention the rape of Proferpine; fo that the arrival of Ceres at Athens precedes the rape of her daughter ten years. Blair, in his Chronological Tables, refers the arrival of Ceres in Athens to teach the inhabitants the art of lowing corn, and her fending her fon Triptolemus through the relt of Greece, to the year 1383, B. C. Newton, in his "Chronology," refers it to the year 1030, B. C. The hazard to which Triptolemus was exposed in his travels gave rife to the fable of Lyneus, already mentioned; and that of his being drawn in a chariot by winged dragons is taken from an ambiguity in the Phænician language; in which the word used in this hillory fignifies either winged dragons or a ship adorned with iron beaks, as we are told by Bochart (Hieroz. l. 3. c. 14.), and after him by M. Le Clerc. Banier, however, inclines to the opinion of Philochorus, cited by Eufebius, who fays, that this ship was taken for a flying dragon, because it had upon its prow the figure of a dragon.

Besides the amour of Ceres with her brother Jupiter, fable reports, that she had another with Neptune, the fruit of which was the famous horse Arion, or as the Thelpusians and Phigalians relate, a daughter, called by the Arcadians Hera. In reference to this circumstance Pausanias says, (Arcad. lib. viii.) that upon mount Elaius, in Arcadia, 30 fladia from Phigala, Ceres had a cave into which she retired, cloathed in mourning, fo that she was called black Ceres, and that the Phigalians dedicated to her memory on this Ipot a wooden image, having the body of a woman, and the head of a horse, and bearing in one hand a dolphin, and in the other a dove. When this statue was accidentally burnt, the Phigalians forgot the worship of Ceres, and neglected her feafts; upon which the goddess punished them with a fevere drought. In this diffress they consulted an oracle, which informed them, that if they did not re-establish the worthip of Ceres, a famine would prevail to such a degree as to oblige them to eat their own children. At length Pan, as he hunted in Arcadia, discovered her retreat, and acquainted

Jupiter with it; and the god, by the interceffion of the Parca, appealed her, and reflored her again to the world; in confequence of which, as the fable reports, the earth produced corn and fruits. Hefiod (in Theogon.) informs us, that Cores had another amour with the hero Jafion, by whom five had a fon, named Plutus, who was born in the illand of Crete, and became very powerful both by fea and land; and who, having brought agriculture to perfection, as the means of acquiring wealth, was called the god of riches.

Ceres was diffinguished by a great variety of appellations, the principal of which were "Magna Mater," and "Mater Maxima;" and the was honoured in many places with feafts and facrifices. The most customary offerings presented to this goddess were a pregnant fow and a ram; and they also confecrated to her the crane, the turtle-dove, the fea-fish, called Surmullet, and the winged ferpent. Of vegetables, corn was the most usual offering to her, and with this they decorated her images, and her garlands were formed of myrtle and rape-weed; but flowers were prohibited, because Proserpine was carried away whilst she was gathering them. The poppy was facred to her, not only because it grew among corn, but because in her diffress, Jupiter gave it her to eat, that the might fleep and forget her troubles. In fpring they crowned her images with the stems of gramineous plants; and in her facrifices they made oblations of wine to her. Cicero mentioned an ancient temple dedicated to her at Catania in Sicily, in which the offices were performed by matrons and virgins only; no male being admitted on this occasion. Ceres, according to the abbe Banier, was usually represented of a tall majestic stature, fair complexion, languishing eyes, and yellow or flaxen hair; her head crowned with a garland of poppies, or ears of corn; her breafts full and swelling; holding in her right hand a bunch of the same materials with her garland, and in her left a lighted torch. When feated in a car or chariot, the is drawn by lions, elephants, or winged dragons. Mr. Spence, in his "Polymetis," obferves, that the face of Ceres is a very pretty one, and from fome expressions in the poets, he concludes, that she was a beauty of the brunette kind. Her head, he fays, is often crowned either with corn or poppies, and her robe falls down to her feet, which, in the language of the statuary, denotes dignity. There is one objection that may be made, fays this writer, to the beauty of Ceres; as the figures of her which he has feen generally represent her breaks as none of the smallest. Virgil, in his Georgies, gives us an idea of Ceres, as regarding the laborious hufbandman from heaven, and bleffing the work of his hands with fuccess. Ceres has been no where exhibited with more beauty than on a medal of Metapontum, in Magna Gracia, and another found at Naples, in the collection of the duke of Caraffa Noia, with the common reverse of an ear of corn, and a mouse on its blade. On these coins, the goddess appears with her veil thrown behind her vestment; her head, besides the ears and blades of corn, crowned with an elevated diadem in the manner of Juno; and her hair over her forehead, in beautiful diforder, rifing in front, and hanging freely, as if to indicate her affliction for the rape of Proferpine. She sometimes holds in her hand a vafe, and with this attribute the was worshipped by the Acheans, under the name of Holingi-070705. (Athen. Deipnof. xi. p. 461.) The drapery of Ceres, in allusion to ripe corn, should be yellow; more efpecially as she is distinguished by Homer by a corresponding epithet. Ceres is found winged on ancient monuments; with a head-drefs in the form of a turban a little elevated, called Toltar. She is thus exhibited on a mutilated flatue in her temple at Eleufis, bearing on her head, according to Pococke, a circular ornament about two feet in height. Ceres is often feen accompanied by the horse Arion; and she is frequently found, not only with torches in her hands, but with a modius, the fymbol of fertility, and the myllic cillus of the Eleufinian feafts, placed either on her head or at her fides. On an engraved flone in the collection of Stofch,

head of a ram.

fays Bryant (Anal. Anc. Mythol. vol. ii. p. 35.) is fo innocent and rural, that it might be imagined nothing cruel could proceed from her shrine. Nevertheless, there was a time, when fome of her temples were as much dreaded as those of Scylla and the Cyclops. They were courts of justice; whence she is often spoken of as a lawgiver. (Ovid. Metam. 1. 5. v. 351.) She is joined by Cicero (Orat. in Verr. 5. fect. ult.) with Libera; and they are thied the deities, " a quibus initia vitæ, atque victus, legum, morum, mansuctudinis, humanitatis, exempla hominibus, et civitatibus data, ac dispertita esse dicantur." The deity, to whom the was a fubflitute, continues Bryant, was El, the fun; who was primarily worthipped in these temples. Accordingly Ceres was the deity of fire, according to this Cura, a title of the fun. Her Roman name Ceres, expressed by Hefychius Gerys, was by the Dorians more procalled by the names of the places where they were worthipped. Charis is Char-Is, the city of fire. Hence, as a perfonage, Ceres is made the wife of Vulcan, on account of her relation to fire. Her title of Damater was equally foreign to Greece; and came from Babylonia, and the eaft. Hence it should feem extraordinary, that she should ever be effeemed the goddess of corn. This notion, says Bryant, arose in part from the Grecians not understanding their own theology. The towns of Ceres were Purtain, or Heliana; fo called from the fires, which were perpetually preferved in them. The Grecians interpreted this mige round; and rendered what was a temple of Orus, a granary of corn. Hence they made it a repolitory of grain: but this was a fecondary use to which these places were appropriated. They were properly facred houses, where a perpetual fire was preferved. Many of thefe temples were dedicated to the deity under the name of Persephone, or Proserpine, the supposed daughter of Ceres. The persons who resided in (Ovid, Ibis. v. 411.)

CERES, representations of, in Sculpture. Herodotus in Euterpe, after describing the gods of Egypt, afferts his opinion that Homer and Heliod first among the Greeks gave primes and forms, employments and honours to the gods of their country. That this popular theology had its beginning about the time affigined by Herodotus, feems very likely from a variety of collarent evidence. The learned Fabricius, in his Bib. Gree. begins by observing that no Greek writer's work is extant, is totally different from those of Phio, Aristotle, and their predeceffors in philosophy; and such of the O-phic remains as bear any resemblance to it are confessedly more modern. many fmall bronze flatues of early Greek workmanship are

barbarous imitations of common nature; and, although it is to be supposed some of them are intended for divinities, few are accompanied by fymbols. When writing began to be also represented on a Greek basso-relievo (lately in the Villa Albani, published in Winckelman's Monumenta In-Greek vafes, with two torches, in relation to the fearch for

worshipped in her renowned temple at Eleufis, has been bridge by the zeal and perfeverance of our countryman Dr. Clark. The fragment is one piece of marble feven feet low the breafts. The height of the calathus is about two feet; the head is one foot fix inches; the calathus is ornamented with spikes of corn, the lotus, leaves of elive, and collected in one large trefs, which is tied and falls between between the breatls, and buttoned with a Me lufa's head; the zone a little lower terminates the fragment. Strabo fays, the temple of Ceres was built by Ictions, who also built the parthenon or temple of Minerva, in the citadel of Athens, and was the cotemporary of Phidias. The fragment

CERESIUS, in Ancient Geography, Trefa, a river of

Italy in the territory of the Lepontii.

CERESIUS lacus, Lago di Lugano, a lake of Italy in the

CERESÓLO, in Geography, a town of Italy, in the

CERESSUS, in Ancient Geography, a fortified place of Greece in Bootia, according to Paufanias; belonging t. nenfis, in the country of the Jacetani, according to

CERET, in Geography, a town of France, and principal place of a diffrict in the department of the Eastern Pyrenées, fituated at the foot of the Pyrenées on the river Tech, over which is a bridge of one arch, supposed to be the highest and boldest in France. The place contain 2382, and the diffrict 6245 inhabitants: the territory comprehends 2471 kiliometres and 18 communes. At : .. place the commissioners of France and Spain met, in 1 to fettle the bounds of the two kingdoms. Ceret is leagues S.W. of Perpignan. N. lat. 42° 28'. E. long.

CERETAPA, in Ancient Geography, a town of Aua Minor, in Pacatian Phrygia. This town began to firike imperial Greek medals, under the authority of its prat , verus. Dr. Hunter possessed an Autonome medal of bronze,

CERETIA, in Botany, Pluk. See HYMENEA. CEREUS, in Bolley, Bauh, &c. See Cacrus. CEREUS, in Gardsnirg. See CACTUS.

CERFENNIA, a place of Italy on the Valerian way, between Alba Fucentia and Corfinium, according to the Itinerary of Antonine.

CERIGLIANO, or CIGLIANO, in Geography, a town of Naples, in the province of Basilicata; to miles S. of

Tricarico.

CERIGNOLA; La, a town of Naples, fituated on a riling ground, in the province of Capitanata; famous for a victory obtained here, in 1503, by Gonfalvo, over the elec-· tor of Nemours, who was slain in the commencement of the battle; 20 miles S. of Manfredonia. It contains about 12.000 inhabitants. Between 50 and 60 years ago an earthquake almost totally destroyed it, and it is not yet thoroughly rebuilt: the fireets are crooked and dirty, and the houses are all low, as the owners dare not raise them high for fear of another theck. The eighty-first columna milliaria, inferibed with the name of Trajan, is the only fragment of antiquity observable in this town. The commodities of the place are theep, horses, and corn; the bread is black and gritty, but well-tafted. The prefent poffeffor of this town is Pignatelli, count of Egmont, refident in France, who farms it out at 15,000 dueats a year (25 0/.)

CERIGO, in Geography, an island of the Grecian Archipelago, well known under the rancient appellation of CYTHERA, is feparated from the Morea by a parrow firait. It is dry and mountainous, and produces aeither corn, wine, nor oil, sufficient for the innabitance; some of the vallies, however, are fertile; and it about ds with theep, horfes, quails, turtles, and falcons. Although it had formerly feveral good towns, it now chiefly serves as a rendezvous fice naked. Nuts two, two-celled. Seeds one in each for pirates. The circumference is about 50 miles; and the inhabitants are Christian Greeks, Subject to the Venetians, who change the governor every two years. By the treaty of Campo Formio, in 1797, it was furrendered to the French, together with other Venetian islands. See CEPHALONIA. Cerigo, according to Thevenot, (Voyage, t. i. p. 25) was called Porphyris by the ancients, on account of the quanti-

ties of perphyry found in it.

CERIGO, a town of the above island, feated on its western coast on a sharp rock, surrounded by the sea, and defended by a castle. It has a small harbour, and is the see of a Greek bithop. N. lat. 36° 26'. E. long. 23° 13'.

CERIGO, in Natural Hiftory, a name by which many authors have called that remarkable American animal called

the Opossum.

The Americans in some places call this animal, in their language, Carigueya; and it is probable that this name Cerizo is only a corruption of that word, though it be received generally in the world as a proper name, and used as such by Maffei, Barlaus, Nieremberg, and many others.

CERIGOTTO, in Geography, a small uninhabited island in the Grecian Archipchago, between Cerigo and Candia, anciently called Agilia; about 5 miles in compafs.

N. lat. 36° 2'. E. long. 22° 13'.

CERILLI, in Ancient Geography, a place of Italy in that part of Magna G. acia, called Bruthum, fituate on the fea-coalt, at a small distance S.W. from Pandosia.

CERILLUM, a place of Italy in Lucania, according

to Strabo; probably the same with Cerilli.

CERILLY, in Geography, a town of France, in the department of Alber, and chief place of a conton in the diftrict of Monthegon; 7 miles W. of Months. The place contains 2400, and the canton 9184 inhabitants; the territory includes ,621 killionistres, and 14 communes.

CERINES, the ancient Ceraunia, a fea-port town of

castle; the see of a bishop, suffragan of Nicosia. N. lat. 35° 22'. E. long. 35° 24'.

CERINI, GIOVANNI DOMENICO, in Biography, an historical painter, was born at Perugia in 1606, and studied under Guido and Domenichino; from whom he acquired a very beautiful tone of colouring, and a graceful disposition of his figures; and he particularly excelled in giving elegant and noble airs to his heads. He died in 1081. Pil-

CERINTHE, among the Ancients, was used by some to express that substance called by others ambrofa and fandarach,

and by fome crithace. See WAX.

CERINTHE, in Botany, (xx5w205, Theophr. from xx505, wax, fo called, according to Pliny, because bees were supposed to obtain from it abundance of wax.) Honey-wort. Melinet. Fr. Lina. gen. 186. Schreb. 246. Wild. 281. Tourn. el. i. § 3. gen. 1. tab. 56. Just. 130. Vent. vol. ii. 387. Gært. 413. Class and Order, pentandria monegynia. Nat.

Ord. Asperifolie, Linn. Boraginea, Juff. Vent.

Gen. Ch. Cal. Perianth deeply five-cleft, permanent; fegments oblong, equal. Cor. monopetalous, campanulate; tube thort, thick; orifice naked and pervious; border tubular, fwollen, a little thicker than the tube, five-cleft at the fumnit. Stan. Filaments five, very fhort; anthers acute, creet, long. two-celled, bifid at the base. Pif. Germ, two-cleft; ityle filiform, the length of the stamens; stigma obtuse. Perie. the permanent calyx. Nuts two, bony, glossy, somewhat egg-shaped, outwardly gibbous, two-celled. Seeds one in cach cell. Eff. Ch. Border of the corolla tubular, fwollen; ori-

Sp. 1. C. major, Linn. Sp. Pl. 1. Mart. 1. Defrousseaux in Eacyc. 1. Wild. 1. Bot. Mag. Pl. 343. Lam. Illust. Pl. 39. Gært. tab. 67. (C. glabra. Mill. Dict. ed. 6. Pl. 91. C. Flore rubro purpuralcente; Bauh. Pm. 258. Morif. Hift. tab. 29. fig. 3.) Great honey-wort " Corollas embracing the item; obtuse, spreading, swollen at the apex, campanulate; stamens shorter than the corolla." Root annual. Stems herbaceous, succulent; eighteen inches high or more, round, smooth, branching, leafy. Leaves glancous, alternate, embracing the stem, oblong-oval, obtuse, from two to four inches long, thin, foft, ciliated. Flowers in thort leafy spikes; tube of the corolla yellow; border purple, with very thort revolute fegments. A native of the fouth of Europe, and of the coast of Barbary. 2. C. aspera. Willd. 2 Roth. catal. Lot. 1. p. 33. (C. major. B. Linn. C. flavo flore asperior; Morif. Hift. tab. 29. fig. 2.) " Corallas cinbracing the flem, obtufe, fpreading, cylindrical; stamens as long as the corolla," Leaves prickly, smaller than those of the preceding. Fiowers yellow. A native of the fourh of Europe: Not a variety of C. major. Both plants, after many years cultivation, retain their specific differences. Willd. 3. C. minor, Linn. Sp. Pl. 2. Mart. 2. Defrousseaux 2. Willd. 3. Bauh. pin. 258. Moris. tab. 29. fig. 5. Jacq. Flor. Aust. tab. 124. " Corollas embracing the stem, entire; corollas acute, closed." Root biennial. Stems herbaceous, upright, cylindrical, greenish, about two feet high. Leaves similar to those of the two preceding species; but of a deeper glaucous colour, smooth, rarely ciliated, commonly marked with white spots. Ficurers final, in long leafy terminal racemes, yellow, pedicelled; corolla a little longer than the calyx, contracted at the top and bottom, obleurely five-furrowed, cleft to the middle; legments linear-lunceolate, acute, thraight, forming a kind of cone; filaments scarcely discernible. A native of the the island of Cyprus, with decayed walls, defended by a fouth of Europe. There is a variety with emarginate leaves,

by him to be perennial.

CERINTHE maritima procumbens, Dill. Elt. See Pul-

MONARIA maritima.

CERINTHE echioides, Scop. See ONOSMA echioides.

CERINTHE. in Gardening, furnishes a plant of the ornamental, hardy, flowering annual kind; of which the species cultivated is the great honeywort (C. major), which rifes with stems eighteen inches high, and more, round, fmooth, branching, and leafy; the leaves are glaucous, becoming blue by age, fmooth, without prickles, but ciliated about the edge, and dotted with white: the branches are leafy and nodding, with flowers among the leaves, hanging on long peduncles. It is a native of Italy, flowering in June. It has varieties with smooth leaves and purple Rowers, and with prickly leaves and yellow flowers.

Method of Culture. These plants may be raised by sowing the feeds annually in the autumn or early spring months in patches, in the borders, clumps, or other parts. autumn fowings fhould be made as early as possible. also often rife from the felf-lown feeds; and should be managed as other burly annuals. They are proper for being planted out about the apiary, or in the finall beds or borders in the fhrubbery or other parts of pleafure-grounds, where

they produce variety.

CERINTHIANS, in Ecclefiaflical Hiftory, called also Merinthians, a fect that took its name from Cerinthus, cotemporary with St. John, towards the close of the first or commencement of the fecond century; faid to have been a native Jew, educated at Alexandria, and to have lived at Antioch; who formed a fingular fythem of doctrine and discipline, by combining the doctrines of Christ with some of the opinions and errors of the Jews and Gnollies. Some learned moderns have reprefented Cerinthus as a vicious person; but Dr. Lardner is of a different opinion; and he fays, that nothing of this kind is charged upon him by the writers of herefies; not by Irenæus, nor Epiphanius, nor Theodoret, nor the rest. Cerinthus ascribed the creation of the world, and the legislature of the Jews, to a created being, who derived from the Supreme God extraordinary virtues and powers, but afterwards became apottate and degraded. He supposed that Jesus was a mere man, born of Joseph and Mary; but that, in his baptism, the Holy Ghoft, or the Chrift, who was one of the Zons, descended upon him in the form of a dove; and that he was commiffinned to oppose the degenerate god of the Jews, and to destroy his empire. In confiquence of which, by his insti-gation, the man Jesus was seized and crucified; but Christ ascended up on high, without suffering at all. He recommended to his fellowers the worship of the Supreme God in conjunction with his Son; he required them to abandon the lawgiver of the Jews; and though they were permitted to retain circumcifion and the rites of the Mofaic law, and, according to Jerom, this was the principal error of Cerinthus, that he was for joining the law with the gospel; yet they were to make the precepts of Christ the rule of their conduct. For their encouragement, he promifed them the refurrection of the body; after which the millennium was to commence under the government of Christ united to the man Jejus : and this he represented as confishing in eating and drinking, nuptial entertainments, and other feltivities.

Some authors ascribe the book of the Apocalypse to Cerinthus, adding that he put it off under the name of St. John, the better to authorife his reveries touching Christ's reign in the flesh: but it is observed by the bishop of London, in his third Palloral Letter, p. 58, that his millenary flate was not the life of faints, as the Apocalypfe reprefents it, but the life

described by Allioni under the name of maculata, and faid of libertines: and it is even certain that he published some works of this kind, under the title of Apocalypies.

That Cerinthus was a Millenarian is afferted by Theodoret, though neither Irenaus nor Epiphanius makes any mention of it. Nevertheless, Le Clerc seems scarcely convinced that this error is rightly imputed to him. If there be any truth in the accounts of his being a Mill-narian, it is highly probable (favs Dr. Lardner) that he respected the apostle John, if the Revelation be a work of that apostle. Several writers, who did not like the Millevarian doctrine received by many Catholics, affirmed the book of Revelation, upon which they chiefly built, to be a work not of St. John, but of Cerinthus. Theodoret fays, that whether he wrote himfelf in the name of John, or only appealed to it in support of his opinions, it is a proof of his having respected that apolite: and if he did, it is probable he received his gospel, and the epille generally afcribed to him. Irenaus fays that John wrote his gospel to confute the doctrine lately taught by Cerinthus, and long before by the Nicolaitans; and St. Jerom has fomewhat to the like purpole concerning the occasion of St. John's writing his gospel. Some have afforted, that the Cerinthians received the gospel of St. Matthew to having been circumcifed; but that they omitted the genea-logy. This latter affertion is founded on an erroncous interpretation of a passage in Epiphanius; whereas the true meaning of the faid paffage is, that the Cerinthians preferred this golpel to the others, because of the genealogy; from whence they thought they could prove Christ to be really a mere man, born of Joseph and Mary. It has been faid also, on the authority of Epiphanius, that they discarded the epiftles of St. Paul, because that apostle held circumcision abolished. Of the truth of this there may, however, be some reason to doubt, from what Epiphanius himself says elsewhere. For he informs us that there was a tradition, that when some of them had died without baptiim, others were baptifed for them, left at the time when they should be hereafter raifed up at the general refurrection, they should be punished for that omission. And it was supposed that St. Paul refers to it in 1 Cor. xv. 29. He afterwards argues gospels, which seems to imply, that they respected these parts of feripture, as well as the gospel of St. Matthew, some part of St. Paul's writings, and the Revelation of St. John. Upon the whole then, fays Dr. Lardner, it is certain, that the Old Testament, and several of the books of the New Tellament, were received by Cerinthus. This candid and impartial writer quellions whether the opinions of the Cefented. They might fpeak of Jefus as a man only, though they thought him to be born of a virgin. That they allowed this, may be argued with confiderable force, if they received St. Matthew's genealogy, as it is probable they did. They allowed the Holy Ghott to have descended upon Jesus at his baptifm; which is agreeable to our gospels. But by the Holy Ghost they probably did not mean a person but a power, as Epiphanius expresseth it; and as to what is faid that the Holy Gholl, or the Christ, was imp flible, and left Jefus to fuffer alo e, their real opinion may have been only and no more than this, that the divine nature in Jesus, or the power that came down upon him at baptism, and by which he wrought miracles, did not futfer. A flory has been related concerning Cerinthus, of which

we shall subjoin to this article a brief account. There are fome, fays Irenœus, who have heard Polycarp fay, that John, the disciple of the Lord, going to bathe at Ephefus, and feeing Cerinthus already in the bath, came out again in

haste without bathing, faying to those who were with him, " Let us flee hence, left this bath should fall, while Cerinthus the enemy of the truth is within." The fame flory is told with different circumstances by Epiphanius. But the truth of it has been questioned. It is observable, that Irenæus, though perfonally acquainted with Polycarp, does not fay that he had it from him; but that there were fome who heard him fay as much. It is not at all likely, that the apostle John should go to a public bath; and, therefore, Epiphanius fays, in order to account for this impropriety, that John was moved by the Spirit to go thither; and Theodoret affirms, that he went thither on account of some indifposition under which he laboured. Irenæus and Theodoret fay, it was Cerinthus; Epiphanius that it was Ebion, who was in the bath. There are other different circumitances in the relations of this matter, and also other objections against the whole story; and, indeed, some of the ancients who mention it speak of it only as an uncertain report, particularly Theodoret. Mosheim's E. H. vol. i. Cave, H. L. vol. i. p. 36. Lardner's Works, vol. ii. p. 86. vol. ix. P. 319, &c

CERINTHUS, in Ancient Geography, a town of Greece, in the island of Eubœa, fituated on the eastern coast, N.E.

CERISAY, in Geography, a town of France, in the department of the Two Sevres, and chief place of a canton in the diffrict of Thouars; 24 leagues S.S.E. of Chatillon-fur-Seine. The place contains 928, and the canton 5,244 inhabitants; the territory includes 217 kiliometres and 13

CERISIERS, a town of France, in the department of the Yonne, and chief place of a canton in the district of Joigny; 4 leagues N.N.E. of St. Florentin. The place contains 1,222, and the canton 9.038 inhabitants: the terri-

tory includes 207½ killometres and 9 communes. CERISY-LA-SALLE, a town of France, in the department of the Channel, and chief place of a canton in the diffrict of C utances; 2 leagues E. of Contances. The place contains 2,445, and the canton 13.498 inhabitants; the territory includes 150 kiliometres and 11 communes.

CERITE, in Conchology, Adanton's name of Murex

aluco. See MUREX.

CERITES, in Ancient Geography, a people of Italy, inhabiting Care, in Etruria. They received into their cities the Veltals who fled from Rome on the arrival of the Gauls; and the Romans granted them the right of freedom, without that of fuffrage.

CERITES, the wax-flone, a name used by some old authors

for that yellow agate usually called cerachates.

CERIUM, in Botany, Bofc. Nouv. Dict. Loureiro

Flor. Cochin. Class and ord. Pentandria monogynia.

Gen. Ch. Calyx permanent, five-cleft; fegments awlshaped, thraight. Corol. monopetalous, bell-shaped, with five round dividions. Stam. five. Pifl. germ fuserior; ftyle awl-shaped; ftigma thick. Peric. berry globular, many-celled. Seeds one in each cell. Nearly allied to Brunsfelfia.

Sp. C .- Root annual. Stem five or fix feet high. Leaves alternate, petioled, large, lanceolate, almost entire. Flowers white, peduncled, in long, fimple, ftraight, terminal fpikes; bractes filiform. A native of Cochinchina, in cultivated ground.

CERLIER, in Geography. See ERLACH.

CERMENATI, JOHN DE, in Biography, a man of letters and historian, was a notary and syndic of Milan, and flourithed in the earlier part of the 14th century. In 1312 he was deputed by his countrymen as envoy to Guarnieri,

vicar of the emperor Henry VII. His history of his native city, comprehending, belides its origin, fituation, and the character of its inhabitants, all the occurrences in it from 1307 to 1313, is written with uncommon force and precision, and in a ttyle of unusual elegance for that period. We have two editions of it by Muratori, the last in the 9th volume of his Collection of Italian hiltorians, 17-6. Cermenati was living in 1337. Moreri. Tirabofchi.

CERMORUS, in Ancient Geography, the name of a gulf and small town of Macedonia, on the frontiers of Thrace; placed by Pliny between Amphipolis and Posidium.

CERNA, in Geography, a river of Piedmont, which

runs into the Sefia, 3 miles N.W. of Vercelli.

CERNACHE, a town of Portugal, in the province of

Beira; 4 miles S. of Coimbra.

CERNAY, a town of France, in the department of the Upper Rhine, and chief place of a canton in the diffrict of Befort; 5 leagues N.E. of Befort. The place contains 1088, and the canton QIII inhabitants: the territory includes 140 kiliometres and 11 communes

CERNAY-en-Dormois, a town of France, in the depart-

ment of the Marne; 10 miles N. of St. Menehould.

CERNE', in Ancient Geography, an island near which Hanno cast anchor, situate on the coast of Africa, in the Atlantic Ocean. He fays, in his Periplus, that it was at an equal diffance from the straits of the Colonnes, and from the strait of Carthage. On this island he is faid to have built a fort, and established a colony. In the time of Scylax the island of Cerné became a term in navigation for large buildings. The colony of Hanno maintained itself in this island, and it was always the depot of the Carthaginians on the fouth of Africa. The fituation of this island, however, is not clearly afcertained; fo that ancient authors have much differed with regard to its position.

CERNÉ, a town of Ethiopia, near the ocean, according to an ancient scholiast, cited by Casaubon in his notes on

CERNE, or Cerne-Abbas, in Geography, a fmall town in Dorfetshire, England, consisting of four or five indifferently built streets, is situated in a pleasant valley, surrounded by fleep hills, and watered by the river Cerne, from which it derives its name. A market (Wednesday) was granted in the fifteenth of king John, and is well frequented. Three fairs are held here. The trade of the town is chiefly confined to malting and brewing, though fome hands are employed in a filk manufactory. The beer brewed here is equal, if not fuperior, to any in the kingdom. Cerne is only remarkable for the remains of its abbey, which, according to William of Malmfbury, Camden, and fome others, was founded by St. Augustine, whose zeal in the conversion of the Saxons to the Christian faith is faid to have induced him to visit these parts, where, according to the monkish legends, he per-formed several mirackes. There does not appear, however, any decilive evidence that Augustine ever travelled so far from Kent, or that any missionary arrived in the west of England before Birinus, which was 30 years after the time of the English apostle. The most early intimation of any religious foundation here that can be depended upon occurs about the year 870, when Edwald, or Eadwald, brother of St. Edmund the martyr, king of the East Angles, greatly affected by the murder of his unhappy brother by the Danes, declined the crown, and commenced hermit, fixing his retreat near this place, where Ailmer afterwards founded a monastery of the Benedictine order. A gate-house, and fome few fragments of the abbey only remain. Ceree is 120 miles W. from London: the population was, under the late act, returned at 847, number of houses 165.

From

From this town afcends an immenfe chalk hill, which is crowned by a very large entrenchment, called Trendle Lill; on the declivity of this eminence may be traced a gigantic figure, cut in the chalk, in the manner of the famous white antiquity is doubtful. It reprefents a man holding a club in his right hand, and extending the other; the whole figure measures about 180 feet in height. Hutchins's Hittory of Dorsetshire, fol.

CERNETANI, in Ancient Geography, a people of Italy in Campania, furnamed Mariani, according to Priny.

CERNETZ, in Geography, a town of Swifferland, in Lower Engadina, fituated on a fmall rich plain, bounded by two ridges of mountains converging at both extremities, and producing wheat, barley, flax, and abundance of rich patture; 24 miles S.E. of Coire.

CERNIA, in Ancient Geography, a town of Cyprus, on

the northern coaft, N.E. of Solz.

CERNIN, St., in Geography, a town of France, in the department of the Cantal, and chief place of a canton in the district of Aurillac. The place contains 4141, and the canton 8429, inhabitants: the territory includes 230 kiliometres and 6 communes.

marsh situated in Thrace, near the mouth of the Strymon.

CERNON, in Geography, a town of France, in the department of the Marne, and diffrict of Chalons; 8 miles S. of Chalons.

CERNU, a town of Africa, in the kingdom of Morocco;

" miles from Safia.

CERNUA, in Ichthyology, the name of a small fresh water fish of the perch genus, better known by the titles of the ruff, or ruffe, and pope, and among the old writers by that of affredo and ferca minor. It is caught in feveral of the English rivers, though far more local than the common perch. This is the perca cernua of modern naturalists. See PERCA.

CERNUOUS, in Botany, drooping, a term applied by Linnxus to the peduncle of a flower. It denotes a greater and more determinate degree of downward curvature than is expressed by nutans, or nodding; as in bidens radiata and

helianthus annuus.

CERO, in Geography, a town of Italy, in the Veronese;

6 miles N N.E. of Verona.

CEROCHYTOS, in Antiquity, a method of painting in wax, melted and coloured with pigments for the purpose, and applied with pencils.

The word is compounded of xx, 3, cera, wax, and xvw, fundo, I melt down. Plin. Hitt. Nat. lib. xxxv. cap. 11. and

lib. xxi cap. 14.

CEROCOMA, in Entomology, the name of one of the Fabrician genera of colcopterous infects. See MELOE.

CEROMA, originally denoted a mixture of oil and wax, with which the ancient wreftlers rubbed themfelves, not only to make their limbs more fleek, and less capable of being laid hold of, but more pliable, and fit for exercise.

The name ceroma is fometimes applied by ancient 'phy-

ficians to a cerete or cerecloth.

The champions, ready to engage in the palestra, having ftripped themselves naked, were first anointed with oil, then From the last ingredient, this composition was denominated ceroma, from cera, wax.

CEROMANTIA, an ancient method of divination, by means of wax melted over a veffel of water, and let drop in three diffinct spaces; observing the figure, fituation, distance,

and concretion of the drops.

CERON, in Ancient Geography, a country of Asia in Asfyria, famous for its odoriferous trees. Josephus says that in his time it presented remains of Noah's ark.-Alfo, a fountain of Greece, in the Estimotide, a country of Thef-

CERONE, Dominico Pedro, in Biography, maestro di cappella to the viceroy of Naples, while that city and kingdom were in the possession of the Spaniards: though himself an Ita. lian, and born in the Venetian state, he published, in the Spanith language, the most ample, correct, and useful mufical treatife that appeared in any country during the 17th century; entitled " El Melopeo y Maestro," Naples, 1613, not 1619, as Walter fays. See Draudius Bibl. Exot. p. 279. It was reprinted at Antwerp in folio, 1619. This scarce and truly valuable work for counterpoint, and all the arcana of fugue, ble counterpoint are good, we shall recommend to the musitini, as more accessible, if not more clear; and the examples given by Sala, of whom we shall speak hereafter, as most intelligible and elegant. The fludy of this species of compofition is strongly recommended by regular bred musicians,

CERONES, in Ancient Geography, probably the fame people with the Creenes mentioned also by Ptolemy as inhabitants of the iffe of Albion, were, according to Horfley, the most ancient inhabitants of Lochabar, and of part

CERONIA. See CERINES.

CEROPEGIUM, in Botany, (from xnjowrysor, a candelabrum or lamp-fland) Linn. gen. 302. Schr. 431. Willd. 493. Just. p. 146. Vent. vol. ii. p. 426. Class and Order, pentandria monogynia, Linn. Digynia, Schreb. Lam. Willd. Nat. Ord. Contorte, Linn. Apocinea, Juff. Vent.

Gen. Ch. Cal. five-toothed, or five-leaved, permanent. Cor. monopetalous, tubular or campanulate, fometimes swollen at the base; border five-cleft, converging. Stam. Filaments five, in the base of the corolla, small. Pijl. Style fearcely apparent; fligmas two. Peric. Follicles two, very long, cylindrical, erect, one-celled, one-valved. Seeds numerous, imbricated, crowned with a pappus.

Est. Ch. Contorted. Follicles two, erect; feeds fea-

thery; border of the corolla converging. Sp. 1. C. candelabrum, Linn. Sp. 1. Mart. 1. Lam. 1. Willd. 1. (Niota-niodem-valli; Rheed. Mal. 9. tab. 16.) " Leaves egg-shaped, mucronate; umbels pendulous; flowers creek." Stems twining, flender, round, green or Leaves opposite, petioled, egg-shaped, thick, foft, fmooth. Flowers reddiffi, in axillary umbels, at firth pendulous, afterwards erect, the common peduncles continuing pendulous. A native of the East Indies. 2. C. tuberofa, Willd. 2. Roxb. Cor. 1. tab. 9. " Leaves eggthaped, acute, umbels erect; root creeping, tuberous A native of waste ground in the East Indies. 3. C. Lulbofa, Willd. 3. Roxb. Cor. 1. tab. 7. " Leaves obovate-elliptical, cuspidate; umbels ercet; root bulbous." Distinct from the preceding. Leaves less and different in form. Flowers only half the fize. Bulb folitary, depressed. A native of dry woods in the East Indies. 4. C. liflora. Linn. Sp. 2. Mart. 2. Lam. 2. Willd. 4. "Leaves egg-fhaped; peduncles two-flowered," Stem climbing. Leaves opposite, quite entire. Pedunches axillary, most frequently two-flowered. Flowers opposite to the peduncle, not reflexed but extended in a right line. A native of the island of Ceylon. 5. C. juneea, Willd. 5. Roxb. Cor. 1. tab. 10. " Leaves lanceolate, fessile; peduncles with about two

flowers; ftem fleshy." Stem nearly simple, twining. Leaves opposite, dillant, appearing like scales. Flowers large for this genus, near an inch and half long, very pale green, beautifully variegated with transverse purple streaks. A native of the East Indies, on dry uncultivated ground. 6. C. acuminata, Willd. 6. Roxb. Cor. 1. tab. 81. "Leaves lanceolate, acuminate to a great length; umbels manyflowered, upright; root bulbous." A native of the East Indies in dry woods. 7. C. fagittata, Linn. Mant. 215. Thunb. prod. 37. (Cynanchum; Burm. afr. 36. tab. 15?) . Umbels nearly feffile; leaves arrow-haped." Stem twining, tiliform, downy. Leaves opposite, on short petioles, revolute at the edges, downy on both fides, paler underneath. Umbels axillary, many-flowered, peduncles shorter than the umbel. Flowers fearlet; corolla nearly cylindrical, but little fwollen at the bafe; fegments very fhort, mucronate, converging; calyx half the length of the corolla, with five linear acute fegments. A native of the Cape of Good Hope. 8. C. temisfora, Murr. Sylt. veg. 211. Mart. 4. Lam. 4. Willd. 8. (Periploca tenuiflora, Lien. Sp. Pl. Cynanchum; Bürm. afr. tab. 15? Apocynum; Pluk. Mant. 17. tab. 335. fig. 5. Natu-nindi; Rheed. Mal. 10. tab. 34.) "Leaves linearlanceolate." Root woody. Stem climbing, flender, branched, milky, green or reddiff, leafy. Leaves opposite, narrow, very acute, on very thort petioles. Umbels axillary, nearly feffile, three or four-flowered. Flowers within reddifh; on the outfide yellowith green. A native of the East Indics. 9. C. oblufa, Mart. 5. Lour. Cochin. 114. " Leaves blunt." Stem twining, filiform, fmooth. Leaves opposite, oblong, quite entire, flat, few. Flowers like those of the first species, but on shorter peduncles. A native of Cochin-China. 10. C. cordata, Mart. 6. Lour. Cochin. 114. " Leaves heart-shaped; umbels pendulous." Stem climbing, long, branched, round. Leaves opposite, quite entire, smooth, on long petioles. Flowers greenish yellow, in large hemispherical axillary umbels, on long peduncles; calyx fiveleaved; leaflets egg-shaped, acute, small, spreading; nectary fleshy, upright, five-cleft; with ten oblong glands standing round the pillil; filaments none; anthers oblong, converging; germ longish, bilid; style thick, very short; sligma blunt, emarginate. A native of Cochin-China in the hedges. All the species are perennial.

CEROPELLA, in Ancient Geography, a place of Thrace, being one of the places which the Romans affigned to the

Goths for their dwelling.

CEROPHÆI, a people placed by Ptolemy in Africa

CEROSSUS, a place in the Ionian fea, between the island of Melita and Macedonia, in the Adriatic fea.

CEROSTROTUM, in Ancient Writers, denotes a fort of picture composed of pieces of horn; answering to what among us is called MOSAIC work. Some write the word cerostratum, and suppose it primarily to denote a fort of pavement composed of pieces of wood, inlaid and joined with flips of horn, variously coloured and figured. Salmalius will have cerostrata to denote a method of painting, or enamelling with wax, otherwise called CEROCHYTOS.

CEROU, in Geography, a river of France, which runs

into the Aveiron

CERQUOZZI, MICHAEL ANGIOLO, called M. A. dell Battoglie, in Biography, a painter of battles, formed himself with regard to style and the selection of his subjects on Bamboccio, but differed from him as to the character and physiognomy of his figures, painting those of Italy instead of Dutch or Flemish mobs. The tints of both are strong and vivid. Whilst Bamboccio excels Cerquozzi in landscape, the latter is superior in the spirit of VOL. VII.

his figures. His principal work is in the palace Spada at Rome, in which he has reprefented an army of fanatic Lazzaroui shouting applause to Maso Aniello. He died in 1660, at the age of 60 years. Pilkington by Fuscli.

CERRATO, PAUL, a Latin poet, descended of a noble family, was born at Alba in Montferrat, in 1485; and though by profession a lawyer, he acquired very great literary reputation. Several editions were printed of his epithalamium, written in Latin verse, on the nuptials of William marquis of Montferrat and Anne d'Alençon in 1508; but his principal performance was a poem " De Virginitate," in three books, heroic measure. Scaliger the elder reckons Cerrato among the first poets in Italy, though he fays that he had fo much accultomed himfelf to the lofty flyle, that he could not descend to the familiar, but would describe a fly in terms as elevated as he would a hero. His works are inferted in the "Delicize Pectarum;" and the lall feparate edition of them, with an elegant biographical memoir prefixed, was given by Signo. Joseph Vernazza at Vercelli in 1778. Moreri. Tirabofchi.

CERRETANI, in Ancient Geography, an ancient people of Spain, who dwelt along the Pyrenées, near the Vafconi. They are mentioned by Strabo, Ptolemy, and Pliny: the latter of whom diffinguishes them into Juliani and Auguflani. Julius Cæfar gave them the right of freedom, and Augustus incorporated them into a small nation, and extended

their borders to those of the Vasconi.

CERRI glans, and CERRUS, in Botany, J. Bauh. Park. and Ray. See Quercus agilops.

CERRETO, in Geography, a town of Italy in the province of Umbria; 15 miles W. of Nursia.

CERRITO, a town of Naples, in the province of Lavora, the relidence of the bishop of Telesa, with a cathedral and collegiate church, and three convents; 18 miles N.N.W. of Benevento.

CERRO, a town of Italy, in the duchy of Milan; 18 miles W. of Como.

CERRUS, in Botany. See CERRI glans.

CERRUS, in Ichthyology, a name given by fome old writers, Pliny, Martial, and others, to a fift called by other writers *fmaris*, and *mana candida*. They fpeak of it as being diftinguished from the rest of the fishes in the same tribe, by having a black spot in the middle of each side, and the pectoral and tail fins being red. As the fish is certainly of the sparus genus, this description left us by the ancients is not entirely fatisfactory, there being at least thirty distinct fishes of this genus, which possess the characteristic lateral fpot they mention. Artedi describes the cerrus as sparus macula nigra in utroque latere medio, pinnis pectoralibus caudaque rubris. It is generally believed that the cerrus, and the sparus smaris of modern ichthyologists are the same species. See Sparus smaris.

CERSUNUM, in Ancient Geography, a town placed by

Ptolemy in the interior of the island of Corsica.

CERSUS, or CARSUS, a river of Asia, which ran between the defiles of Syria, according to Xenophon.

CERTAINTY. See CERTITUDE.

CERTAINTY, in Law, denotes a plain, clear, and diffine fetting down of things, so that they may be understood. 5 Rep. 121. A convenient certainty is required in writs, declarations, and pleadings, &c. But if a writ abate for want of it, the plaintiff may have another writ; it is otherwise if a deed become void by uncertainty, as the party may not have a new deed at his pleafure. 11 Rep. 25, 121. Dyer. S4. That has certainty enough, which may be made certain; but not like what is certain of itself. 4 Rep. 97. See PLEADING. See also DEED, FINE, and WILL

CERTAL-

CENTALDO, or CASTRO CALTALDO, in Geography, a town of Italy, in the territory of Sienna.

CERTETE, in Ancient Geography, a people who inhabited the northern coast of the Eurine Ica, between the Tauric Chefonefus and Colchis, among the Achieuns and Zichiun, recording to Strabo. They are the Ceretii of

Dionyfius Periegetes.

CERTHIA, in Ornithelogy, a genus of birds among the FIER, which have the bill arched, flender, fomewhat triangular, and pointed; tongue acute; feet formed for walking. This is the Ganelinian character of the genus as it flands in the lall edition of the Linneam Systema Nature. In the General Synopús by Dr. Latham it is defined rather differently; that writer deferibes it as having the bill flender, incurrated, and fhaip pointed; nothrils finall in general, but fometimes pretty large, and covered with a membrane; tongue in flape uncertain; legs moderately flout; tors placed three before and one behird; back toe large; claws booked and long; and tail confitting of twelve feathers. The character of the genus certain in Index Ornithologieus corresponds more closely with that alligned it by Ginelin, namely, bill bent, flender, and pointed; tongue various; feet formed for walking; til composed of twelve feathers.

riety of particulars, and especially in the splendour, and beauty of plumage, to the Trechill or humming-birds. tural family. This has been objected to because the creepers are not confined to any climate, being found in all parts of the world, while the humming birds are met with only in the warmer parts of America: the creeper's, befides, feed principally on infects, while the food of the it extracts from flowers. There are, indeed, a few species of creepers that have the tongue long and tubular as in the humming-birds, but the greater part of them have the tongue fhort and pointed: in some it is rather long, and slattened at the tip, and in others the fides of the tongue are ciliated. feeding chiefly on infects, are almost constantly observed creeping flowly up and down trees in fearch of their food, but the humming-bird hovers on the wing over the flowers which furnish its food like the bee: the creepers breed in the hollows of trees and lay many eggs; the humming-birds, on the contrary, rarely lay more than two eggs, and build their nests very differently; preferring the covert of a bush to the on a furcated branch in a low tree, or among the fugarcanes; and fometimes among grafs and other low her-

CLETHIA FAMILIARIS is one of the most universally diffuled species in this genus, though generally believed to be no where common; it is found in Asia and America, and in most parts of Europe. The species is of a brownish colour, beneath white; qual scatters sufcous, and ten marked with

a white foot each. Linn. Fn. Sacc.

This is the common or European erecper as it is formetimes called of Englith authors, a bird not often obliving in this country, though perfectly well known as a Dittilh species. It is described under various names by authors. Kramer calls at lipidate and rigidate. Klein, Falibelias orders at hiral, and Busson and Samiai Gringerean. Frifely describes a large variety of the same bird under the title of Grangholds, which Gmelin calls & Gerchia m.jer, and Busson Le Grand Gringerean.—Our common Creeper is about the inches and a half in length. The bill is heaked, the upper mandible brown, and the lower whitish; head and upper

part of the neck brown, firealized with black; rump tawny; wing-coverts varied with brown and blackish; breaft and beily filvery white, tail long, and confilling of twelve feathers that flope off to a point; legs and claws grey. It feeds principally on infects, which it firds in the crevices, and holes, in the trunks and branches of trees. The nell is ufually built in the follow of a tree, and contains five or more eggs of an all colour, marked at the and with fpots and fireaks of a deeper essour.

VIRIDIS. Above greenith, beneath varied with pale yellow and green to mill feathers brown, with the outer idea

green. Scop. ann. I. 52. n. Co.

This species is described by Scopoli as being nearly the same fize as certhia samiliaris, of which he supposed it may be only a fexual difference or a variety. We may easily conclude, if his description be correct, that it is not a lexual difference of the firmer; but it may be a variety, although noth probably it is a didused species. He mentions a blue thips that passes from the base of the bill, and descends down the neck on each fide; and a rusous spot on the throat; the tail is greenish brown, and the legs black. Inhabits Carriola.

and vent pale brown. Gmel. Sickle-bided creeper, La

than

The length of this species is five inches and a half; the bill is duky, sickle-shaped, and dusky. The upper parts of the head, neck, and body are green with a gloss of violet on the head; beneath ha far as the breast violet; legs brown with black claws. This was first described by Dr. Latham from a specimen in the British Museum.

Pacifica. Black, beneath dufky; thoulders, lower part of the back, rump, and vest yellow; lower wing-coverts

fnowy. Gmel. Great book-billed creeper, Latham.

Length eight inches. Bill as inch and three quarters, brown, and pal- at the bafe; legs black brown. Deferibed from a specimen in the late Leverian Museum that was brought from the Friendly islands in the South Seas. It is mentioned in the last voyage of Captain Cook under the name of Hoolnoo.

OBSCURA. O.ivaceous; wing and equal tail dufky edged with green. Gmel. Hook-lided green creeper, Lath. Lev.

Mof.

The length of this bird is feven inches. Bill an inch and three quarters long, biackish and very much curved; the under mandible a quarter of an inch shorter than the upper. The nostrils covered with a membrane. Between the bill and eye a paie brown streak; 15 maye olive green, palest beneath, and somewhat yeiowish: legs dusky brown, with the feathers just above the knee white.—This species inhabits the Sandwich islands, and is one of those birds the feathers of which are employed by the natives in the manufacture of the feathered vestiments of their chiefs. An elegant cloak of this description formed of the feathers of this kind of erceper, and decorated with a deep border of red and yellow feathers, was brought by our last circumnavigators from Owhyhee, and deposited among the artificial ratities in the late Leverian Museum. This is understood to have been the only article of dress formed of the teathers of this bird, by the English, although closes and other vestiments formed of feathers were worn on all occasions of great public ceremany by the chiefs in the Sandwich islands. A fingular ancedote is related of this cloak that may be worth repeating, to show the value those islands; a track to the articles of dress composed of the scan res of this bird, while the composed of red and yellow feathers were to be obtained easy terms. The cloak was the property of one of

tempted by curiofity on board English ships; its beauty attracted the notice of an officer in the expedition, Lieutenant Williamson, who wished to purchase it, but the cloak proposals were rejected. The officer offered him a double barrelled gun for it, which was refuled; and he afterwards offered his regimental coat which was refused. Some time after, however, the owner of the cloak observed in the corner of the cabin a bottle and bafon of common white or Queen's ware, and was fo ftruck with the novelty that he upon the floo: without further ceremony jumped overboard, and Iwam ashore with his prize, which very fortunately he

COCCINEA. Scarlet: wings, and tail black. Forfter. -Hook tilled red Creeper, Lath. Carmofinrother Honigfauger,

Merrem Lev. Muf.

the feathers of which are those principally employed by the natives in the formation of their fine fearlet cloaks, and other parts of drefs; and in their grotefque feathered idoss. The length is fix inches. Bill three quarters of an inch long, and much curved, the colour pale frown. Some birds have the forehead buff coloured, and a mixture of buff and dusky black about the head and neck which are supposed to indicate those not yet arrived at their perfect plumage.

Obf. This is called by Born Polytmus. Certhia vefliaria,

Lath. Ind. Orn.

Sovi-MANGA. Green, beneath yellowish; rump olive; break brown, with two transverse bars, one brown, the other blue; tail black. Gmel. Certhia, Madagafearienfis violacea, and le Grinpereau violet de Madagafear, Britt. Soui manga, Buff. Vielst creeper, Lath. Certhia Mada-

gafearienfis, Lath. Ind. Orn.

Size of a wren; length above four inches; bill three quarters of an inch, long and black; tongue rather longer than the bill, and bifid. The head, throat, neck, upper part of the back, feapulars, and wing-coverts, are flining green with an olive gloss; lower part of the back, rump, and upper tail coverts olive brown; breast brown, with a blue tail coverts pale yellow. On the shoulders a spot of deep yeilow; tail black. The feathers edged with green, except the outer feather, which is grey brown for haif its length, and the next tipped at the end with the same. Legs and claws black. The female is smaller than the male, and has the upper parts olive, brown; the under parts yellow with a tinge of olive. Inhabits Madagalear.

MANILLINSIS. Green, gloffed with blue and violet; beneath greyish olive; neek barred with green, blue, violet, and yellow; wings fuscous. Girel. . A native of Manilla; fearcely four inches long. Obf. There are two yellow spots between the floulders, and the upper wing-coverts are brown. This is confidered as a mere variety of certina fouimang: by Latham. Ind. Orn. Boffon calls it four-manga

de Lucon

BURBONICA. Green and fuscous; beneath varied with grey; rump yellow; wings and tail blackish. Gmel. Le Soul mang i de l'ifle de Bourton, Buff. Grimpereau de l'ifle de Bourbon, Pl. enl. Tellow rumped creefer of La-

Heck; upp a part of the head and body greenish brown; the ramp yellow, inclining to olive; under parts grey and yello, mi var ed; fides rufous; tail blackift; legs black. Inhabits the fil. of Bourbon.

VIOLACEA. Two middle tail feathers very long; body

chieftain warriors of Owhyhee who among others were gloffed with violet: breaft and abdomen pale yellow. Gmel. Certhia violacea, Linn. Certhia longicanda minor capitis bone spei, Briff. Soui-manga à longue queue et à capuchon violet, Buff. Petit grimpercau à longue queue du cap de lonne offerance, Buff. pl. enl. Violet-headed creeper, Lath

This is rather more than fix inches in length. Bill blackish, and near an inch long. The head, neck, upper parts of the back, feapulars, leffer wing-coverts bright violet, gleffed the back, rump, and upper tail coverts, olive brown; breaft, belly, and under tail-coverts bright orange; fides of the body orange, with a mixture of olive; tail blackith brown, wedge-shaped, with the two middle tail-feathers an inch

Inhabits the Cape of Good Hope. The nest, which confilts of materials of a filky nature, is constructed with great

art. Lev. Muf.

FAMOSA. Two middle tail-feathers very long; body gloffed with green; arm-pits yellow; lores black. Gmel. Certhia longicanda capitis bone Spei, Briff. Certhia famosa, Borowsk. Grand foul manga vert à longue queue, Bust. Grimpereau à longue queue du cap de bonne esperance, Buff. Pl.

This is a large species. Length nine inches. The bill an inch and a quarter; the plumage is green-gold, with a ftripe; under the shoulders a fine yellow spot; greater wingcoverts and quills blackith, edged with green; tail black, the two middle feathers exceed the rell by two inches and a half in length, and are edged with gold, and coppery on both fides; claws and legs black. The female has the head and upper parts of the body of a greenish brown, with a mixture of bright green; rump green, with the quills and tail black brown; body beneath yellowish, with a mixture of green feathers on the breast; two middle tail-feathers nearly as long as in the male, but fo narrow as almost to refemble a thread. A native of the Cape of Good Hope.

Pulchilla. Two middle tail-feathers very long; body

manga vert dore changeent à longue queue, Butt. Grimperem à longue queue du Sem, et, Butt. Pt. Est. Beautiful creefer,

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copper, and the breast is a beautiful red; on the lower part of the belly is a mixture of white. The greater wingfide with green gold; two middle tail-feathers rather more than two inches and a haif longer than the reft, and very little rounded at the cods; legs blackift. The plumage of the female is tinged with brown above, beceath yellowith, mixed with brown, the under tail-coverts white, fprackled with brown and blue. This species inhabits Senegal.

Philipping. Two middle tail-leathers very long;

See. Certain philippenfis, Bill. Grimpowau des Philippines, Bull. Grimpowau jeand de l'yle de Lugen, Souver. Philip-fine creeper, Luth. The length of this bird is four jaches

CYANEA. Blue, with the ocular band, thoulders, wings, and tail black; legs fufcous. Gmel. Certhia Brofilianfs. ceruka, Briff. Guiracerela, Maregr. Guit-guit noir et bleu, Buff. Grimpereau du Brefil, Buff. Pl. Enl. Black and blue

creeper, Edwards, &c.
This species is rather larger than the common creeper; the length four inches and a quarter. Bill two thirds of an inch long, and black, the tongue as long as the bil, and ciliated. The head, throat, fore part of the neck, breat, belly, fides, thighs, lower part of the back, rump, and upper part of the tail, and wing-coverts fine blue; the top of the head of a beautiful beryl blue; on each fide of the head a black stripe passing through the eyes; hind part of the under wing-coverts yellowith; legs red, claws black.

This inhabits Brafil and Cayenne, and is observed to vary

ZEYLONICA. Cap green; back ferruginous; abdomen yellow; throat and rump azure, Gmel. Certhia philippenfis elivacea, Briff. Grimpereau olive des Philippines, Buff. Souimanga olive à gorge pourpre, Buff. Hift. Oif. Ceylonefe erceper, Lath.

This is the fize of a wren. Bill three quarters of an inch long, and black; upper parts of the body dull brownish olive; under parts yellow, except the throat, fore part of the neck and breaft, which are of a beautiful deep violet;

There is a variety of this bird of a green colour, and white beneath, with the chin, throat, breaft, and back fuscous; tail black. Deferibed from a specimen in the British Museum.

LOTENIA. Blue, with golden-red pectoral band; lores black. Gmel. Linn. Certhia Madagascariensis viridis, Briff. Angala-dian, Buff. Grimpereau verd de Madagafear, Buff.

Loten's creeper, Lath.

The length of this species is five inches and a quarter; bill nearly one inch and a quarter long, and black, and the tongue compressed at the end. The head, neck, back, rump, scapulars, and upper tail-coverts, are green-gold; between the bill and eye on each fide is a narrow velvety line; legs black. Buffon tells us this bird makes its neft of the down of plants, in the form of a cup, like that of the chaffinch, in which the female lays generally five or fix eggs. Its greatest enemy, he observes, is a spider as large, or larger than itself, which is very voracious, and often seizes on the whole brood. This is the great bird-catching spider, aranea evicularia. Loten's creeper is a native of Ceylon and Madagafcar, and is named in compliment to governor Loten.

OMNICOLOR. Green, mixed with almost every other colour. Gmel. &c. Avis zeylonica omnicolor, Seba. Fal-cincllus omnicolor zeylanicus, Klein. Le foui-manga des toutes

couleurs, Buff. Green gold creeper, Lath.

Length eight inches. Inhabits the fame country as the last, and supposed by some to be only a variety, but it differs so materially in fize, that Gmelin and Latham are led to think them diffinct, and describe them as two species.

SANNIO. Olivaceous; crown of the head fomewhat violet; fpot on the cheeks white; wings, and flightly furcated

tail brown, Gmel. Mocking creeper, Lath.

This inhabits New Zealand. It has an agreeable note in general, but at times fo varies and modulates its voice, that it feems to imitate the notes of all other birds, and hence it was called by the English the mocking bird. The length is feven inches and a quarter. Bill fomewhat bent, flender, long, and dufky; nothrils large, and covered with a membrane; tongue sharp; head, especially on the crown, inclining to violet; plumage, in general, olive green, inclining to yellow on the under parts; quills brown, fecondaries edged with olive; tail the fame, and fomewhat furcated; legs dufley blue; claws black, the posterior one longest. Lev. Muf.

AURANTIA. Green, beneath yellowish; throat orange; wings and tail black. Gmel. Orange-breafted creeper,

Discovered by Smeathman in Africa. The length is four inches. Bill about three quarters of an inch long, curved, and black. The head, throat, hind part of the neck, back, and wing coverts green; quills and tail dutky-

FLAVIPES. Green, beneath blue; wings and tail black.

This kind inhabits Cavenne. The length is four inches and a quarter. Bill nearly an inch long, curved, and black; upper part of the head, fides, and back of the neck, and back green; chin, throat, and breatt, deep blue; blue on and green, yellowish white; quills and tail black; legs yellow, with black claws.

OCHROCHLORA. Green; cheeks, throat, and abdomen vellow; breatt and flanks yellowish-green, spotted with

Inhabits Surinam. This is about half the fize of the common creeper. The head, back, wings, and tail are green. CARDINALIS. Black; head, collar, break, and line down

the middle of the back red; tail equal. Gmel. Cardinal

creeper, Lath.

Described from a specimen in the Leverian museum. It is the fame fize as our common creeper. Bill the length of the head, and curved, black, and whitish at the base; tongue long, and ciliated half way down from the tip; between the bill and eye a streak of black which encircles the eyes; wings and tail black; legs lead coloured, claws black. Inhabits the cultivated parts of the island of Tanna, and is known there by the name of kuyameta. It subsits on the nectareous juices of flowers like the humming-bird.

CARUNCULATA. Olivaceous; chin and throat orange; breast ferruginous; abdomen ash-coloured; at the base of the lower mandible on each fide a yellow wattle. Gmel.

Wattled creeper, Lath.

A specimen of this fingular species brought by our navigators from Tonga-Tabu, or Amsterdam ille in the South feas, was preferred in the late Leverian Museum. The length was feven inches and three quarters. Bill an inch long, and rather bent; tongue longer than the bill, and divided for half its length into four fegments like threads; wattle at the base of the bill surrounded by a patch of yellow feathers which extends under the eye; the plumage brownish olivegreen, darkish on the middle of the black; belly inclining to ath-colour; legs blue black; claws black.

Fusca. Fuscous; throat and breatt lineated with fuscous and white. Gmel. Brown creeper, Lath. Lev. Muf.

long, moderately bent and dufky brown; with a pale orange belly very pale brown; tail brown and even at the end; legs

MURARIA. Cinereous; wings with a tawny spot. Gmel. Certhia muralis, Briss. Grimpereau de muraille, Bust. Wall creeper or fpider catcher, Willingthy, Latham, &c.
Inhabits the fouth of Europe and Afia. Frequents old

Pusilla. Fuscous, beneath white; eye-brows white: tail fuscous, the outer feathers white at the tip. Certhia indica. Briff. Sovi magna brun et Ulane, Buff. Little brown and white oreeper, Edwards.

Length three inches and a half. A black fireak extend-

ing from the bill to the eye; quill feathers edged with blue. Gmel. Certhia americana varia, Briff. Guit-guit varie, braffy. This inhabits the Cape of Good Hope.

CAPENSIS. Fuscous; tail feathers blackish; outer ones fringed with white on the outlide. Gmel. Gerthia capitis

bone /pci, Briff.

CARRUCARIA. Olivaceous, beneath yellowish; tail feathers equal. Gmel. Certhia philippenfis. Briff. Grimpereau

gris des Philippines, Buff. Grey creeper, Lath.

Inhabits the Philippine ifles. Length four inches. Bill three quarters of an inch long, and black; tongue forked. Body above olivaceous; under parts yellowish white, deepett on the breaft; down the middle of the neck as far as the breatt a deep violet stripe; upper wing-coverts violet; quills brown; tail feathers black, edged with fleely blue, and whitish at the tips; legs and claws black.

JUGULARIS. Somewhat grifeous; beneath yellow; throat violaceous; two exterior tail feathers yellow at the tip. Gmel. Certhia philippensis minor, Briff. Petit grampereau des

Philippines, Buff. Certhia jugularis, Linn.

Length three inches and a half. Inhabits the fame country as the last, and is supposed by some writers to be only a

variety of it.

OLIVACEA. Olivaceous; beneath fuscous; orbits whitish. Gmel. Certhia olivacea madagafeariensis, Briff. Soui-manga olive à gorge pourpre, Buff. Grimpereau olive de Madagafear, Buff. Olive creeper, Lath

Length four inches. Bill above half an inch long, and black; colour of the upper parts, from the forehead to the rump, dull olive green, inclining to brown on the forehead and crown; the under parts grey brown; round the eyes whitish; quills and tail brown, with a tinge of olive green; the two outer feathers white at the end; legs pale brown. Inhabits Madagafear.

Dr. Latham fuspects this may be the female of the Cey-

lonese creeper, certhia zeylonica.

CERULEA. Blue; ocular band, throat, wings and tailfeathers black. Linu. Scopoli, &c. Certhia cayanenfis carulea, Briff. Avis hoitvilliu, papilio vocata Seba. Certhia of

Guiana, Bancroft. Blue creeper, Edwards.

A native of Cayenne, where, according to Seba it makes its nelt with great art in the thape of a retort, which is fufpended from some weak twig at the end of a branch of a tree, with the opening downwards. The neck at the entrance is a foot in length, the nest itself being quite at the top, fo that this bird has to climb up this funnel-shaped opening to gain access to its nest. The nest being so stationed is fecure; neither monkies, fnakes, nor lizards, daring to venture at the weak extremity of the branch to the nell as it would not support them. The outside of the rest is composed of dry stalks of grass, the lining of softer materials. This bird is four inches in length. The bill is three fourths of an inch long, and black; the head fine blue; legs yellow, claws black.

BRASILANA. Black; crown of the head gold-green; rump, chin, and throat violaceous; breatt purple-tawny. Certhia brafiliensis violacea, Briff. Guit-guit noir et violet,

Buff. Black and violet creeper, Lath.

This kind inhabits Brafil. Length three inches and a quarter. Bill rather exceeding half an inch, and black; crown of the head is fine green-gold; fides of the head, hind part of the neck, back and fcapulars deep velvety black; lower part of the back and rump, leffer wing, and upper tail coverts violet, with a gloss like polished steel; belly black; thighs chefnut brown; quill black; tail black edged with violet.

VARIEGATA. Waved with blue, black, yellow, and white; beneath faffron coloured; crown red; hind head

Buff. Variegated creeper, Lath.

This species inhabits America. The length is five inches. Bill three quarters of an inch in length. The cheeks, and below the eyes are blue and white mixed; hind part of the neck, back, and rump undulated with blue, black, yellow, and white; feapulars, under-wing, and tail coverts, quills, and tail the fame.

CAYANA. Gloffy-green, beneath striated with white; tail feathers greenish, the lateral ones blackish within. Gmel. Certhia viridis cayennensis, Briff. Certhia corpore supino viridi, gula lutea, Ruff. Tranf. Guit-guit vert tacheté, Buff. Ca-

yenne creeper, Lath.

Length four inches. Bill three quarters of an inch and black; upper part of the head, neck, back, and rump, fine palish green; scapulars, upper wing and tail coverts the same; throat, and a small spot between the notirils and eye rusous; cheeks white, each feather margined on both fides with green; under parts of the body green, with a mixture of blue; two middle tail-feathers wholly green, the rest blackish, edged with green; legs and claws grey. The female has the plumage more obscure, and is destitute both of the rufous ipot between the noitril and eye, and that on the throat. Inhabits Cavenne.

CHALYBEA Gloffy-green; breast red, with a steel blue collar. Gmel. &c. Certhia torquata capitis bonæ spei, Briss. Soui-manga à collier, Bust. Grimpereau du cap de bonne esperance, Buff. pl. enl. Purple Indian crecper, Edwards. Col-

lared creeper, Lath

Length four inches and a half. Bill near an inch long and black. 'The head, neck, throat, and upper parts of the body green gold, glossed with coppery; breast a beautiful red, neck green, and separated from the red by a steel-blue collar, changeable to green. The belly, fides, thighs, and under tail coverts grey, with a mixture of yellowish on the lower parts of the breaft and fides; tail shining black; outer margin of the ten middle tail feathers green gold, and all tipped with grey; legs and claws black. The female differs in having yellow spots on the sides according to Brisson. Buffon thinks this may be a young bird of the Linnæan Certhia fenegalensis, and supposes further the Linnwan Certhia capenlis may be the female. It is a native of the Cape of Good Hope.

SENEGALENSIS. Violaceous-black; crown of the head and chin green gold; breaft fcarlet. Gmel. Linn. &c. Certhia senegalensis violacea, Briff. Soui-manga violet à poitrine

rouge, Buff. Senegal creeper, Lath.

This species is five mehes in length; bill nearly an inch and black; top of the head and throat green gold, gloffed with coppery; relt of the body above and beneath violet: feathers on the neck and breatt greenish, tipped with red; thighs violet brown; greater wing-coverts, quills, and tail brown; legs and claws blackish. A native of Senegal.

AFRA. Green; abdomen white; breast red; rump blue. Gmel. Soui-manga vert à gorge rouge, Buff. Red-breafted

green creeper, Edward. African creeper, Lath.

Length about four inches and a half; the bill an inch long, and dufky; head, neck, back, and wing-coverts fhining green, gloffed with burnished gold and copper; on the breaft a bar of red; upper tail-coverts blue; greater wingfeather; and tail dark brown; belly, thighs, and under tailcoverts white; legs black. Inhabits the Cape of Good

There are two or three varieties of this species, one having the abdomen cinercous; a yellow tuft under the wing; and the tip of the tongue bifid: and another has the chin, throat, and breast blue-purple, with a pectoral red band. Latham confiders the Gardinian Treshilus varius as a variety of this species.

Sperar v. Purple, beneath featlet; head, chin, and rump puple. Linn. Gmel. Certhia philippenfe purparea, Priff Soni manga maran-pumpré à pointrine rouge, Buff. Grimfretean des Philippines, Buff. Pl. Enl. Red-breefted orceper, Lath.

Length four inches; bill two-thirds of an inch long, and black, with the base whitts; tongue furcated; head, throat, and fore part of the neck glossy-violet; 'hind part of the neck, back, and seapulars purplish-chessnat; lower part of the back, rump, and upper tail-coverts violet changeable to green and gold; lower part of the belly yellowish olive; tail black, with a steel-like gloss, edged exteriorly with violet, and glossed with greenish-gold; legs and claws brown. Femile olive-green above, beneath olivaceous yellow. This species inhabits all the Philippine islands, and has a note like that of the nightingale.

Obs. There is a variety of this bird with a violet chin, & C. gula violacea of Gmelin. It is called by Sonnerat Grimpercau troifeme de l'isle de Luçon, and by Busson Soui-

manga à gorge violette et poitrine rouge.

SPIZA. Green; head and wings blackish. Gmel. Motacilla spiza, Linn. Syst. Gerthia americana wiridis atricapida, Brist. Guit-guit vert et bleu à tête noire, Buss. Black-headed

ereeper, Lath.

Size of a chaffinch; length five inches and a quarter; bill three quarters of an inch long and whitilh; head and throat velvety black; hind part of the neck, back, rump, feapulars, upper wing, and tail-coverts, and quills fine green; fore part of the neck, breaft, belly, fides, and under tail coverts blue; tail deep green. This fixed inhabits America, and feems liable to vary confiderably; the three following are deferibed as diffinity varieties of this fixed.

Certhin fries 2, Gmel. Green, with the cap black. This is the fize of the first, and has the upper mandable blackish, the lower whitish, and both yellow at the base. In this the throat is not black as in the first, the black passing downwards just below the eye on each fide, and as far as the nape behind; legs lead colour. Inhabits Surinam, Brasil, and Guiana. Bancroit calls this the Green black-cap fly-

calcher

9. Green, with white chin, and crown of the head blue. Guir guit vert et blue à gorge blanche, Duff. Blue-headled green fly-cutcher, Edwards. Size of the last, but the top of the head, and asso the wing-coverts, are blue; the throat white; plumage paler green; legs yellowish; and claws black. Inhabits same countries as the last.

2. Entirely green. Guit-guit tout vert, Buff. Grimpereau vert de Gayame. Buff. Pl. End. All green erce'er, Edwards. This is rather larger than the reft, with the bull longer, and rather more incurvated; blackith, and fomewhat paler at the bafe; plumage above green, beneath paler. Found in

Cavenne, and other parts of South America.

PURPUREA. Extrety purple. Gmel. Certhia virgini ma furpurea, Brid. Avis virginiam ephemicea de Australeficia, Seba. Oljosu pampré à les de grimpereau, Buff. Purple er éper, Eath.

Inhabits Virginia. Length four inches and a half; bill one inch and a half birg. This bird is faid to fing well. GUTTURALIS. Brackith; threat g'offy-green; breatt purple. Genel. Gringeneau branche Bregil Buff. Gjenn trun à bes de grimpereau, Buff. Hut. des Oif. Green-faced creeper, 15th.

Length five inches. Bill an inch long, and black; foreherd and threat green eold; head, upper part of the neck, and rell of the body blackift brown; leathers on the breait red at the tip; tail rufous; legs black. Inhabits Braill. Pinus. Yellow, above olive; wings blue, with two white bands. Gmel. Purus americanus, Brill. Figuier des fapins, Buil. Pine coarbler, Lath. Pine croper, Edwards, Catelby, Sen.

CRUENTATA. Bluith-black: bereath white; crown, neck, back, and rump red. Grael. Certhia bengalanfis, Briff. Soutmanga rouge, neir et Ulane, Buff. Bluch, robite, and red Indian

reefer, Edwards. Red- potted creefer, Lath.

This kind inhabits Dengal; the length is three inches and a quarter; bill thort and black; quith and tail blackifh-blue;

SANGUINEA. Deep-red; wings, and tail black; abdomen dufky; vent white. Gmel. Crimfon errefor, Lath. Length five inches, inhabits the Sandwich islands. The bill is dufty; fecondary quill feathers edged with grey; tail-feathers pointed with white shafts; legs black.

VIRENS. Olivaceous-green; wing and tail-feathers edged

with yellow. Gmel. Olive-green creefer, Lath

A native of the Sandwich illands. Length five inches; bill flightly curved, and of a dufky colour, paleft at the bafe between the bill and eye dufky; quills and tail dufky-green; legs blackith. Lev. Mef. It is supposed by Gnelin and others that this may be the female of Certhia funguinea.

RUBRA. Red; wings and tail black; vent white. Gmel.

Searlet erceper, Lath.

Inhabits the islands of the South seas. Length scarcely four inches; the bill half an inch long, very little bent, and black. General colour of the plumage searlet, except the wings and tail; lower part of the belly and vent white; legs and claws black. Lev. Mes.

FLAVEOLA. Black, beneath pale yellow; eye-brows whitish; outer tail-feathers tipped with white. Linn. Guel. Le grimperau, ou sucrier de la Jamaique, Briss. Black and

vellow creeper, Edwards, Lath

This inhabits Jamaica. Size of a wren; bill black; head, throat, neck, back, feapulars, upper wing and tail-coverts fine black; from the bale of the bill extends a white firipe paffing over the eyes to the hind part of the head; breat upper part of the belly, fides, edges of the wings, and rump fine yellow; lower part of the belly, with the thighs, and under tail-coverts white; tail black, with all the feathers, except the two middle ones, with white tips; legs and claws blackith. The yellow leftled creeper of Edwards is supposed to be the finally. Guelly nakes; it a sar &

Several varieties of this bird are described by authors, one of which, the Bahama timenss of Catesby, Certhia behamenss. Briss rather larger than the first described kind. General colour sufferons, pale yellow beneath; throat pale; lower part of the abdomen and vent brownish; eye-brows white. This inhabits the Bahama islands: and shere is another Certhia beneath yellow; eye-brows yellowish-green; remp greenish; went whitth; bill, legs, wings, and tail fuscous. Length five

thatre

CINNAMOMEA. Cinnamon colour; beneath white. Gmel. Cinnamon creeper, Lath. Length five tueles; bill rather bent and black; tail formed as in Certhia familiars.; legs dufey.

Macassariensis. Golden-green; beneath black the brown, Gmel. Polytome indicus, Braf. Avis tilini indica cri-ntalis. Seba. Macagar creefer. Lata. Inhabits the allands

of Dairy and Macallar in the Eart Inches

INDICA. Blue: throat which Grad. Polytour cornlens indicus, Brull. Lives colder orientalis, Scha. Indian croeper, Lath.

Length

CER

Length four inches and a half. Inhabits India. The bill and leas are black.

Amboinensis. Cinereous; beneath green; head and collar vellow; breaft red; wings black. Gmel. Polytmus amboinenfis. Briff. Avis amboinenfis, thori vel kakopit, Seba. Amboina creefer. Lath. Length two inches and three quarters; bill yeliowish. A native of Amboina.

MEXICANA. Red; throat green; quill-feathers bluish at the tip. Gmel. Trochilus coccineus. Linn. Avicula mexicana

f. Houzillin, Seba. Red creeper. Lath. The length of this bird is four inches and a half; bill nearly one inch and pale yellow; upper part of the head light thining red; throat and fore part of the neck green; tail deep red : legs and claws pale yellow. Supposed to in-habit New Spain. Seba mentions a variety of this bird with a black head, avicula de tatac ex Nova Hifpania; Grimpereau rouge à tête noire du mexique.

CINEREA. Cincreous; rump and wing-coverts green; wings fufcous, abdomen yell with; vent white; tail black. Gmel. Cinercous creeper. Lath. Inhabits the Cape of Good

Hope. Length nine inches.

NOVE HOLLANDIE. Black; beneath fireaked with white; eye-brows and fpot near the ears white; quills and tail-feathers edged with yellow. Lath. Ind. Orn. A native of New Holland.

Size of the nightingale. Bill dusky pale at the tip; nostrils covered with a membrane; tail rounded, with the two outer tail-feathers tipped within with white; legs pale. White's Hift. New Holland.

INCANA. Somewhat fuscous; neck and wings hoary. Inhabits New Caledonia and is of a small fize. Anderson.

PEREGRINA. Olive, beneath yellow; wings with a pale bifid band; tail fomewhat furcated; two exterior tail feathers tipped within with white. Lath. Ind. Orn. Obf. This is of the middle fize, and has the bill, wings, and tail dusky. Lev. Mus.

VERTICALIS. Olivaceous green; beneath ash-coloured; crown green; wings and tail fuscous. Lath. Ind. Orn.

Ash bellied creeper. Gen. Syn. Inhabits Africa.

CANTILLANS. Buish grey; spot on the back, and under parts of the body yellow. Lath. Ind. Ord. Orange backed

erceper. Gen. Syn. A native of China.

ERYTHRORYNCHOS. Olive; body beneath white; wings and tail blackish; bill red. Lath. Ind. Orn. Red billed

creeper. Gen. Syn. Inhabits India.

GRISEA. Greyish; beneath reddish; tail cuneated; two middle feathers brown, lateral ones grey; and all barred with black at the tip. Lath. Ind. Orn. Inhabits China. The bill and legs are yellow.

PRASINOPTERA. Black; fore part of the neck purple;

wings and tail yellowith green. Muf. Carf. &c.

VENUSTA. Gold-green; fore-head, chin, broad pectoral band, and rump violet; wings brown; belly yellow. Shaw. Nat. Mifc. Inhabits Sterra Leona.

TABACINA. Two middle tail feathers very long; head, neck, and upper part of the body fnuff-coloured, beneath green; tail blackith green. Lath. Ind. Orn. Length eight

CERTIFICANDO de recognitione slapula, in Law, is a writ commanding the mayor of the staple to certify to the lord chancellor a flatute staple taken before him, where the party himself detains it, and refuseth to bring in the same. Reg. Orig. 152. There is the like writ to certify a flatute merchant; and in divers other cases. Ib. 148.

CERTIFICATE, a testimony given in writing, to assure

and notify the truth of any thing to a court of justice, or the like. See TESTIMONIAL.

A certificate is fometimes made by an officer of the court, where matters are referred to him, or a rule of court is obtained; containing the effect and tenor of what is done. The clerks of the crown, affize, peace, are to make certificates into B. R. of the tenor of indicaments, convictions, &c. under penalties by stat. 34 & 35 Hen. VIII. c. 14. 3 W. & M. c. 9

CERTIFICATE of Affife, in Law. See Assise and

CERTIFICATION of Affife, &c.

CERTIFICATE for colls, relates to the case of the plaintist, who, in an action of trespass, is allowed no more costs than damages, when the jury give lefs damages than 40s. unlefs the judge certify under his hand that the freehold or title of the land came chiefly in question. To this rule there are two exceptions: the one is grounded on flat. 8 & 9 W. III. c. 11. whereby the plaintiff obtains full costs, if the judge certify that the trespass was wilful and malicious. other exception is by flat. 4 & 5 W. & M. c. 23. which gives full colts against any inferior tradesman, apprentice, or other diffolute person, who is convicted of a trespass in hawking, hunting, fishing, or fowling upon another's land. Blacktt. Com. vol. iii. p. 214.

Upon this statute it has been adjudged, that if a person be an inferior tradefman, as a clothier for instance, it matters not what qualification he may have in point of estate; but, if he be guilty of fuch trespass, he shall be liable to pay full

colts. Ld. Raym. 149.

CERTIFICATE into Chancery. If a question of mere law arifes in the course of a caule in Chancery, as whether by the words of a will, an effate for life, or in tail, is created, or whether a future interest, devised by a testator, shall operate as a remainder or an executory devise, it is the practice of this court to refer it to the opinion of the judges of King's Bench or Common Pleas, upon a case stated for that purpose; wherein all the material facts are admitted, and the point of law is submitted to their decision, who thereupon hear it folemnly argued by counsel on both sides, and certify their opinion to the chancellor. And upon fuch certificate the decree is usually founded. Blackit. Com. vol. iii. p. 453. See CASE flated, &c.

CERTIFICATE of Bankrupt. See BANKRUPT.

CERTIFICATE of the Poor, is an acknowledgment from the parish to which they belong of their being parishioners: which prevents their removal till they become actually chargeable. Such certificated persons can obtain a settlement only by renting a tenement of 10l. per annum, or by ferving an annual office in the parish in consequence of a legal appointment; but no apprentice or fervant of fuch persons can gain a fettlement by fuch their fervice. 8 and 9 W. III. 12

There is, fays Dr. Burn, fomewhat of hardship in this matter of certificates, by putting it in the power of a parilh officer to imprison a man, as it were, for life; however inconvenient it may be for him to continue at that place where he has had the misfortune to acquire what is called a fettlement, or whatever advantage he may propose to himself by living elsewhere. Although a certificate carries with it no tellinonial of good behaviour, and certifies nothing be that the person belongs to the parish to which he really does belong; it is altogether diferetionary in the parish-officers either to grant or refuse it. A mandamus was once moved for, fays Dr. Burn, to compel the church-wardens and overfeers to fign a certificate; but the court of King's Bench rejected the motion as a very strange attempt. See Poor.

CERTIFICATE, trial by, is a mode of trial allowed in fuch cases, where the evidence of the person certifying is the only proper criterion of the point in difpute.

Thus, I. If the iffue be whether A was abfent with the king in his army out of the realm in time of war, this shall be tried by the certificate of the marshal of the king's holt in writing under his feal, which shall be fent to the justices.

2. If, in order to avoid an outlawry, or the like, it was alleged that the defendant was in prison, ultra mare, at Bourdeaux, or in the fervice of the mayor of Bourdeaux, this the like of the captain of Calais. But when this was law (2 Roll. Abr. 583.), those towns were under the dominion of the crown of England. And therefore, by a parity of reason, it should now hold that in similar cases, arising at Jamaica or other places belonging to the crown of England, the trial should be by certificate from the governor respec-

3. For matters within the realm; the customs of the city of London shall be tried by the certificate of the mayor and aldermen, certified by the mouth of their recorder; upon a furmise from the party alleging it, that the custom ought to be thus tried; or elfe it must be tried by the country. As the cultom of distributing the effects of freemen deceafed; of enrolling apprentices; or that he who is free of one trade may use another; if any of these points or others similar to them, come in issue. This rule, however, admits of an exception, where the corporation of London is party, or interested, in the fuit; as in an action brought for a penalty inflicted by the cultom; which shall be determined by a jury, and not by the mayor and aldermen, certifying by the mouth of their recorder. Co. Litt. 74. 4 Burr. 248. Bro. Abr. t. trial, pl. 96. Hob. 85. But see I Term Rep. 423. If the recorder shall have once certified a cuflom, the court is in future bound to take notice of it. Doug. 38o.

4. In some cases, the sheriff of London's certificate shall be the final trial; as if the iffue be, whether the defendant be a citizen of London or a foreigner, in case of privilege pleaded to be fued only in the city courts. Co. Litt. 74. Of a nature somewhat similar to this is the trial of the privilege of either university, when the chancellor claims cognizance of the cause, because one of the parties is a privileged person; in which case, the charters, confirmed by act of parliament, direct the trial of the queltion, with regard to privilege, to be determined by the certificate and notification of the chancellor under feal; to which it has been usual to add an affidavit of the fact; but if the parties be at issue between themselves, whether A is a member of the university or not, on a plea of privilege, the trial shall be by jury, and not by the chancellor's certificate. 2 Roll. Abr.

5. In matters of ecclefiaftical jurifdiction, as marriage, general bastardy, excommunication, and orders, these and other like matters, shall be tried by the bishop's certificate. As if it be pleaded in abatement, that the plaintiff is excommunicated, and iffue is joined thereon; or if a man claims an estate by defeent, and the tenant alleges the demandant to be a bailard; or if in a writ of dower the heir pleads no marriage; or if the iffue in a quare impedit be, whether or not the church be full by institution ;-all these, being matters of mere ecclefiaftical cognizance, shall be tried by certificate from the ordinary. But in an action on the case for calling a man a baltard, the defendant having pleaded in jultification that the plaintiff was really fo, this was directed to be tried by a jury; because, whether the

plaintiff be found either a general or special bastard (see Bas-TARD) the justification will be good; and no quellion of fpecial ballardy shall be tried by the bishop's certificate, but by a jury. Co. Litt. 74. 2 Lev. 250. Hob. 179. Dyer. 79. Ability of a clerk prefented, admillion, inflitution, and dethe ordinary or metropolitan; because of these he is the most competent judge; but induction shall be tried by a jury, because it is a matter of public notoriety, and is likewife the corporal investiture of the temporal pro-

6. The trial of all customs and practice of the courts shall be by certificate from the proper officers of those

tificate. Blackit, Com. vol. iii. p. 333, &c.

CERTIFICATE, in the Royal Navy, a certain written intiate, at any time, the validity of any civil transaction on board a ship of war, without having recourse to personal evidence which in all cases would be troublesome, and in many impracticable. The captain gives certificates to the several officers under his command, stating the time they have ferved on board his ship, or under him, and their behaviour during that period; other certificates are figned by the captain and mafter captain, mafter and boatswain, doc-

tor and the purfer, &c.

CERTIFICATION of affife of novel differsin, in Law, anciently a writ granted for re-examining a matter passed by affife before justices. It was used where a person appeared by his bailiff to an affife, brought by another, and has lott the cause; but having something more to plead for himself, not stated by his bailist, he obtained a writ to the sherist to call both the party from whom the affife paffed, and the jury that was impannelled on the same, before the said justices at a certain day and place, to be re-examined. It was called a certificate, because mention is made in it to the sheriff, that upon the party's complaint of defective examination, as to the affife paffed, the king hath directed his letters patent to the justices for the better certifying of themselves, whether all points of the faid affife were duly examined. Reg. orig. 8vo. F. N. B. 1St. Bracton, lib. iv. c. 13. Horn's Mur. lib. iii. This writ is now wholly superfeded by the remedy afforded by means of new trials. See Assise.

CERTIFICATS MILITAIRES, military certificates. These are of various kinds according to the several objects or purposes they relate to, and the different descriptions of persons empowered to grant them, in order to verify or give undeniable proofs of facts, whether they be governors, commanding officers, commissaries of war, officers of detail, staff officers, paymasters, officers of cities, or communities, &c. They are chiefly reducible, however, to the following

A certificate from a field-officer to the commander in chief athirming the cligibility of a young man to a commiffion in his majetty's fervice.

The certificate of an officer upon honour, that he does not exceed the regulation in the purchase of his commission.

The certificate of a general officer to affirm and prove the losses, which officers under him may have fullained in

The certificates of colonels of regiments to the board for the admission of proper objects to the hospital at Chelfea.

Certificates from magistrates to identify the persons of recruits, and to affirm that they have enlifted themselves voluntarily into the fervice, and that the articles of war have been read to them.

Certificates, from regimental furgeons, whether men when they join are fit and proper objects to be enlitted.

Certificates from ditto of men's being fit objects to be difcharged.

Certificates of commanding officers for stores, &c.

Certificates to enable officers on half-pay to receive it.

Certificates of furgeons and affiltant-furgeons to prove that they have passed proper examinations.

CERTIMA, in Ancient Geography, a very strong town of Spain, in Celtiberia, which was taken by Gracchus.

CERTIORARI, or CERTIORARI FACIAS, in Law, an original writ issuing out of the court of chancery or K. B., directed in the king's name to the judges or officers of inferior courts commanding them to certify, or to return the records of a cause there depending, to the end that the party complaining may have the more fure and speedy justice beforc the king, or justices assigned by him for determining the cause. Fitz. N. B. fol. 242. This writ is either returnable in the king's bench, and then hath these words, nobis mittatis, "fend to us;" or in the common bench, and then hath jufliciariis nostris de banco, "to our justices of the bench;" or in the chancery, and then it has in cancellaria nostra, " in our chancery, &c." or into the court of parliament, or into that of the lord high steward of Great Britain, in case of indictments against a peer.

A writ of certiorari may be had at any time after indictment found and before trial, to certify and remove indictments, with all the proceedings on them, from any inferior court of criminal jurisdiction into the court of King's-bench, the fovereign ordinary court of justice in causes criminal. And this is frequently done for one of these four purposes; either, 1. To confider and determine the validity of appeals or indictments, and the proceedings thereon; and to quash or confirm them as there is cause: or, 2. In order to have the prisoner or defendant tried at the bar of the court of King's bench, or before the justices of Nisi Prius, where it is furmifed that a partial or infufficient trial will probably be had in the court below: or, 3. In order to plead the king's pardon in the court of K. D., or, 4. To iffue process of outlawry against the offender, in those counties or places where the process of the inferior judges will not reach him. 2 Hal. P. C. 210. It is at this stage of the profecution, that indictments found by the grand jury against a peer must in confequence of a writ of certiorari be certified and transmitted into the court of parliament, or into that of the lord high fleward of Great Britain; and that in places of exclusive jurisdiction, as the two universities, indictments must be delivered, (upon challenge and claim of cognizance), to the courts therein established by charter, and confirmed by act of parliament, to be there respectively tried and determined.

A certiorari may be granted at the instance of either the profecutor or the defendant; the former as a matter of right, the latter as a matter of discretion: and therefore it is seldom granted to remove indictments from the juffices of gaol-de-livery, or after iffue joined on confession of the fact in any of the courts below. On indictments of perjury, forgery, or for heinous misdemeanors, the court will not generally grant a certiorari to remove at the inflance of the defendant. But in particular cases, the court will use their discretion to grant a certiorari; as, if the defendant be of good character, or the profecution be malicious or attended with oppressive circumstances. 2 Hawk. P.C. c. 27. 4 Burr. 749. Lord Raym.

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1452. A certiorari lies in all judicial proceedings, in which a writ of error does not lie; and it is a consequence of all inferior jurisdictions, erected by act of parliament, to have their proceedings returnable in K.B. Lord Raym. 469, 580. A certiorari lies to justices of the peace and others, even in fuch cases, which they are empowered by statute finally to hear and determine; and the superintendency of the court of K. B. is not taken away without express words. Hawk. P. C. c. 27. But a certiorari does not lie to remove any other than judicial acts. Cald. i. 309. Say. G. Where iffue is joined in the court below, it is a good objection against granting a certiorari; and if a person does not make use of this writ till the jury are fworn, he loses the benefit of it. Mod. Ca. 16. stat. 43. Eliz. c. 5. After conviction, a certiorari may not be had to remove an indictment, &c. unless there be special cause; as if the judge below is doubtful what judgment is proper to be given, when it may. Stra. 1227. Burr. 749.; and after conviction, &c. it lies in such cases where writ of error will not lie. 1. Salk. 149. The court on motion in an extraordinary case will grant a certiorari to remove a judgment given in an inferior court; but this is done where the ordinary way of taking out execution is hindered in the inferior court. 1. Lill. abr. 253. In common cases a certiorari will not lie to remove a cause out of an inferior court, after verdict. It is never fued out after a writ of error, but where diminution is alleged; and when the thing in demand does not exceed 51. a certiorari shall not be had, but a writ of error or attaint. Stat. 21. Jac. 1. c. 23. stat 12. Geo. 1. c. 29. A certiorari is to be granted in matter of law only; and in many cases there must be a judge's hand for it. 1. Lill, 252. Certioraris to remove indictments, &c. are to be figured by a judge; and to remove orders, the fiat for making out the writ must be figned by fome judge. 1. Salk, 150. Certiorari lies to the courts of Wales, and the Cinque ports, counties palatine, &c. 2 Hawk. P. C. c. 27. But without laying a special ground before the court, it cannot be fued out to remove proceedings in an action from the courts of the counties palatine. Doug. 749. It does not lie to judges of over and terminer to remove a recognizance of appearance. Lucas. 278. Nor to remove a poor's rate. Stra. 932, 975. Leach's Hawk. P. C. ii.

Things may not be removed from before juffices of peace. which cannot be proceeded in by the court where removed; as in case of resusing to take the oaths, &c. which is to be certified and inquired into, according to the statute. I Salk Where the court which awards the certiorari cannot hold plea on the record, there merely a tenor of the record shall be certified; for otherwife, if the record was removed into B. R. as it cannot be fent back, there would be a failure of right afterwards. But a record fent by certiorari into B. R. may be fent after by mittimus into C. B. 1. Danv. abr. 792, 789. And a record into B. R. may be certified into chancery, and from thence be fent by millimus into an inferior court, where an action of debt is brought in an inferior court, and the defendant pleads that the plantiff hath recovered in B. R. and the plaintiff replies, " Nul tiel record,

&c." 1. Saund. 97, 99.

There are feveral statutes which restrain, and many which absolutely prohibit a certiorari; in order to avoid frivolous and unfounded delays in justice. Among these we may specify the following. By 1 Ann. c. 18. concerning the repair of bridges, no certiorari shall be allowed. Nor by 8 Geo. II. c. 20. for punishing destroyers of tumpikes, nor by 12 Geo. II. c. 29. for affesting county-rates, nor on 19 Geo. II. c. 21. against curfing and swearing. Nor on 23 Geo. II. c. 13. against feducing artificers. Nor on 25 Geo. II. c. 36. against bawdy-houses. Nor on 29 Geo. II. c. 40. against stealing lead, iron, &c. Nor on 30 Geo. II. c. 21. for preferving fish in the Thames. Nor on 30 Geo. II. c. 24 for reftraining gaming in public houses. Nor on 21 Geo. II. c. 29. for regulating bread. Nor on 2 Geo. III. c. 30. for preventing thests in bum-boats. Nor on 10 Geo. III. c. 18. against dog-stealers. See on this subject

granted to remove any recognizance, unless figured by the judges. By 5 and 6 W. and M. c. 11. and 8 and 9 W. before it is allowed. In case of certiorari granted in vacation, the name of the judge and party applying are to be or order to be removed by certiorari without furcties found to the amount of 50l. 5 Geo. H. c. 19. Certiorari to remove convictions, orders, or proceedings of juitices, mult be applied for within fix calendar months, and upon 6 days' notice to the judices. 13 Geo. H. c. 18. Stra. 931.

A writ of certiorari, when iffued and delivered to the inferior court for removing any record or other proceeding, as well upon indictment as otherwise, superfedes the jurisdiction of fuch inferior court, and makes all fublequent proceedings therein erroneous and illegal: unless the court of B. R. remands the record to the court below, to be there tried and determined. But if a certiorari for the removal of an indictment before justices of peace be not delivered before the certiorari delivered. 2 Hawk. P. C. c. 27. Ld. Raym. 1515. A certiorari removes all things done between the teste and return. Ld. Raym. 835, 1305. And as it removes the record itself out of the inferior court, therefore if it remove the record against the principal, the accessary cannot be tried there. 2 Hawk. P. C. c. 29. And if the defendant be convicted of a capital crime, his perfon must be removed by Habeas Corpus, in order to be present in court, if he will move in arrest of judgment. And herein the case of a conviction differs from that of a special verdict. Burr. 930. Although on a Habeas Corpus to remove a person, the court may bail or discharge the prisoner; they can give no judgment upon the record of the indictment against him, without a certiorari to remove it, but the same stands in force as it did, and new process may issue upon it. 2 H. P. c. 211. If an indictment be one, but the offences feveral, where four persons are indicted together; a certiorari to remove this indictment against two of them removes it not as to the others,

If a cause be removed from an inferior court by certiorari, the pledges in the court below are not discharged; because a defendant may bring a certiorari, and thereby the plaintiff may lose his pledges. Skin. Rep. 244, 246. A certiorari 1. Hawk. P. C. c. 64.

The return of a certiorari is to be under feal; and the perfon to whom a certiorari is directed may make what return he pleafes, and the court will not stop the filing of it, on

the certiorari is directed, do not make a return, then an alias,

CERTITUDE, or CERTAINTY, is to verly a quality

and confiders, i. c. in the ideas: certifude is in the judg-

ment which the mind makes of thole ideas.

The schoolmen diffinguish two kinds of certitude: the

physical evidence; such is that which a geometrician has

CERTITUDE, phylical, is that ariling from phylical evi-

he any physical certitude, except as to what relates to the

It is observed by Mr. Kirwan in his 6 Essay on Human Liberty," (Irish Trans. vol. vii. p. 306.) that certainty differs from necessity in this, that what is necessary cannot, and what is certain will not, fail to happen. What is necesmorally necessary, whose non-existence is contrary to the laws by which moral agents confliantly and univerfally goobject certain, which will not fail to come to pais. He perfusiion of the mind of the reality of an object. In the

In the "Philosophical Transactions" for 1699, (vol. xxi. p. 359-365.) we have an algebraic calculation of the deits cases; whether immediate, mediate, concurring, oral, or

feveral reporters' hands before it arrive, each conveying & of the king. 2 Hawk. P. C. c. 27. If the person to whom lay, whether it be true or not : if the proportion of certitude be fixed at 180, it will come to half from the 70th hand; nomy and unbounded generofity diffipated them as they

if at 1000, from the 695th hand.

For concurring evidences, if two reporters have each $\frac{1}{2}$ of certainty, they will both give an affurance of $\frac{1}{2}\frac{1}{2}$, or of $\frac{1}{3}\frac{1}{5}$, or of $\frac{1}{3}\frac{1}{5}$. and the co-atteflation of ten would give $\frac{1}{10}\frac{2}{3}\frac{1}{6}$, of certainty. He flews, farther, that if there be fix particulars in a narrative, all equally remarkable; and that he to whom the report is given has $\frac{1}{6}$ of certitude for the whole; there is $\frac{1}{3}$ 5 to 1 against the failure in any one certain particular.

He proceeds to compute the certainty of tradition, both oral and written, in whole and part; fucceffively transmitted, and also co-attested by several successors of transmittents.

The learned Knittel has availed himfelf of this hint in his commentary on a fragment of Ulphilas, p. 169—197, where he has examined by mathematical rules the evidence for and against the readings of the Greek Testament, and applied for that purpose even algebraical feries. See also an ingenious argument, deduced from the doctrine of chances, and applied to enforce the practice of virtue, in the conclusion to 17r. Price's Review of the principal Questions in Morals.

CERT-MONEY, Head-money, a common fine, paid yearly, by the reliants of leveral manors to the lords thereof; and fometimes to the hundred, procerto lete, for the certain keeping of the leet.—This, in ancient records, is called

certim leta.

CERTONIUM, in Ancient Geography, a town of Afia Minor, between Adramyttium and the river Caicus, according to Xenophon.

CERUANA, in Botany, Just. p. 190. Forsk. Class and Order, Syngenesia, polygamia superstan. Nat. Ord. Corymbise-

ra; Juff. Gen. Cl

Gen, Ch. Florets of the ray ftrap-shaped, linear, three-toothed. Calys many-leaved, equal, converging, cylindrical. Seeds wedge-shaped, compressed, crowned with small teeth which terminate in a brittle.

Herb diffuse. Flowers some sessile, axillary; others pe-

duncled, terminal; bractes three. Character from Forskal. CERVANTES DE SAAVEDRA, MIGUEL, in Biography, universally recognised as the author of Don Quixote, was born probably of an honourable family, as some fay in the province of Andalusia in Spain, or according to others at Madrid, in the year 1540. He feems to have had every advantage of education, and to have been a mafter in polite learning. But in other respects fortune was not very indulgent to him. He ferved many years in the army of Mark Antony Colonna in no higher station than that of a private foldier. In that capacity he fought at the battle of Lepanto, under Don John of Austria, in 1571, where he had the misfortune, or, as he rather thought it, the honour to lose his left hand. In this expedition, or in his fervice as chamberlain to cardinal Aquaviva at Rome, he amassed a certain portion of wealth; for in his captivity at Algiers, during 57 years, which commenced in 1574, when he was taken by a Barbary corfair, he was then well furnished with money, which he liberally distributed among his fellow-captives. The high price of his ranfom and his subsequent free manner of living exhausted his store and reduced him to the diftress of penury. However, his reputation for poetical talents had been already established in his own country; and it derived fuch accessions by the publication, in 1584, of his "Galatea," a poem in fix books dedicated to Ascanio Colonna. About the same time he wrote many dramatic pieces, which were acted with applause on the Spanish theatre, and which acquired him both money and fame. But though his supplies were considerable, his want of eco-

occurred; and he had also married a wife, which involved him in additional expence. Accordingly, he was actually confined in prison for debt, when he composed the first part of "The History of Don Quixote;"-a work which every body admires for its humour; but which ought also to be confidered as a most useful performance, that brought about a great revolution in the manners and literature of Europe, by banishing the wild dreams of chivalry, and reviving a taste for the simplicity of nature. In this view, the publication of Don Quixote forms an important era in the hiltory of mankind. Don Quixote is represented as a man, whom it is impossible not to esteem for his cultivated understanding, and the goodness of his heart; but who, by poring night and day upon old romances, had impaired his reason to such a degree, as to miltake them for hiltory, and form the defign of traverfug the world, in the character, and with the accoutrements, of a knight-errant. His distempered fancy takes the most common occurrences for adventures fimilar to those he had read in his books of chivalry. And thus, the extravagance of these books being placed, as it were, in the same groupe with the appearances of nature and the real business of life, the hideous disproportion of the former becomes fo glaring by the contrast, that the most inattentive reader cannot fail to be flruck with it. The person, the pretenfions, and the exploits, of the errant-knight, are held up to view in a thousand ridiculous attitudes. In a word, the humour and fatire are irrefillible; and their effects were instantaneous. This work no fooner appeared than chivalry vanished. Mankind awoke as from a dream. They laughed at themselves for having been so long imposed on by absurdity; and wondered they had not made the discovery sooner. They were aftonished to find, that nature and good sense could yield a more exquifite entertainment than they had ever derived from the most sublime phrenzies of chivalry. This, however, was the case; and that Don Quixote was more read, and more relished, than any other romance had ever been, we may infer from the fudden and powerful effects it produced on the fentiments of mankind, as well as from the declaration of the author himself; who tells us, that upwards of 12,000 copies of the first part (printed at Madrid in 1605) were circulated before the fecond could be. ready for the press; an amazing rapidity of fale, at a time when the readers and purchasers of books were but an inconfiderable number compared to what they are in our days. "The very children (fays he) handle it, boys read it, men understand, and old people applaud the performance. It is no fooner laid down by one than another takes it up ; fome ilruggling, and fome intreating, for a fight of it. In fine (continues he) this hiltory is the most delightful, and the least prejudicial: entertainment, that ever was feen; for, in the whole book, there is not the least shadow of a dishonourable word, nor one thought unworthy of a good catholic." Don Quixote occasioned the death of the old romance, and gave birth to the new. Fiction from this time divested herself of her gigantic fize, tremendous aspect, and frantic demeanour: and, descending to the level of common life, conversed with man as his equal, and as a polite and chearful companion. Not that every fubfequent romance-writer adopted the plan, or the manner of Cervantes; but it was from him they learned to avoid extravagance and to imitate nature. And now probability was as much studied, as it had been formerly neglected. The publication of the first part of this work appears to have been the means of liberating the author from prison and obtaining for him from the great a considerable degree of patronage. Nevertheless, the court and kingdom of Spain have by no act of folid bounty exonerated them-U 11 2

felves from the difference of fuffering their greatest genius to fink under the depression of habitual indigence. In 1613, he published his " Novels," which are agreeable specimens of inventive and descriptive talents in serious story, as his Don Quixote had done in burlesque. While he was preparing for the press a second part of his Don Quixote, he was anticipated by an Arragonian writer of mean genius, under the name of Alonzo Fernandez de Avellaneda; who not only debased the original by a very insipid and absurd application of its plan and characters, but loaded the author with much personal abuse. Cervantes, however, published, in 1615, a true fecond part, which contained the character of the first, and which was received with avidity by all who had been interested in the genuine Don Quixote. About this time he also published a poem entitled "A Voyage to Parnaffus," which was an ironical fatire upon the Spanish puetry of his time, and upon the bad talke of patrons. The effect of this publication was to increase the number of his enemies, without acquiring for him any fubitantial favours from the great. At this period his indigence was fuch, that he was obliged to fell eight plays and as many inter-Indes to a bookseller, for want of means to print them on his own account. Being on bad terms with the actors, they prevented his producing them on the flage; and the rifing reputation of Lope de la Vega had also eclipsed that of Cervantes as a dramatic writer. His last performance was a novel, entitled "The Troubles of Perfiles and Sigifmunda," which he did not live to print. In this work he relates an adventure which occurred to him in a journey on horseback to Toledo, when a scholar, being informed who he was, leaps in rapture from his afs, and after paying him high compliments, recommends to him a regimen for the dropfy under which he laboured. Cervantes, however, made an apology for not complying with his advice. " My life," fays he, " is drawing to a period, and by the daily journal of my purse, which I find will have finished its course by next Sunday at farthest, I shall also have finished my career: fo that you are come in the very nick of time to be acquainted with me." An affectionate dedication of this work to his best patron, the count de Lemos, is dated April 19, 1617; and as he mentions in it that he had already received extreme unction, it is probable that a day or two more finished the scene. In the September following a lisence was granted to the widow of Cervantes to print this novel for her own benefit; and it is probable that this was the only property which this literary glory of his country had to leave. Life of Cervantes, prefixed to Smollet's Translation of Don Quixote. Beattie's Differtations, Moral and Critical.

CERVANTESIA, in *Botany*, Bofe, Nouv. Dist. Flor. Peruv. pl. 7.

Class and order, pentandria monogynia.

Gen. Ch. Gal. perianth bell-shaped, five-cleft. Cor. zone. Five scales inserted into the middle of the ealyx. Pijl. germ superior; sligma sessile. Peric. nut eggs-shaped, one-celled, surrounded by the ealyx, which has increased in size and become sleshy. A strub; native of Peru. Cavanilles, pl. 475, has sigured another species with alternate, petioled, oblong leaves, covered with rull-coloured hairs and small white slower, in terminal and axillary panicles.

'CERVARIA, in Ancient Geography, a promontory at the extremity of Gallia Narbonneniis, on the coast of Spain. Its present name is Geovern.

CSRVARIA, in Botany, Rib. Pent. Gært. i. 105. tab. 21.

CERVARIA valerianoides, Bauli. Pin. See TRACHELIUM

he published his "Novels," which are agreeable specimens of that kind of writing, and became popular; they display his province of Principato Citra; 9 miles E.N.E. of Polisyers they and describe the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers they are the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the province of Principato Citra; 9 miles E.N.E. of Polisyers the Principato Citra; 9 miles E.N.E. of Polisyers th

CERVELIERE, in Military Language, a fort of casque,

helmet, or defensive armour for the head.

CERVELLE, a French word, literally fignifying brains. The French make use of the phrase, mine sans crewelle, when the miner works in earth so loose and devoid of cohesion, that it will neither stand nor support itself at the sides, nor at the top of the gallery, and he is under the necessity of having recourse to contrivances to obviate this defect.

CERVERA, in Geography, a viver of Span, which runs into the Segre, a little above Levida, in Catalonia.—Alfo, a city of Spain, and capital of a viguery, to which it gives name, in the province of Catalonia. It is fituated in a molt delightful vale, which is extremely fertile, and furrounded by hills, on one fide of chalk, on the other of lime thone. This part of the country, between the Noya, which runs into the Lobregat, and the Segre, which joins the Ebro, is the highest land in this part of Catalonia. The university in this city was founded by Philip V. A. D. 1717, and has commonly about 900 under-graduates, chiefly designed for employments in the church and at the bar, with some few for medicine. Cervera is about feven leagues N.W. of Tarragona.—Also, a town of Spain, in the province of Catalonia, seated on the coast of the Mediterranean, between Roses and Collioure.—Also, a town of Spain, in New Castile; 6 leagues from Cuença.—Also, a cape of Spain, on the coast of Catalonia; and another on the coast of Valencia.

CERVETTO, the elder, in Biography, an Italian performer on the violoncello, of great merit, who arrived in England in 1738; and was remarkable from feveral circumstances besides his professional abilities. He was an honest Hebrew, had the largest nose, and wore the finest diamond. ring on the fore finger of his bow hand; had a fon (who is fill living) who, during childhood, furpaffed his father in tone and expression on the violoncello; and who, in riper years, was as much noticed at the opera for his manner of accompanying recitative, as the vocal performers of the principal. characters for finging the airs. The rivalry between the admirable Crofdil and the younger Cervetto, in their youth, did them as much good in their struggles for excellence, as in riper years their friendship has done honour to their hearts. Another remarkable circumftance in the history of the elder Cervetto, fo long and fo weil known at Drury-lane play-house, is, that he extended his existence to 100 years complete, with the character, not only of a good mulician, but a good man.

CERVI, in Geography, a fmall island of the Grecian-Archipelago, near the coast of the Morea, on the east fide of the entrance into the gulf of Kolokitia; 6 miles N. of. Cerico.

CERVI cornu. , See HART'S HORN.

CERVIA, in Geography, a modern built town in the flate of the church, and province of Romagna, near the Adriatic fea, about half-way betwixt Cafenatics and Savio, which, at the beginning of the lait century, entirely changed its fituation, on account of the infalubrity of the air, having formerly flood a quarter of a mile diffant from the fea. The new city is built with beautiful broad fireets, which, for the greatest part, are under covering. By an infeription overone of the gates it appears, that popes Innocent XII. and Clement XI. removed the city of Cervia for the benefit of amore falubrious air in the year 1703. Without this gate, fituate on the fide of the city opposite to Savio or Ravenna,

is a beautiful and broad canal, through which, in June, July, and August, (when the season is hottest and driest), the water is let out into a low piece of ground covered with rushes and weeds, about half a mile in length, and in some places as broad. Here the heat of the fun totally exhales the water, and the falt remains at the bottom and fides, to the great profit of the court of Rome. The papal provinces Urbino, Ferrara, Ancona, Bologna, and Romagna, that lie near the Apennine mountains, derive from these salt-works the greatest part of the falt they use. Cervia is the see of a bishop, suffragan of Ravenna, from which it is distant S.S.E. 15 miles, and 144 N. of Rome.

CERVICAL arteries, in Anatomy, some arteries which

are distributed about the neck. See ARTERIES.

Cervical nerves, those which come off from the medulla fpinalis, where it is lodged in the vertebræ of the neck. See

CERVICALIS, or CERVICIS DESCENDENS, is a slender muscle at the root of the neck, closely connected to the upper part of the facrolumbaris. It arifes from the three or four upper ribs, near their tubercles, and is inferted into the same number of transverse processes of the lower cervical vertebræ. It extends the neck, and at the fame time twifts it to one fide. This mufcle is the tranverfalis gracilis of Winflow

CERVICAPRA, in Zoology. See Antilope pygarga,

the white-faced antelope

CERVICARIA, in Botany, a term used by some authors to express the thap sia of the shops, or lesser libanotis of Theo-

CERVICARIA, is also a name given by some to the trache-

lium

NERVES

CERVICIS transversus, in Anatomy, a small muscle at the back of the neck, connected to the upper end of the longiffi nus dorsi, and lying close to the cervicalis descendens. It ariles from the transverse processes of the four or five upper dorfal vertebræ, and is inferted into as many of those of the neck. It is generally connected with the cervicalis descendens and trachelo-mastoideus. Winslow calls it transverfalis colli major. It carries the neck backwards, and at the fame time twifts it towards its own fide.

CERVIERES, in Geography, a town of France, in the department of the Rhone and Loire; 6 leagues S.W. of

Roanne.

CERVINARA, a town of Naples, in the province of

Principatro Ultra; 12 miles S.W. of Benevento.

CERVINE Antelope of Pennant, antilope bubalis, in Zoology, Βουβαλος of Oppian and Aristotle, bubalus of Pliny, Gefner, Aldrov. and Jonst. yachmur of the Bible, bucephalus of Caj. op. Gefn. quad. and Ray, capra dorcas of Houttuyn, antilope bufelaphus of Pallas, bubale of Buffon, vache de barbarie of Act. Parif. and Valent, is a species of antelope, whose horns are thick, twisted spirally, annulated, bent in form of a lyre, almost straight, and upright at their ends; the head and tail are fomewhat lengthened. Pall. Sp. Zool. Erxleb. lib. Mam. This animal inhabits Africa, especially Barbary, and is also found near the Cape of Good Hope, and in Arabia. It is about four feet high, having an appearance between the general form of the deer and ox tribes, with its head refembling that of an ox; the horns are about 20 inches long; very strong and black, almost close at their bases, and distant at the points; the general colour is a reddish brown, the belly, inner side of the thighs, and a space about the rump are white, with a dark-coloured bed on the ridge of the back, the upper part of the fore-legs, and hinder parts of the thighs; the tail is about a foot long, is terminated by a tuft of longish hairs, and refembles that of an

ass. It feeds folitarily, gallops heavily, and yet very fwiftly, and fights on its knees: its flesh is reckoned rather This species, according to Mr. Pennant, is the animal called " Hart-beeft," at the Cape; and Sparman describes it under the same name in the Stockholm Transactions; though the figure of the hart-beelt, in his journey to the Cape, differs very confiderably in the form of the horns, which bend much backward, at their ends, from which it is more probably the species called Antilope Koba.

CERVINI, in Ancient Geography, a people placed by Ptolemy on the western coast of the island of Cortica.

CERVIONE, in Geography, a town of the island of Corfica, or French department of Golo; 20 miles E. of

CERVISPINA, in Botany, Cord. Hift.. See RHAM-NUS catharticus.

CERVIX, in Anatomy, is a Latin term denoting that part of the body which we call the neck, The adjective derived from this term is applied to several parts about the neck; as cervical arteries, cervical nerves, &c.

The word cervix is also used in the anatomical description of various parts of the body, where it indicates some contraction or diminution in fize; as cervix of the femur, of the humerus, of the bladder, of the uterus, &c .: for which we refer to the individual articles.

CERUMEN, a thick, viscous, bitter, excrementitious humour, separated from the blood by proper glands placed: in the meatus auditorius, or outer pallage of the EAR.

This is also called cerumen aurium; in English, EAR-wax. See an account of experiments on cerumen, to discover the best method of dissolving it; with the cause of deafness. Lond. Medic. Observ. &c. vol. iv. p. 198.

It is by some ranked in the class of medicines; especially. that species of it obtained from the human ears, and which is

used both internally and externally.

CERVOCAMELUS, in Zoology. See CAMELUS. glama.

CERVON, in Geography, a town of France, in the department of the Nievre, and district of Clamecy; 3 miles E. of Corbigny.

CERUSE, CERUSSE, or WHITE LEAD. The mode of manufacturing this article was long made a particular fecret,and it still continues so with some manufacturers: the following account is obtained from a vifit to the works of a respectable house in that line.

The first operation in making ceruse is melting the blue or. metallic lead, (the foster quality is the better for this work) into a case or mould which shall form each sheet nearly twofeet long, about five inches broad, and about the fixteenth of an inch thick, that it may with convenience roll spirally up so as to leave the space of half an inch or an inch between each coil, and thus be placed vertically in earthen pots in shape like garden pots, and capable. of containing from 1 1 pint to fix pints each; these pots are made with one projection or more rifing within on the middle, fo as to prevent the lead refting on the bottom; on thefe the coil is placed perpendicularly, and upon its top-edge,. another piece near one foot across is laid horizontally: about half, or a whole pint, wine measure, according to the fize ofthe pots, of strong vinegar, or other acid liquor, is poured into each pot, but care ought to be taken that it does not quite touch the lower edge of the leaden spiral; the principle acted on here being to expose as much furface as poffible to the action of the acid vapour : each pot ought to hold about 21 pounds avoirdupois weight, and having also a cover of the same metal placed tight upon its mouth; by which means nearly the whole of the fleam will have an object for its action. A stratum of these pots thus prepared being formed by packing them close to each other in rows, placing them in a laver of horse dung about two feet thick, which is previously prepared, they are covered with boards, and then they are furrounded on every part with that material; thus is this part of the work continued layer upon layer until it arrives at the height of the building prepared for it, which ought to be perfectly water-tight. ftrata (forming what the workmen call a "blue bed," from the lead being placed there in its blue flate,) continue undifturbed until the acid is exhaulted or evaporated, which is generally in about two or three months. It is supposed that the operation is effected in this flate by the vapours of the vinegar (affilled by the tendency of the lead to combine with the pure part of the air which is prefent) corroding it and converting the external portion into a white calx. At the above time, the boards on being removed exhibit the ap-pearance of being flrougly feorehed, most probably from the acid fleam that may (alter all the above care to preferve it) have escaped during the immersion in the dung: or, per-haps, the mere heat by opening and preparing the boards will make them more liable to the action of the acid, even though very little should escape; or indeed the continued heat may be alone fufficient to account for this change in them. At the expiration of the above time the beds are 46 drawn," that is, the pots are removed and opened, the lead is taken out and thrown together into a large receiver full of cold water, having a partition running across it flanting from the highest part, where it may be only 12 inches from the top towards the lower, and the depth from the top of the receiver to the frame or partition may be three feet; this is pierced from its highest to its lowest part with holes of about 1/2 inch diameter. In many manufactories a workman is employed here, who, with a long pole and a strong head annexed to it, stirs, beats, and breaks the pieces, by which means the corroded lead breaks off in flakes or as duft, and falls through the holes to the bottom of the receiver: in other white lead works this part of the process is accomplished by a machine receiving its motion and strength from the power that turns the mill which is to grind the white lead into powder. The introduction of water into this part of the process has been a great means of preferving the health of the people employed in the works; thus removing a strong objection against apprenticing children to this buiness. Formerly the lead was uncovered, and the corroded parts broken off without the intervention of water, and the lead dust got upon the lungs of the workmen, from which, owing to the peculiar deleteriousness of this metal in any shape, few lived beyond 40 years. The blue lead left from this part is melted again, with a proper addition of fresh metal, and submitted to the above operations. The white substance is transferred to the mill and ground; the immediate act of grinding being conducted in the wet, almost as fouff is ground in the dry state, by a large horizontal wheel, whose power is derived either from horses. Ream, wind, or water, with cogs turning from S to 16 or more pettle-shaped pieces of metal which revolve in mortars in which the cerufe is put. After being finely levigated it is formed into cakes or "pieces," and dried, in some manufactories, in the fame manner that glue, paper, dry colours, &c. are, on laths, in shades placed in the open air, or in a long room, generally the attics of the ware-rooms; but in others, in a circular flove with a flove pan, or cockle, placed in the midft, as hats, &c. are dried. By this laft way the operation is effected in a few days, whilst, in the former, some weeks, or even months, as in winter, must clapse before it is completed. When arrived at this state, it is ready for fale.

Many manufacturers have a pair of horizontal flones like the to of the flour-mill for the purpole of grinding it in oil.

A patent was obtained in this bufinets by Mr. Richard Fishwick, of Newcalle upon Tyne, to preferve to himself the advantage of fublitituting exhausted tanner's bark in the place of horfe-litter, or mixing a proportion of the one with the other.

Ceruffe makes a beautiful white colour, and is much used by the painters, both in oil and water colours. It makes the principal ingredient in the fucus used by the ladies for the complexion. Taken inwardly, it is a dangerous poison; it soon shews its maligalty, spoiling the breath and teeth, and hallening wrinkles, and all the symptoms of old age. Even the external use of itas a paint or enamel, for it is faid that it has been so used, is attended with very disagreeable, and, in the end, with fatal consequences. Its effects in nervous disorders are terrible; witness the case of Mr. Butler at Moseow. See a curious account of it, in the Phil. Trans. vol. 1, part i. No 2, and 1764.

Ceruffe is the only white hitherto found fit for painting in oil; the difcovery of some other white for this purpose is definable, not only from the faults of ceruffe as a paint, but also from its injuring the health of its manufacturers, and producing a dreadful distafe, which lead and all its preparations frequently occasion, called the Colic of minerals, or

The Chincle make an use of this preparation of lead, which it is easier to see the advantages of, than to comprehend the manner in which they are brought about. The China veffels when they have been baked and finished as to the matter, and even covered with their varnith, will yet receive into their very substance, the colours which those people mix up with an addition of ceruffe, and, as some of the old accounts fay, of copperas and faltpetre; but though these latter ingredients had used to be added, the cerusse alone supplies their place at this time, at least in very many things. It would be worth while to try an admixture of .cerusfe with the colours used in the painting of glass; and this, after a fecond baking, might perhaps be found to incorporate itielf in the fame manner that it does into China ware, and recover the long secret of letting in the strongest colours, without hurting the transparence.

CERUSSE of antimony is a perfect oxyd of antimony, prepared by nitre. See ANTIMONY.

CERUSSE, CERUSSA ACETATA, in *Pharmacy*. Both the ceruffe, and particularly the acetited ceruffe are largely employed in medicinal purpofes. An acetited oxyd of lead, formewhat different from the fugar of lead, forms the common Goulard's Extraü. For an account of the different pharmaceutical preparations of this metal with their respective uses, fee the article Lyap.

CERUTI, FREDERIC, in Biography, an Italian philologist, was born at Verona in 1541, educated in France, and at first followed the profession of arms. But being taken to Rome by his first patron the bishop of Agen, who wished to promote him in the church, he declined that mode of life and returned to his native place, where he married, and opened a school, which was much frequented. He became one of the heads of the academy of Moderati, and maintained a correspondence with several persons of the most eminent literary character. In 1585, he published at Verona an edition of Horace, with a par-phrase, and, in 1597, a similar edition of the fatires of Persius and Juvenal. He likewise published a Latin dialogue "On Comedy," and another "De recta Adolescentulorum Institutione;" and a collection of Latin poems. He left in MS. a translation of the "Anthologia." Ceruti died in 1579. Moreri.

CERVULA,

CERVULA, or Cervulus, in Middle Age Writers, a kird of fport, celebrated by pagans, and after their example by the Christians, on New-Year's day; when they ran about in masquerade, dressed in imitation of deer, and other beasts. We find divers censures of the fathers, and decrees of councils against the observance of this ceremony. Even litanies were composed, and fasting prescribed for that day, ad calcandum gentilium confuctuainem. Da-Cange.

CERVUS, in Fartification, a fort of forked litake or palifiede, planted fometimes in the middle of the ditch, fometimes in the bottom of the fame, close to the foot of the inner edge of the ditch and the parapit of the retrenchment to prevent the approach and afcent of the enemy, and to annoy and wound him in attempting to force or carry fuch a work. Cervi were also sometimes planted in holes, or trous-de loup at some little distance, to impede and prevent the attack of an enemy. Cwsar made use of cervi near Alcia, as appears from the c. 72. of the 7th book of his commentaries De Bello Gallico.

CERVUS, in Zeology, a genus of quadrupeds, in the order Pecora. The horns are folid, branched, thickelt at tip, covered while young with a downy skin, and annual; front teeth in the lower jaw eight; tusks none, or fometimes one folitary on each side, in the upper jaw.

the apper jane

Species.

PYGARGUS. No tail; horns trifurcated. Pallas It. and

Schreber Saeugth. Cervus aha, Gmel.

This is truly an alpine species, inhabiting for the most part the woody summits of the mountains of Hircania, Russia, and Siberia, in the summer; and descending into the plains only in winter. It is larger than the roe-buck; and is observed to become hoary in winter. At other times the body is of a deep reddish-brown, with the lower part and limbs paler; round the nose, and on the fides of the lower lip black; the tip of the lip, and also the rump, are white. The horns are tuberculated at the base. Ears white, and villous within, fringed with a few long black hairs; and inflead of tail, a broad cutaneous exercicence.

ALCES. Horns palmated, without flems; throat carunculated. Linn. Fn. Succ. Gerous alces, Brill. Alee, Pliny, Johnit. &c. Alces, Casar Bell. Gall, &c. Moffe, Lact. Moofe deer, Dudley, Daic, &c. Orignal, Charley. Elan,

Buff. Elk, Lawfon.

Should the elk of Europe and Alia, and the mosfe deer of America be the fame animal, it will rank as the largest species of the cervine tribe extant at this time, to our knowledge, either in the old or new continent. It has been usual with writers to confider the history of the two kinds together; and, for the fake of perspicuity, it will not be amis to follow their example, referving to ourfelves hereafter an opportunity of stating, in a few words, how far we diffent from this generally received opinion. The elk, when full grown, is scarcely inferior to a horse in size. In shape it is much less elegant than the rest of the deer kind, having a very thort and thick neck, a large head, horns dilating almost immediately from the base into a broad palmated form; a thick, broad, heavy upper lip, hanging very much over the lower, very high shoulders, and long legs. The colour is a dark greyith-brown, much paler, or whitish on the legs, and beneath the tail, The hair is of a throng, coarfe, and elaftic nature, and is much longer on the top of the shoulders, and ridge of the neck, than on other parts, forming together a kind of stiffish mane; beneath the neck also the hair is of confiderable length, and in some specimens of the animal, a CER

fort of caruncle, or excrescence, covered with long hair, is pendent from beneath the throat; a circumstance spoken of by Linnœus as part of the specific character of the animal, but which is more visible at some particular seasons than at others, and is sometimes wanting. The eyes and ears are large; the hoofs broad, and the tail extremely short. According to Pennant, the greatest height of the clk is about seven bands, and the weight of such an animal about 1229 pounds. The horns have been known to weigh 56 pounds, and to measure each 32 inches in length. The semale is rather smaller than the male, and has no horns. This applies only to the American moose, which is observed to arrive at

a greater magnitude than the European kind.

The elk of Europe and Afin is found chiefly in Sweden and Norway, in the woody tracts of the Russian dominions, and in Siberia; but not in the flat countries of the Arctic regions, nor in Kamtschatka. The American moose inhabits the ifle of cape Breton, Nova Scotia, the western side of the bay of Fundy, Canada, and the country furrounding the great lakes, almost as far fouth as Ohio; both in the old and new continent these animals preferring the colder climates. The elk refides principally in the midth of forests, for the convenience of browling the boughs of trees; because it is prevented from grazing with facility on account of the shortnefs of the neck, and disproportionate length of the legs. They often have recourse to aquatic plants, which they can readily obtain by wading into the water. Sarrafin tells us they are very fond of the stinking trefoil, Anagyris fatida, and will uncover the fnow with their feet to procure it. When passing through the woods, they raise their heads to an horizontal polition to prevent their horns from being entangled among the branches. Their gait is remarkable; their general pace is described to be a high, shambling, but very fwift trot, the feet being lifted up very high, and the hoofs clattering much during their motion, as is the cafe also with the rein-deer; in their common walk they lift their feet very high, and will, without difficulty, step over a gate five feet high. They feed principally in the night, and whenever they graze are observed to choose an ascending ground, for the greater convenience of reaching the furface with their lips. They ruminate like an ox. The rutting feafon is in autumn. The female brings forth two young at a birth, in the month of April, which follow the dam a whole year. During the summer they keep in families. In deep fnows they collect in numbers in the forests of pines, for protection from the inclemency of the weather, under the thelter of those evergreens. The elk, though naturally of an inoffentive and peaceable disposition, displays a considerable thare of courage when fudd-uly attacked, defending himfelf with great vigour not only with his horns, but also by firiking violently with his fore feet, in which he is fo dextrous, as eafily to kill a dog, or even wolf, at a fingle blow. The flesh of the moofe is extremely sweet and nourithing : the Indians fay, that they can travel three times farther after a meal of moofe, than after any other animal food. The tongues are excellent, but the nose is faid to be perfectly marrow, and is confidered the greatest delicacy in Canada. The skin makes excellent buff, being foft, strong, and light. The Indians drefs the hide, and after foaking it for fome time, stretch and render it supple by a lather of the brains in hot water. They not only make their snow-shoes of the ikin, but after the chace cover the hull of their canoes with it, in which they return home with the spoils of their chace. The hair on the neck, withers, and hams of a full grown elk is of confiderable use in making mattresses and saddles; and the palmated parts of the horns are further excavated by the

Indians, and converted into ladles, and other culinary articles

The chace of the moofe deer forms an important occupation among the natives of North America, and is performed by them in various methods. The first is the most simple, and is conducted in the following manner. Before the lakes and rivers are trozen, multitudes of the favages affemble in their canoes, and form with them a valt crefcent, each horn touching the shore. Another party perform their share of the chace among the woods, furrounding an extensive tract, letting loofe their dogs, and preffing towards the water with loud cries. The animals alarmed by the noise, fly before the hunters, and plunge into the lake, where they are killed by the other favages in their boats, who are prepared to receive them with clubs and lances. Another method pursued at times by the hunters is more artful. They enclose a large fpace of ground with slakes hedged with branches of trees, and forming two fides of a triangle. The bottom space opens into a fecond space completely triangular. At the opening are hung numbers of fnares made of flips of raw hides. The Indians, as before, affemble in great troops, and with all kinds of noifes drive into the first enclosure not only the moofes, but the other kinds of deer, which abound in that country. Some forcing their way into the farthell triangle, are caught in the fnares by the neck or horns; and those which escape the snares and pass the opening find their fate from the arrows directed at them from all quarters. They are often killed with the gun. When first dislodged, the animal falls down, or fquats, as if disabled, for a moment or two, at which instant the hunter fires; if he misses, the moofe fets off at a fwift trot, making at the same time a prodigious clattering with the hoofs, like the rein deer, and will oftentimes run 20 or 30 miles before he comes to bay, or takes to the water. The usual time for this diversion is the winter. The hunters avoid entering on the chace till the fun is strong enough to melt the frozen crust with which the fnow is covered, otherwise the animal can run over the firm furface: they wait till it becomes foft enough to impede the flight of the moofe, which tinks up to the shoulders, flounders, and gets on with difficulty, while the sportsman purfues at his case on his broad rackets, or snow-shoes, and makes a ready prey of the distressed animal. An ancient Superstition has prevailed that the elk is naturally subject to the epilepfy, and that it finds its cure by feratching its ear with the hoof till it draws blood; and in confequence of this notion the hoofs of the elk form an article of the ancient materia medica. A piece of the hoof was anciently fet in a ring, and worn as a prefervative against the complaint above mentioned; and fometimes the hoof was held in the patient's hand, or applied to the pulfe, to the left ear, or suspended in fuch a manner from the neck as to touch the breatt. The hoof has been used by the Indians in the falling-fickness; they apply it to the heart of the person afflicted, and make him hold it in his left hand, and rub his ear with it. They also use it in the colic, vertigo, pleurify, and purple sever, pulverifing the hoof, and drinking it in water.

It should be farther mentioned, that, although the synonyms referred to by naturalits for Gerous alees are repeated in the above account, we wish to impress on the reader's mind our distruct of their accuracy in some leading points. Perhaps on further inveltigation, the European elk and the moose deer of America may prove, as we suspect, to be two distinct species. With regard to the enormous palmated, sofflissed horns that are sometimes dug up in Ireland and other parts of Britain, a more positive opinion may be advanced; they are certainly not the horns of the moose deer,

as most writers imagine. In point of fize they very far exceed the horns of the largest moofe, and in their appearance differ so materially that they could not possibly have belonged to that animal; they have long beams to support the palmated part instead of short ones, as in the moose; they are also stronger and thicker, and are commonly from 10 tz, or sometimes 15 feet from tip to tip! It requires no argument to prove that such student shorts cannot be referred to any species of the Cervine race at present known, and that they must of course have belonged to some species either totally extinct, or hitherto undiscovered.

TARANDUS. Horns ramose, recurvated, round, with palmated summits. Linn. Faun. Succ. Amen. Acad. &c. Tarandus, Plin. Aldr. &c. Rangifer, Gesn. Aldr. &c. Renne,

Buff. Rein deer, Penn.

The Rein Deer, when full grown, according to Pennant, is four feet fix inches in height, the body of a somewhat thick and fquare form, and the legs fhorter in proportion than those of the common stag. The general colour is brown above, and white beneath, but as it advances in age it often becomes of a greyish white, and sometimes almost entirely black; the hair on the under part of the neck is of much greater length than the reft, and forms a kind of hangingbeard in that part. Both fexes are furnished with horns, but those of the male are much larger and longer than those of the female. The hoofs are long, large, and black, as are also the false or secondary hoofs behind; and these latter while the animal is running, by firiking against each other, make a remarkable clattering found that may be heard at a confiderable diffance. No animal of this tribe appears to vary fo much in the form and length of the horns as the rein deer. In general the horns are remarkable for their great length, and flenderness in proportion, and are furnished at the base with a pair of brow antlers, and at the extremity with widely expanded and palmated tips directed forwards; towards the middle of the horn rifes another large branch, which turns upwards, and is branched at the tip; the remainder of the horn runs on to a great length in a backward direction, and is more or less ramose at the extremity. In the young and middle aged rein deer the horns are remarkably flender. Gefner gives the figure of a full grown male rein deer, which Linnieus has pronounced to be a good reprefentation of the animal, and in this, the horns which extend horizontally along the back even project beyond the tail. The height of the domelticated rein deer is about three feet; of the wild ones, four. It lives to the age of fixteen years. The female goes with young thirty three weeks. The male casts his horns annually at the end of November, the female not till the fawns about the middle of May.

The rein deer is celebrated for its fervices to the simple and harmless inhabitants of Lapland, who, undillurbed by the founds of war, or the troubles of commerce, lead a kind of paltoral life even within the frozen limits of the arctic circle, and have no other cares than those of providing for the rigours of their long winter, and of rearing and supporting their numerous herds of rein deer, which may be faid to conflitute almost their whole wealth; and which are used not only for the purposes of food, but for travelling occasionally over that frozen country during winter. To the Laplander this animal is confidered as at once the substitute of the horse, the cow, the sheep, and the goat. The milk affords them cheefe, the flash food, the skin cloathing, the tendons bowftrings, and when fplit, thread, the horas glue, and the bones spoons. During winter it supplies the want of a horse and draws their fledges with amazing swiftness over the frozen lakes and rivers, or over the snow which at that feason covers the whole country. A rich Laplander is fometimes possessed they were accustomed to take the rein deer by what was of a thousand rein deer. In autumn they feek the highest hills to avoid the Lapland gad-fly, which at that time deposits its eggs in their skin, and in many instances proves fatal to the animal. So dreadful is this scourge, that the moment a fingle fly appears, the whole herd perceive it, and betray every fymptom of terror by their gestures, shaking, and toffing their heads, and running about for shelter, or to avoid the stroke of their diminutive but cruel enemy. The chief food of the rein deer is a species of lichen, commonly called the rein deer moss, which covers vast tracts of the northern regions, and on which these animals particularly delight to browle. In fummer they readily procure it in valt plenty, and in winter dig with their feet and brow antlers through the fnow to obtain it. The Lap'anders devote their whole care to the management of these useful animals, occasionally housing and nursing their herds during winter; and attending them in fummer to the tops of the mountains.

The mode of travelling in fledges drawn by the rein deer deferves mention. There are in Lapland two races of the rein deer, the wild and the tame. The latter are preferable for drawing the fledge, to which the Laplander accultoms them betimes, yoking them to it by a strap which goes round the neck and comes down between the legs. The fledge is extremely flight, and covered at the bottom with the fkin of a young deer, the hair turned to slide on the frozen snow. The person who fits on this guides the animal with a cord, fastened round the horns, and encourages it to proceed with his voice, and drives it with a goad. The wild breed are by far the strongest, but these often prove refractory, and turn upon their drivers, who have then no other resource but to cover themselves with the fledge, and let the animal vent its fury upon that. But it is otherwise with those that are tame; no creature can be more active, patient, and willing; when hard pushed they will trot nine or ten Swedish miles, it is faid, or between fifty and fixty English miles at one stretch; but in such a case the poor obedient creature fatigues itself to death, and if not killed, to relieve it from mifery, will die in a day or two after. In general they can go about thirty miles without halting, and without any great or dangerous effort. This, which is the only mode of travelling in Lapland, can be performed to advantage only when the fnow is glazed over with the ice; and though it be a speedy method of conveyance, it is inconvenient, dangerous, and troublefome. The Samoieds confider them as animals of draught. The Koreki, a nation of Kamtschatka who keep immense herds of rein deer, also train them to the fledges. They usually harness two to each carriage, and it is faid they will travel 150 verits in one day, a distance equal to about 112 English miles.

The rein deer is a native of the northern regions. In Europe its chief refidence is in Norway and Lapland. In Afia it frequents the north coast as far as Kamtschatka, and the inland parts as far as Siberia. In America it occurs in Greenland and does not extend farther fouth than Canada. The Samoieds, the Esquimaux, and the Greenlanders, all of whom possess this animal, consider it principally as an object of chace. Among the two last people the flesh constitutes their chief article of food. They eat it either raw, dreffed fresh, or dried and smoaked with the frow lichen. The wearied hunters will drink the raw blood, but it is usually dreffed with the berries of the heath. The fkin dreffed with the hair on is foft and pliant, and is employed in making their drefs, the inner lining of their tents, or as blankets. tendons ferve for bow-firings, and when split are the threads with which they few their jackets.

Before the Greenlanders became acquainted with fire arms Vol. VII.

called the clapper-hunt; in which the women and children furrounded a large space, and, where people were wanting, set up poles capped with a turf in certain intervals to terrify the animals; they then with great noise drove the rein deer into the narrow defiles, where the men lay in wait, and killed them with harpoons and darts. But they are now become scarce in Greenland. The rein-deers are found in the neighbourhood of Hudson's bay in amazing numbers. Columns of eight or ten thousand are seen annually passing from north to fouth in the months of March and April, driven out of the woods by musketoes. They go to rut in September, and the males foon after shed their horns; they are at that feafon very fat, but fo rank and musky as not to be eatable. The females bring forth their young in June, in the most fequestered spots they can find, and then they likewise lose their horns. In autumn the deer with their fawns migrate northward. The Indians are very attentive to their motions, for these animals constitute the chief part of their dress, as well as food. They often kill numbers for the fake of their tongue only; at other times they separate the fiesh from the bones, and preferve it by drying it in the smoke. The fat. which they also fave, they fell to the English in bladders, who use it for frying instead of butter. The skins also are an article of extensive commerce with the English. The Indians kill great numbers of them in the winter, and during the migratory feafons, lying in watch in their canoes, and spearing them while swimming over the rivers, or from one island to another. Authors make several varieties of the rein deer; what is called the Greenland Buck, and Greenland deer, has the horns round, and covered with a hairy skin; Capra groenladica, Ray, and var β groenlandicus, Gmel. Another variety, the Caribou of Hudfon's bay, has the horns flraight with one branch at the base turned backwards, y Caribou. Gmel.

ELAPHUS. Horns branched, round and recurvated. Linn. Fn. Suec. Cerwar, Pliny. Gefn. Aldr. &c. Edler Hirfeb, Wild Oder Thier, Riding. Cerf, biche et faon de cerf, Buß. Stag, Penn. &c.

The stag is a native of almost all the temperate parts of Europe as well as Afia. It also occurs in some few parts of Africa, and pretty generally in North America; in which latter country it occasionally arrives at a larger fize than in the whole continent, with the exception of Siberia, where Pennant informs us it is found of a gigantic magnitude. The stag varies in different countries very considerably, so much indeed as to induce us to believe that travellers and other writers have oftentimes confounded animals of very different species under this general title in speaking of the productions of diffant countries. Most commonly the stag is about three feet and a half high, and of a reddish brown colour, beneath whitish. Sometimes it is of a very dark or blackish brown; sometimes of a pale or yellow brown; and, laftly, inflances occur of frags being entirely white, which last are mentioned both by Aristotle and Pliny, but as rare. The horns also vary as to the fize and number of ramifications, according to the age of the animal. Erakben mentions three diffinct varieties of the flag (Cervus Elaphus) independent of the common European kind, namely, First, Hippelaphus B. Larger, with the hair on the neck longer. Cervus Germanicus, &c. Briff. "ππελαζος, Arithotle. Τραγελαζος, Pliny. Tragelaphus, Gesu. Hippelaphus, E. Gmel. Second, Corfi-canus, y. Gmel. C. minor fuscus, Erxl. Cerf de Cerfe, Bust. This is smaller than the last and has the body suscous. Third, C. Canadenfis, S. Gmel. C. cornibus ampliffimis, Erxl. with very ample horns. Gerous Canadenfis, Briff. Stag of Virginia, Dale. Stag of Carolina, Lawfon. Stag of America,

Catefoy. The histories of all these varieties are so intimately blended with each other by writers that they can only be con-

fidered under one general head.

The stag, fays the ingenious Buffon, is one of those innocent and peaceable animals that feem destined to embellish the forest, and animate the solitudes of nature. The elegance of his form, the lightness of his motions, the strength of his limbs, and the branching horns with which his head is decorated, conspire to give him a high rank among quadrupeds, and to render him worthy the admiration of mankind. The fize and stature of these animals differ according to the places they inhabit: those which frequent the vallies, or the hills abounding in grain, are larger and taller than those which feed upon dry and rocky mountains. The latter are low, thick, and fhort; neither are they equally fwift, though they run longer than the former: they are also more vicious, and have longer hair on their heads; their horns are commonly short and black, like a stunted tree, the bark of which is always of a darker colour, but the horns of the flags which feed in the plains are high, and of a clear reddith colour, like the wood and back of trees that grow in a good foil. These little squat stags never frequent the lofty woods but keep conflantly among the coppies, where they can more eafily clude the purfuit of the dogs. The Corfican race appears to be the smallest of those mountain stags. This kind is fearcely more than half the height of the ordinary fort, and may be regarded as a terrier among stags. His colour is brown, his body squat, and his legs short. Buffon feems convinced, however, that the fize and flature of the Corfican stag, and of stags in general, depend on the quantity and quality of their food, for, having reared one of this breed at his house, and fed him plentifully for four years, he was much taller, thicker, and plumper at that age than the oldest stags in his woods, though those were of a very good fize. The stag appears to have a fine eye, an acute smell, and an excellent ear. Like that of the cat and the owl, the eye of the flag contracts in the light and dilates in the dark, but with this difference, that the contraction and dilatation are horizontally, while in the first mentioned animals they are vertically. When the stag listens, he raifes his head, erects his ears, and perceives the found from a great diffance. When going into a coppice, or other half-covered place, he stops to look round him on all fides, and scents the wind to discover if any object be near that might diffurb him. Though rather fimple, he has curiofity and cunning. If any one whitles or calls to him from a distance, he stops short, gazes attentively, and with a kind of admiration; and if those who disturb him have neither dogs nor offensive weapons, he commonly passes along quietly, and without altering his pace. He appears to listen with great tranquillity and delight to the shepherd's pipe, and the hunters fometimes make use of this instrument to embolden and deceive them. They will follow the founds of music for miles, proceeding while they hear it, halting the moment the players ceafe, and again advancing when the music recommences. In general the stag is less afraid of men than of dogs, and is never fulpicious, or uses any arts of concealment, but in proportion as he is disturbed. He eats flowly, felects his food with care, and, after his flomach is full, feeks a place to lie down and ruminate at leifure. He feems to perform the act of rumination with lefs facility than the ox, and it appears only by violent efforts he can cause the food to rise from his first stomach. This difficulty arises from the length and direction of the passage through which the aliment must pass: the neck of the ox is short and straight, but that of the stag is long and arched, and therefore greater efforts are required in rumination.

In winter and spring the stag does not drink, the dews with which the tender herbage is furcharged being then fufficient to fatify his thirst, but during the parching heats of the summer he frequents the brooks, marshes, and fountains, and in autumn is fo over-heated that he fearches every where for water to bathe and refresh his body. He then fwims with more case than at any other time, on account of his fatness, and has been observed crossing very large rivers. It has been afferted, that in the feafon of love, flags will throw themselves into the sea, and pass from one island to another at the diffance of feveral leagues in fearch of the hinds. Pontoppidan tells us that the Norwegian flags, which are only in the dioceses of Bergen and Drontheim, have been feen to fwim in numbers across the straits from the continent to the adjacent islands, resting their heads upon each others cruppers, and that when those who lead are fatigued they retire behind, and the most vigorous take their places. The flag leaps fill more nimbly than he fwims. and, when purfued, can readily clear a hedge or paling of fix feet height. The aliment of the flags differs according to the feafons. In autumn they fearch for the buds of green shrubs, the slowers of the heath, and leaves of brambles. In the winter, during the fnow, they ftrip the bark off the trees, and feed upon that, and the moss which they find on the trees; and in mild weather they browle in the corn fields. In the beginning of spring they go in quest of the catkins of the trembling poplar, willow, and hazel, and the flowers and buds of cornel. In fummer, when they have abundance and variety, they prefer rye to all other grain, and the black berry bearing alder (rhamnus frangula) to all other wood.

Stags, in general, cast their horns sooner or later in the fpring, in proportion to their ages. It feldom happens that both horns fall off at the fame time, the one generally preceding the other by a day or two. The old itags cast their horns first, which takes place about the middle of February, or beginning of March: those in the seventh year or upwards, do not call their horns before the middle of March: a stag of fix years sheds his horns in April: young stags, or those from three to five years old, shed their horns in the beginning, and those which are in the second year not till the middle or end of May. But in all this there is much variety: for the old flags fometimes cast their horns fooner than those which are younger; and besides, the shedding of their horns is advanced by a mild, and retarded by a fevere and long winter. As foon as the flags call their horns, they separate from each other, the young ones only keeping together. They no longer haunt the deep recesses of the forest, but advance into the cultivated country, and remain among brush-wood during the summer, till their horns are renewed. In this feafon they walk with their heads low, to avoid rubbing their horns against the branches. The horns of the old flags are not half completed in the middle of May, and acquire their full fize and hardness before the end of July. Those of the young stags are in proportion later both in shedding and renewing their horns. When full grown, the animals rub them strongly against the boughs of trees, or any other convenient object in order to free them from the skin which covers them, and is then become ufeless; and by the beginning of August they begin to assume the full strength and consistence which they retain throughout the remainder of the year.

Soon after the stag has cleared off the exuberant skin from the horns, he evinces an inclination for the semale. By the end of August, or beginning of September, they leave the coppice, return to the forest, and begin to search out their favourite hinds; they cry with a loud voice, their neck and

throat fwell, they grow reftiefs, traverse the fallow grounds and plains in open day, and dart their horns against the trees and hedges. In a word, they feem transported with fury, and range from place to place till they have found their females, whom they have to purfue and overcome, before they fubmit to their pleafure. If two stags approach the same hind at this time a combat enfues : if their strength be nearly equal, they threaten, plough up the earth with their paws, make a terrible noise, and dart upon each other with the utmost fury. Their battles are carried on to fuch extremities, that they often inflict mortal wounds with their horns, nor is the combat ever concluded but by the complete defeat or flight of one of them, when the conqueror enjoys the fruit of his victory, unless another male happens to appear, and then a fecond combat is fure to enfue. The oldest stags are commonly victorious, because they are hercer, and possessed of greater strength than the young ones. The old stags are the most ardent and inconstant, having commonly several females at the same time, and when they have but one they remain attached to her but a few days before they go in fearch of a fecond, with whom they remain a ftill shorter time, and then wander to others. The rutting feafon lasts about three weeks, during which period they cat but little, and are strangers to all repose; night and day they are on foot, ranging about, fighting with the males, or enjoying the females, and of course when the rutting season is over are so walted, meagre, and futigued, that they require a length of time to recover their strength. They then retire to the borders of the forest, and graze on the best cultivated lands, where they find food in abundance, and where they continue till their strength is restored. The rutting scason, among the old flags, commences about the 1st, and concludes about the 20th of September; with those of fix or feven years old it begins in the middle of September, and ends the beginning of October; with the young stag it begins about the 20th of S. ptember, and lasts to the 15th of October, by the end of which month the rutting is all over, except among the prickets, who, as well as the young hinds, are the latest in coming into season: thus, by the beginning of November, the rutting time is entirely finished, and, at that period, the stags, being in the weakest condition, are most eafily hunted down. In those seasons, when acorns are plentiful, they recover in a very flort time, and a fecond rut will take place towards the end of October, but this is always of a much shorter duration than the first. In warmer climates, as the feafons are more forward, the rutting feafon begins fooner. Aristotle tells us, in Greece it commences the beginning of August, and concludes towards the end of September.

The hinds go with young eight months and a few days, and feldom produce more than one fawn, which they bring forth in May or the beginning of June. They take the greatest care to conceal their fawns, and will even present themselves to be chased in order to draw off the dogs, and afterwards return to take care of their young. All hinds are not prolific, and some of them are even barren; these kinds are more grofs and fat than the others, and are fooner in heat. It is also faid some hinds have horns like the stags. The young are not called fawns after the fixth month, then the knobs begin to appear, and they take the name of knobbers, which they bear till their horns lengthen into spears, and then they are called brocks and prickets. Though they grow very fast, they do not quit the mother all the first fummer. In the winter they all refort together, and their herds are more numerous as the feafon is more fevere. In the spring they divide, the hinds retiring to bring forth; and they are only the prickets and young stags which then keep

together. In general the stags are inclined to associate, and it is only from fear or necessity that they are ever found dispersed. At the age of eighteen months the stags are capable of engendering, for those brought forth in the spring of the preceding year will couple with the hinds in autumn. The stag continues to increase in size till he has completed his eighth year. As the stag is very quick at first in his growth, a year does not pass before this redundancy shews itself. If brought forth in May, the horns begin to appear in May following, and continue to increase till the end of August, by which time they are full grown. The longevity of the flag, which became proverbial among the ancients, is in some degree a vulgar error, for though the animal, compared with many quadrupeds, may be juffly confidered as long-lived, fince it is supposed in some instances to arrive at the age of 35 or 40 years, yet it is by no means possessed of the longevity ascribed to it by some of the ancients. Aristotle discountenances this filly prejudice; but it was, as Buffon observes, again revived in the days of ignorance, and supported by the story of a stag that was taken by Charles VI. in the forest of Senlis, with a collar upon the neck bearing this inscription, "Cæsar hoc me donavit;" the people rather choosing to believe this stag had lived a thousand years, and had received his collar from a Roman emperor, than that he came from Germany, where the em-

perors assumed the name of Cafar.

In Britain the stag is become less common than formerly; its excessive viciousness during the rutting season inducing most people to dispense with this species, and rear the fallow deer, which is of a more placid nature, in its stead. Some attempts have indeed been made to render the stag domestic. by treating them with the same gentleness as the Laplanders do their rein-deer: and it appears, in the Isle of France, where the Portuguese had introduced the European breed, they had fo far succeeded by degrees as to render them quite domestic, many of the inhabitants keeping large slocks of them. But when the French took possession of that island they de-stroyed most of those domesticated stags. Valmont de Bromare afferts that he faw in Germany a fet, or "attelage," confifting of fix stags, that were perfectly obedient to the curb, and active to the stroke of the whip; and in the magnificent stables of Chantilly, in the year 1770, were two stags that were occasionally harnessed to a small chariot, in which they carried two persons. The flesh of the old flags is very bad; that of the female is not amifs, but the flesh of the young fawns is still better. The skin and the horns are the most useful parts of this animal. The skin makes a pliable and durable leather, and the horns, being extremely compact, folid, hard, and weighty, make excellent handles for knives, and other instruments. Stags are still found wild in the Highlands of Scotland, in herds of four or five hundred together, ranging at full liberty over the vast hills of the north, fome of which grow to a great fize. Pennant fays, upon the authority of Mr. Farquharfon, that one of those wild stags weighed 314 pounds, exclusive of the entrails, head, and skin. Formerly the great Highland chieftains used to hunt with the magnificence of eastern monarchs, affembling four or five thousand of their clan, who drove the deer into the toils, or to the station their lairds had placed themselves in. But as this pretence was frequently used to collect their vassals for rebellious purposes, an act was passed prohibiting any affembly of this kind. Stags are likewife met with on the moors that border on Cornwall and Devonshire; and in Ireland on the mountains of Kerry, where they add greatly to the magnificence of the romantic feenery of the lake of Killarney. Pennant is persuaded that the itag is not a native of America, and confiders the deer known

in that country by the name of flag as a diffinet species. It has been already mentioned that the American flag is a variety, C. canadensis of Erxleben. The Americans hunt and shoot those animals, not so much for the sake of the sless as of the sat, which serves as tallow in making candles, and the skins, which they dispose of to the Hudson's bay company. They are caught principally in the inland parts, near the vicinity of the lakes.

DAMA. Horns branched, recurved, and compreffed, with palmated funmits: Linn. Fn. Suec. Schreber, &c. Gervus palmatus, Dama, & Dama cervus, Klein. Gervus phatyceros, Ray. Dann hir/ch, Ridinger. Dain et Daine, Buff.

The fallow deer is confiderably smaller than the stag, and is of a brownish-bay colour, varying, in different individuals, to deeper or paler, and is spotted on the back with white; and fometimes, though rarely, the whole of the back is white-Colour beneath, and on the infides of the limbs, whitish. Tail rather longer in proportion than that of the common ftag, white beneath, and commonly bounded on each fide by a descending streak of black; but the principal mark of distinction between this species and the stag is the form of the horns, which, as in the stag, are peculiar to the male, and are ciliated at the upper part, and palmated or divided into processes which are continued to a considerable distance down the horn. An antler or simple slender process rifes from the base of each, and a similar one at some distance above the first, both pointing somewhat forwards. In its general form the animal greatly refembles the flag, but is imaller, and of a more gentle disposition.

The manners of the fallow deer refemble those of the stag, but he is observed to be less delease in the choice of his sood, eating a variety of vegetables which are resulted by the other. He also preserves his venison better, and even after the rutting reason he does not appear exhausted, but continues in nearly the same state throughout the year. He browses closer than the stag, and is for that reason more prejudicial to young trees. At the second year the fallow buck seeks the semale, and like the stag is inconstant in his attachments. The doe goes with young eight months and some days. She commonly produces one sawn, sometimes two, and very rarely three. They are capable of engendering from two years of age till fifteen or fixteen, and seldom live more than

twenty. The horns of the fallow buck, like those of the stag, are shed every year, but at a somewhat later period, happening about fifteen days later. At their first appearance they refemble a pair of foft, tumid knobs, or tubercles, and are covered with a villous fkin; they gradually enlarge, lengthen, and widen at the tops, and when full grown, the skin which had ferved to protect and nourish the young horn becoming nfelefs, is rubbed off by the animal, the impression of the blood vessels still remaining on the complete horn, in the form of fo many ramified furrows. During the rutting feefon they are neither fo furious nor fo violent in their ardour as the common stag. They never quit their own pastures in fearch of the females, though they will dispute and fight furiously for the possession of them. It often happens when there is a number in one park, that they will divide into two parties, and engage each other with much resolution; but these contests generally occur from a wish they both have to graze upon some particular spot. Each of these parties has its chief; these lead on the engagement, and the rell follow under their direction. One victory is not fufficient, neither party yielding upon a fingle defeat; but as the battle is renewed daily, the weakest are at last compelled to retire to some secluded part of the park, and be content with the worst pasturage. This animal is not so universal as the

common stag, and is even rare in some parts of Europe, as in France and Germany. They abound in England, but are chiefly confined to parks. In Spain it is faid to arrive at a fize nearly equal to that of the common stag. It is sound in Greece, Paleltine, the north of China, and in Persia. The fallow deer in America have been introduced there from Europe; for the animal called the American fallow deer is of a very different kind, and is peculiar to the new continent.

VIRGINIANUS. Horns ramofe, turned forwards, and raher palmated. Penn. quad. Cervus virginianus, Gmel. Dama virginiana, Ray. Cervus platyceros, Sloane. Chrorcuil, Du Pratz. Fallow deer, Lawson. Virginian deer,

This animal refembles the fallow deer, but is taller, has a longer tail, and is of a lighter colour; the horns are more flender with numerous branches on the infide, and has no brown, the head of a deeper cast, and the belly, sides, shoulders, and thighs whitish, mottled with brown; the tail, which is about ten inches long, is dufky above, and white below. This kind of deer inhabits all the provinces fouth of Canada, but in greatest abundance in the vast favannas contiguous to the Milliffippi, and the great rivers that flow into it, grazing in innumerable herds along with the stags and buffaloes. This species is supposed by some to extend as far as Guiana, and to be the buieu of that country, which is faid to be about the fize of an European buck, with short horns bending forward at their extremities. This opinion is erroneous, the baieu being now afcertained to be a very diffinct animal (Cervus mexicanus, Gmel.) The Virginian deer are sometimes tamed and used by the Indians, after being properly trained, to decoy the wild, especially at the rutting season, within the range of the hunters' mulkets. Both bucks and does herd from September to March, after which the does sccrete themselves to bring forth, and are found with difficulty. From this time the bucks keep separate till the rutting season in September following. The deer begin to feed about twilight; and fometimes in the day-time, but then only in the rainy feafon, otherwife they rarely venture to quit their haunts. These animals are very rettless and always in motion. Those which live near the shores are lean and bad, and are greatly troubled with worms in their head and throat, the larvæ no doubt of various infects that like the tobani, and ogliri, or gad-fly, deposit their eggs in the slesh of the animal. Those which frequent the hills and savannas are better, but the venison of these is dry. In hard winters they are obferved to feed much on the different species of ufnea or string-moss, which hangs from the trees. These, in common with the other cloven-footed quadrupeds of America, are very fond of falt, and refort eagerly to the places impregnated with it; they are also always feen in great numbers licking the earth in the spots where the ground has been torn by torrents or other accidents. Such spots are called licking places in America, and the hunters are fure to find plenty of game in those fituations; for notwithflanding they are so often diffurbed they soon return again in droves

The deer are of the first importance to the Indians. The skins form the greatest branch of their traffic, by which they procure from the colonits in exchange many of the articles of life. The slesh is their principal lood throughout the year, which they prepare by drying it over a clear gentle fire, after cutting it into small pieces, and, in this state, it is not only capable of long preservation, but is very portable in their sudden excursions, especially when reduced to

commerce will not admit of doubt; fo long ago as the year 1764. no less than 25,027 skins were imported, according to Mr. Pennant, from New York and Pennsylvania. The Mr. Pennant, from New York and Pennfylvania. trade is at prefent still more considerable.

Axis. Horns ramofe, round, and erect; fummit bifid; body spotted with white. Erxleb. Schreber, &c. Axis,

Plin. Ray, &c.

This animal, which is known by the name of the Ganges flag, is one of the most beautiful species of this genus. Its fize is nearly that of the fallow-deer, and its colour an elegant light rufous brown, dillinctly and beautifully marked with numerous white spots; the under parts are paler, and a line of white generally separates the colour of the upper from the lower parts; the tail refembles that of the fallowdeer, and is reddish above and white beneath. The species is faid to be very common in fome parts of India, about the banks of the Ganges, and in the island of Ceylon. It is described by Pliny, among the animals of India, and is faid to have been facred to Bacchus. It has been introduced into Europe, and is occasionally feen in parks and menageries. They are readily tamed and feem to fuffer little from a change of climate.

Pennant makes two varieties of the spotted Axis, the middle Axis and great Axis. The middle Axis is de-fcribed as being of a light rufous colour, but never fpotted. Sometimes, however, it is faid to vary into white, and in that state is considered as a great rarity. It inhabits dry hilly forests in Ceylon, Borneo, Celebes, and Java, where it is found in very numerous herds. The fleth is much efteemed by the natives, and is dried, and falted for ufe. The existence of the great Axis is ascertained from a pair of horns in the British Museum, resembling those of the former in shape, but of a larger fize. They measure two feet nine inches in length, are of a whitish colour, and flrong, thick, and rugged. Pennant conjectures they were brought from Ceylon or Borneo, having been informed by Mr. Loten, who had long refided in the former of those islands, that a very large kind of stag as tall as a horse, and of a reddish colour, with trifurcated horns, existed there as well as in Borneo. In the latter island, where they are faid to frequent low marshy tracts, they are called water flags. .

Porcinus. Horns slender, trifurcated: body above fuscous, beneath cinereous, Schreber. Porcine deer,

The length of this animal is three feet and a half; height two feet and a half; horns thirteen inches long, and the tail eight inches. The body is thick and clumfy, the legs fine and flender; the colour on the upper part of the neck, body, and fides brown; of the belly and rump lighter. Mr. Pennant's description of this species was taken from a specimen in the possession of the late Lord Clive, and was brought from Bengal. It is also said to be found in Borneo, where it is called the hog-deer from the thickness of its body. Of their feet, Mr. Pennant fays, are made tobacco-stoppers in the same manner as of those of the fmaller kinds of antelopes and mulks.

AFRICANUS. Horns flender and trifurcated; limbs fhort, thick, and brown; body above fawn-coloured with white spots, beneath whitsh. Cerf-Cochon, Buff. suppl. Spotted Porcine deer, Shaw. Gen. Zool.

This animal, which is described by Busson under the name of Cerf-cochon or Hog-deer, is a native of the Cape of Good Hope. Dr. Shaw confiders it as a probable variety of C. Porcinus, and the French writers of the prefent day think it only a variety of the common stag. If tion, temperament, manners, and almost every natural habit-

powder. That the skins form an article of very extensive the descriptions of this little known animal be correct, we should however rather incline to admit it as a distinct species, and under this idea name it Africanus. It is the fame fize as the laft, but the limbs are not fine and flender as in that animal; they are on the contrary short and thick; the legs and hoofs are very fmall; the fur fawn coloured, darkest on the back, and spotted like the Axis with white; the eyes are black; and the upper eyelids furnished with long black hairs; the nofe is black; head reddish-white intermixed with grey; ears large with white hairs within; and the tail fawn-coloured above, beneath

Mexicanus. Horns trifurcated at the tip and turned forward; body rufous. Penn. Gmel. Cervus major, corniculis brevissimis, Biche des bois, Barrer. Teutlal maçame, Hernandez. Baieu, Bancroft, Gui. Chevreuil d'Ame-

rique, Buff.

This species is the fize of the common or European Roebuck, and of a reddiff colour, but when young, is often fpotted with white. The horns are thick, strong, and rugged; they bend forward, are about ten inches long, and trifurcated at the upper part, but vary sometimes in the number of processes. The head is large: eyes large and bright, and the neck thick. The sless is faid to be far inferior to the venison of Europe. This inhabits Mexico, Guiana, and Brafil.

CAPREOLUS. Horns ramofe, round, erect, and bifid at the fummit; body red lift brown. Linn. Fn. Succ. Schreber. Erxleben, &c .- Cervus capreolus, Briff. Capraa, Plin. Ald. &cc. Capreoius, Gefn. Jonst. Doreas, Charlet. Chevreuil et chevrette, Buff. Rehbook, Gefn. Ridinger, &cc. Roe,

The stag, fays Buffon, as being the noblest inhabitant of the wood, occupies the most fecret shades of the forest, and the elevated ridges of mountains, where the spreading branches form a lofty covert, while the roe, as if an inferior species, is content with an humbler residence, and is seldom found but among the thick foliage of the younger trees, and brush-wood. But if he is inferior to the stag in dignity, ftrength, and stature, he is endowed with more grace, vivacity, and courage. He is superior in gaiety, neatness, and sprightliness. His sigure is more clegant and handsome: his eyes more brilliant and animated. His limbs are more fupple, his movements quicker, and he bounds feemingly without effort, with equal vigour and agility. His coat or hair is always clean, fmooth, and gloffy. He never wallows in the mire, like the stag. He delights in dry and elevated places, where the air is pureft. He possesses also more cunning and finesse, conceals himself with greater address, is more difficult to trace, and derives superior resources from instinct, for though he has the misfortune to leave behind him a stronger scent than the stag, which redoubles the ardour and appetite of the dogs, he knows how to withdraw himself from their pursuit by the rapidity with which he begins his flight, and by his numerous doublings. He never delays, like the flag, to practife his address till his strength fails him, but as foon as he finds the first efforts of a rapid chace unfuccefsful, he repeatedly returns by his former steps, and after confounding by these opposite movements the direction he has taken, after intermixing the last emanations to thole of the former course, he rises from the earth by one great bound, retreats to one fide, where he lies down flat on his belly, and in this fituation allows the whole troop of his deceived purfuers to pass close to him without attempting

The roe differs from the stag and fallow deer, in disposi-

Inftead of herding together, they live in feparate families; the fire, dam, and young form a little community, and never admit a ftranger into it. They are conftant in their amours, and never unfaithful like the ftag. During the period in which they are engaged in the talk of nuring a new family, they drive off the former brood, as if to oblige them to yield their place to those which are to fucceed, and to form new families for themselves; but when this season is passed, the fawns again return to their mother, and remain with her some time; after which they separate entirely, and remove to a distance from the place which gave them birth.

The female goes with young five months and a half, and brings forth about the end of April or beginning of May. The hinds, or female stags, on the contrary, go with young above eight months, and this difference is alone fufficient to prove that these animals are so remote from each other in species as to prevent their ever intermixing or producing an intermediate race. By this difference, as well as that of figure and fize, they approach the goat, as much as they recede from the stag, and go with young nearly the fame time. The female, when about to bring forth, retires to the deepest recesses of the forest. In ten or twelve days the fawns acquire fufficient strength to enable them to follow her. When threatened with danger, she hides them in a close thicket, and to preserve them allows herself to be the object of pursuit. But notwithstanding all her care and anxiety, the young are sometimes carried off by men, dogs, or wolves. This is, indeed, the time of their greatest deilruction. As the roes love hills, or plains on the tops of mountains, they never flay long in the deep recesses of the forest, nor in the middle of extensive woods, but give the preference to the skirts of woods which are surrounded with cultivated fields, and to open coppices which produce the berry-bearing alder.

About the end of the first year, when the fawns are separated from their parents, the first horns begin to appear, in the form of two knobs, much less than those of the stag. Contrary to those of the flag, which are cast in the spring and renewed in the fummer, the horns of the roe fall off at the end of autumn, and are replaced in the winter. When the roe-buck has renewed his horns, he rubs them again't the trees, like the flag, in order to free them from the velvety ikin with which they are covered, and this commonly happens about the month of March, before the trees begin to shoot. The fecond horns of the roe have two or three antlers on each fide; the third three or four; the fourth four or five, and after this their horns are feldom furnished with a farther number of antlers. The horns of the old ones are diftinguished after this by the thickness of their stems, the largeness of the bar, pearlings, &c. As long as the horns continue foft, they are extremely fenfible: of this Buffon describes a striking example. The young shoot of a rosbuck's horn was carried off by a ball, the animal was flunned, and fell down as if he had been dead. The shooter, who was near, feized him by the foot; but the roe-buck fuddenly recovering his fenses and strength dragged the man, though he was strong and alert, thirty paces into the wood. After killing him with a knife, it was discovered that the roe had received no other wound.

As the female roe goes with young only five months and a half, and as the growth of the fawn is more rapid than that of the stag, the duration of her life is much shorter, seldom extending perhaps beyond twelve or fifteen years. They are delicate in their choice of food, and require a great deal of exercise, free air, and much room, which is the reason they are unable, after the first year of their growth, to resist the inconvenience of domestic life. They may be tamed,

but can never be rendered obedient or familiar. They always retain a portion of their natural wildness, are cashly terrified, and then run with fuch violence against the walls that they often break their limbs. However tame they may be apparently, they are not to be trusted, and the males in particular, being subject to dangerous caprices; they take aversions to certain persons, and make furious attacks with their horns, the blows of which are sufficient to throw a man on the ground, after which they continue to trample on him. The roe-buck bellows, but less frequently than the stag, neither is his voice so forng or loud. The young ones utter a short and plaintive cry, mi mi, by which they indicate their want of sood. This sound is easily imitated, and the mother, deceived by the call, will come up to the very muzzle of the hunter's gun.

In winter the roes frequent the thickest coppices, and feed upon brambles, broom, heath, and the catkins of the hazels and willows. In fpring they repair to the more open brush-wood, and eat indiscriminately the buds and young leaves of other trees. They never drink except in the very height of fummer, when the weather is hot in the extreme, the moift dews with which the herbage at other times abound being sufficient to allay their thirst. The slesh of the roe is excellent when in good order, but the quality of the venison depends much on the country they inhabit; and even the best countries produce good and bad kinds. The flesh of the brown roe is preferred to that of the red fort. All the males after the age of two years have the flesh hard and ill-tasted, but that of the females though farther advanced in age is more tender. That of the fawns, when very young, is loofe and fost, but at the age of eighteen months, it is in the highest state of perfection. Those which live in plains and vallies are not good; those which come from moilt countries are ftill worfe: those brought up in parks are infipid; and, laftly, there are no good roes but those of dry elevated countries, interspersed with hills, woods, cultivated and fallow land, where they enjoy plenty of air, food, freedom, and folitude; for those which have been often diffurbed are meagre, and the flesh of those which

The roe was formerly very common in Wales, in the North of England, and in Scotland, but at prefent the species exists in no other part of Great Britain beside the Scottish Highlands, and even there are far from common at this period. In France they were more frequent, but for the last sifty years their numbers have been rapidly diminishing. They are found in Italy but very rarely, and they are much scarcer in Sweden and Norway than formerly. According to Pennant, the first that are to be met with in Great Britain are in the woods on the fouth side of Loch Rannoch, in Pertifishie; and the last in those of Langwal, on the fouthern borders of Caithness, but they are most numerous in the beautiful forests of Invercauld, in the middle of the Grampian hills. In Ireland they are unknown.

The usual fize of the roe is three feet nine inches from the nose to the tail; the height before two feet three inches, but behind two feet seven inches. The tail is about an inch long; the horns its or eight inches long; the general colour of the animal reddish brown, with the rump white. Like other quadrupeds it is sometimes sound perfectly white, and Bussian mentions, upon the authority of Count Meilin, a race of coal black roes that exists in a very small German district called the forest of Lucia, in the dominions of the king of England as duke of Lunenburg. This variety is faid to be constantly the same, resembling the common fort in size, and every other particular except in colour.

in fize, and every other particular except in colour.

MUNTIAC. With trifurcated horus originating from a cylindrical

cylindrical hairy base, and the upper fork hooked; from the horns to the eyes three longitudinal furrows; upper tufk projecting. Cervus Muntjac, Gmel. Schreber. Ribfaced

deer, Penn. Le Chevreuil des Indies, Buff.

This species, which is fomewhat smaller than the common Roe-buck, and of a thicker form like the porcine deer, is a native of Java and Ceylon. The bony processes upon which the horns are placed, are elevated three inches from the skull, and covered with hair; but what feems principally to diffinguish this animal is the appearance of three longitudinal ribs extending from the horns to the eyes. It also differs from most species of the same genus in having a tusk in the upper jaw. The animal was first described by Pennant, who informs us it is called by the Javans Munt-jak, whence its specific name, and in the Malay tongue Kidarg. Mr. Pennant further adds, that the pedeftals or pillars on which the horns fland grow thicker as the animal advances in age, and the margins fwell out all round, fo that if the horns are forced off the pedeltals, the furface of the last has the appearance of a rose. In Allamand's description of this species it is added, that the tongue is so extremely long, the animal can extend it even beyond the eyes. Vide Buff. T. 6. suppl.
GUINEENSIS. Grey, beneath blackish. Cervus Guineensis,

grifeus, fubtus nigricans, Linn. Mus. Ad. Frid. Grey deer,

Pennant.

Described by Linnæus as being the fize of a cat; the colour grey, with a line of black above the eyes, and on each fide of the throat another black line pointing downwards; the middle of the breaft black; fore legs and fides of belly as far as the hams marked with black; tail beneath black; ears rather long. As the horns were wanting in the specimen described by Linnæus, it is doubtful whether this obscure animal be of the cervine tribe, or not. It is mentioned as a native of Guinea.

CERVUS volans, in Entomology, the name given by certain authors to the infect called in England the stag-beetle, Lucanus cervus of Linnæus, cerf volant of the French. See

LUCANUS Cervus.

CERYCIUS Mons, in Ancient Geography, a mountain of Greece, in Bootia, according to Paulanias, who adds, that Mercury was faid to be born there. From his description, it appears that this mountain was comprised in the town of Tanagra.-Alfo, a mountain of Asia Minor, in Ionia, near the town of Ephefus.

CERYNEA, a mountain of Peloponnesus, in Arcadia,

according to Paufanias.

CERYNEA, or CERINÉ, a town of Achaia, N.W. of Bura, and near the gulf of Corinth. It had its name, fays Paufanias, from the small river Cerynite, which slowed from a mountain of the fame name, and passed near it. The inhabitants of Mycenæ retired to this city, when they were compelled by the fierce jealoufy of the Argians to quit their own country. At Ccryne was a temple of the Eumenides, faid to have been founded by Orestes.

CERYNIA, a town in the northern part of the island of

Cyprus, E. of Lapathus.

CERYX, in Antiquity. The ceryces were a fort of public ministers appointed to proclaim or publish things aloud in affemblies.

The ceryx, among the Greeks, answered to the PRÆCO among the Romans.

Our cryers have only a fmall part of their office and au-

There are two kinds of ceryces, civil and facred.

CERYCES, civil, those appointed to call assemblies, and make filence therein; also to go on messages, and do the office of our heralds, &c.

CERYCES, facred, were a fort of priests, whose office was to proclaim filence in the public games and facrifices, publish the names of the conquerors, proclaim featls, and the like. The priesshood of the ceryces was annexed to a particular family, and the descendants of Ceryx, son of Eumolphus. To them it also belonged to lead solemn victims to flaughter. Before the ceremonies began, they called filence in the affembly, by the formula, Evonueite oryn was egw hews; anwering to the favete linguis of the Romans. When the service was over they dismissed the people with this formula, Λαων αζεσις, Ite miffa oft.

CERYX, in Conchology, a name by which Pliny and other old authors have called a variety of thells in the buccinum and

muren genus.

CESALPINI. Sec CESALPINUS.

CESANO, in Geography, a small stream of Italy, in the duchy of Urbino, between which, and the river Mifa, which runs through Senegaglia, are some ancient ditches marking the limits of the Roman camp; and on the other fide of the Cefano fome antiquarians imagine they have discovered the traces of the Carthaginian camp. It is certain, however, that Asdrubal (whose name a neighbouring mountain still bears), brother to Hannibal, loft both his army and his life in a battle fought in these parts. CESAR. See CESAR.

CESARE, in Logic, a mode of fyllogisms in the second figure wherein the major proposition and conclusion are univerfal negatives, and the minor an univerfal affirmative. Such is,

C E No man who betrays his country deserves praise.

Every virtuous man merits praise

RE Therefore no man who betrays his country is virtuous. CESAREA, in Geography, a town of Afiatic Turkey, in the province of Caramania; 40 miles S.E. of Yurcup.

CESARI, Guiseppe, in Biography. See Arpinas.

CESARIA. See COHANZY.

CESARIAN fedion. See CESARIAN fedion.

CESARINI, JULIAN, in Biography, a cardinal of Rome, was born of an ancient but indigent family in this city towards the latter part of the 14th century; and having studied at Perugia, Padua, and Bologna, he taught canon law for some time at Padua. Accompanying cardinal Branda da Cassiglione as secretary upon his legation to Bohemia, he was diftinguished by his skill in the conduct of public affairs. On his return to Rome, he was deputed by pope Martin V. as his nuncio first to France, and then to England, maintaining in both countries, with great firmness, the claims of the holy fee, and establishing his character for integrity by refusing all presents. As a recompence he was raised to the purple in 1426; and then sent to Bohemia, in order, by arguments and arms, to oppose the herefy of the Huslites. As his fuccess was not equal to his zeal, he was recalled by Eugenius IV. and deputed to preside at the council of Bafil, where he gained fingular reputation by his learning and eloquence. He first took part with the synod against the pope in their disputes; but at length he was gained over, and fent to the papal fynod at Ferrara. Here he dillinguished himself in his controversy with the Greek schismatics. After the termination of this council, he was sent by Eugenius as legate to Hungary, in order to induce Ladislaus, king of Hungary and Poland, to break the treaty of peace which he had made with fultan Amurath. His reasoning prevailed against the arguments of the hero Huniades; and he folemnly absolved Ladislaus from his oath to the Turkish monarch. The consequence was the satal hattle of Varna, in 1444, in which the Christians were defeated with great flaughter, and Ladiflaus was killed. Cefarini alfo fell a

victim on this occasion to his own counsel. Of his letters, orations, and disputations, many are published in the acts of the councils to which they belong. Du Pin's E. H. of the

15th century, vol. xiii. p. 87. Moreri.

CESARINI, VIRGINIO, the descendant of a noble family, was born at Rome in 1595, and at an early age perfected himfelf in almost every kind of literature, fo that he was regarded as an universal genius. He was not only learned in the Greek and Latin languages, but profoundly skilled in philofophy, altronomy, history, geography, medicine, jurisprudence, oratory, and poetry. Cardinal Bellarmine compared him to the famous Pico della Mirandola, and he was honoured with a medal which bore the head of Pico and his own united under a crown of laurel. He was a very diffinguished member of the academy of Lyncei, and intimate with prince Frederic Cefi, its founder. Urban VIII. made him one of his chamberlains, and defigned him for the cardinalate; but his course of honour terminated in 1624, at the early age of 30 years. His admirable intellectual qualities were united with modefty, civility, and private worth. His only publication was a collection of Latin and Italian poems, the former of which display fingular elegance and amenity, though the ftyle was not rendered perfect for want of time. Several of them are printed in a collection, entitled ". Septem Illustrium Virorum Poemata," Antwerp, 1662, and fince reprinted. At the requelt of cardinal Bellarmine, he had undertaken an ample demonstration of the immortality of the foul, which, with fome other works, remained incomplete. His buft, in marble, was placed in the capital with a pompous eulogy. Favoriti, a learned prelate, wrote his life. Moreri. Gen. Biog.

CESARIO, Sr. in Geography, a town of Naples, in the

province of Otranto; four miles W.S.W of Lecce.

CESATA, in Ancient Geography, a town of Spain, between Arriaca and Seguntia, according to the ltinerary of Antonine. Ptolemy, who calls it Cefuda, fays, that it was a town of Celtiberia, in the Tarragonentis.

CESBEDIUM, a temple of Asia, in Pamphylia. Polybius fays, that it was dedicated to Jupiter, and that it

ferved as a citadel to the town of Selga.

CESCUM, a town of Asia, in Cilicia, according to

Pliny

CESENA, in Geography, a town of Italy, in the province of Romagna, feated on the road from Rimini to Ravenna, on the river-Savio, at the foot of a hill, on which stands a ruined citadel: the see of a bilhop suffragan of Ravenna. It has good churches and convents, and the houses are generally well built; 18 miles S. of Ravenna. Near it, on a hill, stands a Benedictine convent, to which belongs the church "Sta, Maria del Monti de Cesena."

CESENA, an ancient town of Gallia Cifpadana, fituate to the S.E. of Forum Livii. It is faid to have been founded by the Galli Senones, 39t years B.C. It remained under the power of the Heruli, and was befieged without effect by Theodoric. This prince, however, gained posselfish of it after the death of Odoacer, when Liberius, the commandant, furrendered it to him, A. D. 493. Having suffered much in different wars, it was partly confumed by a fire.

CESENATICO, a fmall fea-port of Italy, inhabited chiefly by filhermen, in the Adriatic, in the province of Romagna, which has an excellent harbour and commodious canal, with a bridge, erected in 1716, near which are two fine marble pillars of the Corinthian order; \$ miles N.E. of Cefena.

CESI, a town of Italy, in the province of Umbria; feated on the edge of a lofty mountain, or took, exposed to the fun during its whole course from its rising to its fetting.

CESION, or CEDES, in Ancient Geography, a town of Judea, in the tribe of Islachar, according to the book of Joshua. It was given to the Levites of this tribe, who were of the family of Gershen.

CESIS, in Botany, a name by which fome authors exprefs the common daucus fylveflris, wild carrot, or bird's

neft.

CESLES, in Geography, a town of Hungary; 5 leagues N.N.E. of Stul-Weifenburg.

CESPEDES, PABLO (PAGLO OF PAUL) DE, in Biography, an eminent historical painter of Spain, was born at Cordova, of which he was afterwards dignitary, between the years 1530 and 1540. He was a man of extensive talents and profound erudition, fo that, by the Spanish writers, he has been extolled as an univerfal genius. He travelled twice to Rome in order to perfect himself in the art of painting, to which he was peculiarly addicted; and he formed his ftyle after that of Michael Angelo, whom he also imitated in uniting architecture and foulpture with painting. During his residence at Rome, he supplied a head to a samous antique trunk of Seneca in white marble; and when the original head was afterwards discovered, that of Cespedes was thought to be fuperior. He also painted in fresco at the Trinita Monti at Rome and in other places. On his return to Spain he adorned with his performances the churches of Seville and other cities in Andalulia; but his principal pictures are found at Cordova. His Last Supper in the cathedral is fingularly famous, both for variety of expression and tone of colouring, in which last quality he is thought to have approached the manner of Corregio. His drawing, anatomy, and perspective, are eminently correct. The esteem in which he was held by federico Zuccari is evinced by the following anecdote. When this artist was applied to by the bishop and chapter of the cathedral of Cordova for an altar piece, he peremptorily declined the commission, alleging that while Paolo de Cespedes was in Spain, there would be no occasion to fend into Italy for pictures. As an author, Cespedes wrote a treatise on the antiquities of the church of Cordova, proving it to have been a temple of Janus. Some of his works on painting are loft. His moral character was exemplary. He died at his native place in 1608, and was buried in the cathedral. Pilkington by Fufeli. Cumberland's Anecd. of Spanish Painters,

CESPITOSE, in Botany, producing feveral stems from the same root, so intermingled and matted together as to

form a turf.

CESSARES, in Geography, a territory northward of Patagonia in South America, in the 48th degree of S. lat. inhabited by a mixed tribe of that name, defeended from the Spaniards, being the crews of three ships that were wrecked on this coall in 1520.

CESSA'T Executio, in Law. In trespass against two persons, if it be tried and found against one, and the plaintstif takes his execution against him, the writ will abate as to the other; for there ought to be a costal executio till it is tried

against the other defendant; 10 Edw. 1v. 11.

CESSATION, the act of intermitting, discontinuing, or interrupting the course of any thing, work, action, or

the like.

CESSATION of arms, in a Military Sense, fignifies a total discontinuance or suspension of warlike operations or acts of hostility for a limited time during a state of warfare. See CAPITULATION.

CESSATION, Ceffatio à divinis, in the Romifo Church, is a penalty inflicted for any notorious injury to the church, by putting a stop to all divine offices, and the administration

of the facraments, and by depriving Christians of church-

CESSAVIT, in Law, a writ, which lies by the statute of Gloucester, 6 Edw. I. c. 4, and of Westm. 2. 13 Edw. I. c. 21 and 41.; when a man who holds lands of a lord by rent or other fervices, neglects or ceafes to perform his fervices for two years together; or when a religious house hath lands given it, on condition of performing some certain spiritual fervice, as reading prayers or giving alms, and neglects it: in either of which cases, if the ceffer or neglect have continued for two years, the lord or donor and his heirs shall have a writ of coffavit to recover the land itself. F. N. B. 208. This, in some instances relating to religious houses, is called ceffavit de cantaria. By the flatute of Gloucester, the ceffavit does not lie for lands let upon fee-farm rents (coffavit de feofirma), unless they have lain waste and uncultivated for two years, and there be not fullicient diffres upon the premises : cannot come upon it to distrain. F. N. B. 209. 2 Inft. 298. For the law prefers the simple and ordinary remedies, by diffress, &c. to this extraordinary one of forfeiture for a that upon tender of arrears and damages before judgment, and giving fecurity for the future performance of the fervices, the process shall be at an end, and the tenant shall retain his land; to which the statute of Wellin. 2. conforms, so far as may fland with convenience and reason of law. 2 Int. 401. 460. The statute 4 Geo. II. c. 28. (which permits landlords who have a right of re-entry for non-payment of rent, to ferve an ejechment on their tenants, when half a year's rent is due, and there is not sufficient diffres on the premisses) is in some measure copied from the ancient writ of cellavit; especially as it may be fatisfied and terminated in a fimilar manner, by tender of the rent and cotts within fix m nths after. And the fame remedy is, in fubthance, adopted by flatute 11 Geo. II. c. 10. § 16. which enacts, that where any tenant at rack-rent shall be one year's rent in arrear, and shall defert the demifed premisfes, leaving the same uncultivated or unoccupied, fo that no fufficient diltrefs can be had; two juilices of the peace (after notice affixed on the premisses for 14 days without effect) may give the landlord possession thereof; and thenceforth the leafe shall be void. By stat. Westin. 2. § 2. the heir of the demandant may maintain a coffavit against the heir or affiguee of the tenant. But in other cases, the heir may not bring this writ for ceffure in the time of his ancestor; and it only lies for annual service, rent, and fuch like, and not for homage or fealty. Termes de la ley. New Nat. Brev. 463, 464. The lord shall have a writ of ceffavit against tenant for life, where the remainder is over in fee to another; but the donor of an estate-tail shall not have a ceffavit against the tenant in tail; though if a man make a gift in tail, the remainder over in fee to another, or to the heirs of the tenant in tail, there the lord of whom the lands are holden immediate, shall have a ceffavit against the tenant in tail, because that he is tenant to him. Ibid. If the lord distrains, pending the writ of ceffavit against his tenant, the writ shall abate. The writ cellavit is directed to the sheriff, " to command A. B. that, &c. he render to C. D. one meffuage which he holds by certain fervices, and which ought to come to the faid C. by force of the statute, &c. because the said A. in doing these services had ceased two years, &c." Blackst. Comm. vol. iii. p. 232. Jacob's Dict. by Tomlins.

CESSE, fignifies an affeffment or tax, and is mentioned in the flat. 22 Hen. VIII. c. 3. Ceffe, or Ceaffe, in Ireland, is an exaction of victuals, at a certain rate, for foldiers in garrifon.

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CESSENON, in Geography, a town of France, in the department of Herault, and district of St. Pons; 3 leagues No of Beziers.

CESSERO, in Ancient Geography, a town of Gallia Narbonneniis, on the frontiers of the Techolages, according to Pliny. This town was built in a valley, near the river Arauris or Erault.

CESSIEUX, in Geography, a town of France, in the department of the Ifere, and diffrict of La Tour-du-pin;

27 miles E.S.E. of Lyon

CESSIO BONDRUM, in Scots Law, the name of that action by which an infolvent debtor may apply for liberation from prifon, upon making over his whole real and perfonal chare to his creditors.

CESSION, in a Legal Senfe, an act whereby a person surrenders up and transmits to another person, a right which

belonged to himfelf.

Cession is a general term; the species whereof are a furrender, relinquishment, transfer, and subrogation; which see.

CESSION is particularly used in the Givil Law, for a voluntary and legal furrender of a person's effects to his creditors,

to avoid imprisonment.

This practice fill obtains in France and other countries; and is done by virtue of letters patent granted in favour of the poor and honeft. The ceffion originally carried with it a mark of infamy, and obliged the perfor to wear a green cap or bonnet; at Lucca, an orange one: to neglect this, was to forfeit the privileges of the ceffion. This was originally intended to fignify, that the ceffionary was become poor through his own folly.

The Italian lawyers describe the ceremony of cession to consist in striking the bare breech three times against a stone, called lapis visuperis, in the presence of the judge. Formerly it consisted in giving up the girdles and keys in court, the ancients using to carry at their girdles the chief utensils wherewith they got their living; as the serivener his escri-

toire, the merchant his bag, &c.

The form of ceffion among the ancient Romans and Gauls was as follows. The ceffionary gathered up duft in his left hand, from the four corners of the houfe; and, flanding on the threshold, holding the door-post in his right hand, threw the dust back over his shoulders; then stripping to his shirt, and quitting his girdle and bags, he jumped with a pole over a hedge; hereby letting the world know, that he had nothing left, and that when he jumped, all he was worth was in the air with him.

The judicial cession is that which is made by a merchant or trader, who is actually kept in prison by his creditors, and who being absolutely incapable to fatisfy them, petitions a court of justice for leave to make cession. This judicial cession is certainly compulsive on the part of the creditors; fince the debtor is commonly allowed the benefit of a cession by an order from the judges, notwithstanding the opposition made by the creditors to prevent it; which renders this cession more infamous than that which is voluntary. See BYENERUPET.

CESSION, in the Ecclefiastical Law, is one manner of va-

cating or voiding an ecclefiaftical benefice.

Ceffion is an implicit kind of refignation, underflood where a perfon does fome act, or takes on himfelf fome charge, which is inconfittent with his holding the benefice of which he was before poffelfed.

By flatute 21 Hen. VIII. c. 13, if a clerk have one benefice of 81, per annum, or upwards (according to the prefent valuation in the king's books), and takes another, of what value foever, with cure of fouls, and without difpenfa-

tion; the former living is, ipfo facto, void; and this kind of voidance of a living is called ceffion. See DISPENSA-

In case of a cession under the statute, the church is so far void upon institution to the second living, that the patron may take notice of it, and present if he pleases; but it seems that a lapse will not incur from the time of institution against the patron, unless notice be given him; but it will from the time of industion. 2 Wilf. 200. 3 Burr. 1504.

What is called ceffion in other benefices, is called enferration in relation to a bifhoprick; for if an incumbent be made a bifhop, his benefice is faid to be wild by enferration: and to fuch benefice or benefices the king shall present for that time, whoever is patron of them; in the other case the patron may present. See COMMENDAM.

CESSIONARY, a bankrupt. Sometimes it denotes an

affignee.

ČESSITANUS, in Ancient Geography, an episcopal town

of Africa; in Mauritania Calariensis.

CESSOR, in Law, one dilatory and delinquent in his duty, or fervice, and who thereby incurs the danger of the law, and is liable to have the write efficient brought against them. When it is faid the tenant effect, it is meant, he ceafeth to do his duty, or fervice, to which he is bound.

CESTAYROLS, in Geography, a town of France, in the

department of the Tarn; 3 leagus N. of Alby.

CESTI, IL PADRE MARC' ANTONIO, d'Auxeo Minor Conventuale e Cavaliere dell' Imperatore, in Diography, an Italian vocal compofer of mufic, of contiderable eminence in the 17th century. He fet an opera for Venice, in 1649, called Orontea, which was revived at Milan, with the fame mufic, in 1662; at Venice, 1666; at Bologna, 1669; and again at Venice, 1683; always colla Mufica fleffa, during 34 years!

It has been extremely difficult to find any of the mufic of the early operas that was not printed. Luckily, a feene of Celli's celebrated opera of Orontea, composed in 1649, and afterwards so frequently revived, was found in the music-book of Salvator Rosa, in that painter's own hand-writing. (See Hish. Mus. vol. iv. p. 67.) This air is supposed to have been the first Irain in measured melody that was intro-

duced at the termination of a scene of recitative.

Celli is faid to have been a disciple of Cariffini, which is hardly reconcilable with the date of this opera, as Cariffimi did not begin to be known at Rome till after the year 1640. Adami fays, that Celti was admitted as a tenor finger in the Pope's chapel, 1660; and that "the most celebrated of all his operas, of which five were composed for Venice, was La Dori, il lumi maggiore dello stil Teatrale." This opera first appeared at Venice, 1663, and was not only revived there in 1667, and 1671, but frequently performed with great applaule in the other principal cities of Italy. Songs have, fince these times, been so much composed to display never be successfully revived but where the same performers, at the deflance of many years. Indeed, if, contrary to the thould take place, twenty or thirty years generally make fuch havock with fine voices, fine tafte in finging, and fine feelings in judging, that it is by no means certain that they would then pleafe the fame critics as much as for-

The number of cantatas that *Cofti* produced, feems incalentable; as in every old library or collection of Italian old rocal mafic, that we have examined abroad and at home,

we find more of his cantatas than of any other author. At Chriff Church, Oxford, in the collection of Dr. A'drich, in the British Museum, in the d'Arcy collection of the late Earl of Holderness, in that of Lord Keeper North, of Sir Roger l'Estrange, and of all the ancient families who cultivated music in the 17th century, we found innumerable cantatas by Celli; and it appears in these cautatas, that he was a great improver of recitative. See Opera, Cantata, and Rectative.

CESTILE, in Ancient Geography, a town of Italy, in Liguria, at a small distance E. of Quadrata, and N. of Ri-

gomagus

CESTISSA, a town of Lower Pannonia, according to Ptolemy. The Itinerary of Antonine marks it on the route from Æmona to Sirmium, between Leuconum and Cibelle.

CESTRATUM, a work enamelled, or painted with a cestron. The word is also written cerostream and cero-

firatum.

CESTREUS, or rather CESTEUS, in Ichthyology, the name of a fish described by old writers as being of the mullet kind, but having a much smaller and narrower head, and its sides variegated with much shorter longitudinal lines. From this description we suspect the Gmelinian Gobius Gronovii must be intended, a fish which Ray describes as a mullet (Mugil Americanus), and Klein as Cesseus argentus, griseis lineis intertextis, oculis ellipticis, pinnis albicantibus, pinna dorsali maxima. See Goatus Gronovii.

CESTRI, in Ancient Geography, an episcopal town of

Afia, in Hauria

CESTRINA, a fmall country of Epirus.

CESTRON, in Antiquity, the instrument wherewith they

painted or enamelled, in horn, or ivory.

CESTROPHENDONUS, or rather CESTROSPHENDONS, from xiorym, or xiorym, tragula, and oxpoion, funda, a fort of military engine with a fling, for throwing barbed darts or javelins. Also, the dart or javelin itels, which took its name from the sling with which it was thrown, and is said to have been balanced with feathers like an arrow, and pointed at both extremities. It was made use of by the Macedonians, under Perseus, against the Romans.

CESTROS, or CESTRUS, in Ancient Geography, a river of

'amphylia.

CESTRUM, in Botany, (Kessov, Diofe, and Gal. a name fupposed to be given by those writers to Betony.) Linn, gen. 302. Schreb. 431. Willd. 387. Just. p. 126. Vent. vol. 2. p. 376. Gert. 493. Class and Order, pentandria monogynia. Nat. Order, Lurida, Linn. Solanea, Just. Vent.

Battard jasmine. Cellreau. Fr.

Gen Ch. Cal. one-leafed, tubular, very fhort, five-toothed, erect. Cor. monopetalous, funnel-shaped; tube cylindrical, very long, slender, crifice roundish; border five-cleft, spreading, short; segments equal. Stam. slaments sive, siliform, attached longitudinally to the tube of the corolla, in some species surnished with a little tooth in the middle or towards the base; anthers roundish, within the tube. Pill. germ superior, cylindrical, egg-shaped; the length of the calax; style silsform, the length of the stamens or longer; sligma thickish, obtuse. Preic. berry egg-shaped, one celled. Linn. Gert. two celled, Adanfon, Lam. Scedi several, angular, assisted to a thick receptacle in the middle of the berry.

Eff. Ch. Calyx thort, five-toothed. Corolla tubular, Berry one-celled. Seeds affixed to a thick receptacle in the

dle of the berry.

Obf. Gærtner observes, that though there may possibly be two cells in the germ, there are no traces of a partition

in the ripe berry. It appears to us that La Marck confiders the receptacle as a partition, which he ought not to have done, unless that receptacle had been so extended through the middle of the berry, as to cut off all communication between its fides.

Sp. 1. C. noëlurnum, Linn. Sp. Pl. 1. Lam. Encyc. and Ill. 1. Pl. 112. fig. 1. Mart. 1. Willd. 2. Gært. tab. 77. fig. 9. (Jafminoides, Dill. Elth. tab. 153. fig. 185.) " Flowers peduncled, femewhat racemed, greenish; filaments toothed; berries white." A shrub from fix to nine feet high, branched in its upper part. Branches cylindrical, smooth, detted, generally inclining to one fide. Leaves near four inches long, one and a half broad, alternate, petioled, ovate-lanceolate, fmooth, green, fometimes spotted with yellowish white. Flowers in axillary bunches. Berries a little smaller than a pea. A native of the island of Cuba, flowering in August and September, where, on account of its yielding a pleafant fmell in the evening, it is called the Lady of the Night. Cultivated long fince by the Duchefs of Beaufort at Badminton and thence known by the name of Badminton Jafmine. It does not ripen its berries in England. 2. C. Parqui. Mart. 7. Lam. Ill. 2. Willd. 3. L'Herit. Stirp. 4. tab. 36. (C. Jamaicenfe, B. Lam. Eneyc. Parqui, Fenill. obf. 3. tab. 32.) " Leaves narrow-lanceolate, stipuled; slowers somewhat racemed, fascicled, yellowish green; berries violet." A fetid shrub, about fix feet high. Stems feveral, upright, round; branches alternate, spreading, round, with a few tubercles. Leaves alternate, lanceolate, very acuminate at each end, entire, fomewhat waved, fmooth, bright green on both furfaces, fpreading; petioles very fhort; flipules linear. Flowers felfile or nearly so, smelling sweet in the night; bracte linear, acute, fpreading; calyx two lines long, smooth, permanent; corolla inferted into the receptacle, almost naked; tube eight lines long, club-shaped at the top; fegments of the border lanceolate, acuminate, spreading and finally turned back; filaments cloting the tube with their teeth, pubefcent at the bafe, the length of the tube; anthers two-celled, yellow; fligma oblate-spheroidal, excavated, large. Berry finall, egg-shaped. Seeds three or four, angular. A native of Chili. Introduced at Paris from feeds fent by Dombey. 3. C. auriculatum, Mart. 6. Lam. Ill. 3. Willd. 4. L'Herit. Stirp. tab. 35. (C. hediunda, Lam. Encyc. 2. Hediunda, Feuill. obs. tab. 20. fig. 3.) " Flowers peduncled, somewhat panicled; stipules eared, furrounding the branch." A fetid shrub, about fifteen feet high. Branches round, olive green or ashcolour, almost finooth. Leaves alternate, four inches long, one inch and a half broad, petioled, oblong-lanceolate, acute, fmooth, entire, green, but paler underneath; flipules axillary, of the fame form with the leaves. Flowers greenish, with a tinge of dull red, nearly feffile, in terminal and axillary clusters; bractes few, linear; calyx fomewhat hairy, preffed close; corolla fomewhat hairy on the outfide; tube iwelling at the top; divisions of the border linear-lanccolate, very sharp, two-furrowed, spreading; filaments very fhort, without teeth. Berry with about five feeds. A native of Peru, where it is used externally to cleanse foul ulcers, and internally in the venereal difeafe. It is also regarded as a pestoral. According to Father Feuille, it yields, during the night, a pleafant fmell, refembling that of musk, which, as soon as the sun rises, is changed into a highly offentive odour, and fo continues during the whole day. Dombey observed it in wet places about Lima. It was introduced into this country about 1774, but has rarely flowered, and never borne fruit. It flowers in winter. 4. C. vefpertinum, Lina. Mant. 206. Mart. 2. Lam. Ill. 4.

Willd. 6. (C. Jamaicense, Lam. Encyc. 2. Jasininum. Burm. Amer. tab. 157. fig. 1. Ixora alternifolia, Jaeq. Amer. tab. 177. fig. 8.) "Flowers fafcicled, nearly felfile; border acute; berries olive-shaped, dark violet." A tree, twelve feet high. Stem not very throng. Leaves alternate, on short petioles, length double the breadth, acute, quite entire, green on both fides, concave, with the edges raifed and waved. Flowers crowded, in nearly feffile fafcicles, greenish-white, often tinged with purple or violet, alternate, diverging, separated by ovate-oblong bractes; tube very flender; border with five acute expanding fegments; filaments without a tooth Berries refembling an olive, but only half the fize, nearly black. Seeds four, oblong. A native of the Well Indies. Cultivated by Miller in 1759. 5. C. pallidum, Lam. Encyc. 4. Ill. 5. (Jafminum laurinis foliis, Sloan. Hist. jam. 2. p. 96. tab. 204. fig. 2. Syringa laurifolia Jamaicenfis, Pluk. Alm. 359. tab. 64. fig. 3.) "Racemes compound, axillary; flowers small, pale; berries inversely egg-shaped, dark blue." The synonyms are referred by Linnaus to C. nodurnum, but La Marck afferts, that it is a perfectly diffinct species resembling C. laurifolium in the form of its leaves, and C. vespertinum in the colour of its fruit, and clearly distinguished from all the three by the fmallness of its flowers. A shrub, feven or eight feet high. Branches smooth, thick set with leaves near the fummit. Leaves alternate, petioled, ovalacute, an inch and half broad, fmooth, dark green. Flowers scarcely fix lines long, pale or yellowish, smooth; border expanded; fegments fliort, rather acute. A native of Jamaica, described by La Marck from a dried specimen in the herbarium of Juffieu. 6. C. feandens, Willd. 5. Vahl Eclog. 1. p. 24. "Filaments toothless; leaves egg-shaped, attenuated, fmooth; racemes axillary, fomewhat compound; branches climbing." A native of St. Martha. 7. C. hirtum, Willd. 10. Mart. 8. Swartz prod. 49. Flor. ind. occid. 1. p. 478. "Flowers somewhat spiked, axillary; leaves somewhat heart-shaped, acute, hairy underneath; branches hairy." Nearly allied to C. noclurnum, but diftinguished from it by its leaves, which are broader, larger, wrinkled, and hairy underneath; and by its flowers, which are somewhat spiked and crowded. S. C. latifolium, Lam. Ill. 6. Willd. 11. Vahl colog. 1. p. 25. " Racemes very fhort, axillary; leaves egg-fhaped, fmooth; branchlets and petioles fomewhat downy." It differs from the preceding in having its leaves not at all heart-snaped, and not hairy underneath; the fegments of the corolla acute, not obtufe; and its stigma capitate, not bifid, Swartz and Willd. 9. C. leurifolium, Mart. 5. Lam. Ill. 7. Willd. 1. L'Herit. stirp. nov. 69. tab. 34. Smith spicil. tab. 2. (C. venenatum, Lam. Ill. 5. Laureola, Pluk. alm. 209. tab. 95. fig. 1.) " Flowers nearly fessile, axillary, fascicled; border obtule; leaves elliptical, coriaceous, quite smooth." A shrub, from fix to nine feet high. Stem erect, round, with a rugged ash-coloured bark. Branches alternate, stiff, in the upper part fomewhat angular, leafy, many-flowered. Leaves alternate, an inch and half broad, elliptic-oblong, a little pointed, entire, obfcurely veined, very fmooth and thining, paler beneath, evergreen; petioles short, smooth, slat above, dark purple; stipules none. Flowers pale yellow, or marked with a gold-coloured fireak, rather fhort; bractes folitary, egg-shaped, obtuse, hairy, small, deciduous; calyx bell-shaped, minutely ciliated on the margin, permanent; corolla four times longer than the calyx; fegments of the border, obtule, spreading; filaments nearly as long as the tube, attached to it by more than half their length, and j inted where they separate from it, frequently furnished with a tooth-like protuberance; anthers roundish, two-Y y 2

egg-shaped, five-channelled, smooth, on a rather large five-cornered receptacle; flyle fomewhat thickened at the top, rather shorter than the stamens; stigma obtuse, impressed. Dr. Smith and La Marck. 10. C. venenatum, Willd. 8. Thunb. prod. 36. "Leaves lanceolate oblong, coriaccous; flowers feflile." It feems nearly allied to the preceding, but diffinct. Willd. 11. C. tomentofum, Linn. jun. fupp. 150. Mart. 4. Lam. Enc. 7. Ill. 8. Willd. 9. " Flowers crowded, terminal, fessile; branches, leaves, and calyxes downy." The form of the flowers and leaves the fame as in C. diurnum, but, in addition to the difference expressed in the specific character, the calyxes are larger, the corollas coloured, the tube fhorter, and the border more ample. 12. C. diurnum, Linn. Sp. Pl. 2. Mart. 3. Lam. Eneyc. 8. Ill. 9. Willd. 7. L'Herit. flirp. nov. 74. (Jafminoides, Dill. elth. 186. tab. 154. fig. 186.) "Fafcicles peduncled; corollas white; border obtufe, reflexed; leaves ovate-lanceolate." Stem from ten to twelve feet high, flender, with a cinereous bark, dividing at the top into many fmaller branches. Leaves alternate, petioled, near three inches long, one and a half broad, oval-oblong, acute, smooth, deep green above, pale underneath, shining, evergreen, in confiltence refembling those of spurge laurel. thence called Lady of the Day, growing almost in umbels; common peduncles axillary, from one to three inches long; corolla five lines long; fegments flort, oval, reflexed, waved, and almost crisped at their edges; filaments toothless. A native of Chili and the Well Indies. 13. C. oppositifolium, Lam. Ill. 10. Pl. 112. fig. 2. flowers ill-drawn. Leaves opposite, lanccolate, nerved, fomewhat coriaecous; flowers fascicled, sessile, axillary." A native of Africa, observed by Sonnerat. 14. C. nervojum, Mart. 9. Miller 3. "Leaves opposite, lanceolate, with transverse nerves; peduncles branched." Stem shrubby, five or six feet high, covered with a brown bark, and dividing at top into very small branches. Leaves about four inches long, little more than one broad, fmooth, light green. Flowers white, axillary, towards the ends of the branches, four or five on each peduncle, without fcent; tube of the corolla fwelling at the base just above the calyx, contracting towards the mouth; fegments of the border broad, flat. Sent to Mr. Miller from Carthagena, in New Spain. Nearly allied to the preceding, if not the fame.

CESTRUM, in Gardening, affords plants of the fhrubby exotic flowering kind: of which the fpecies are, the night-fmelling Ceftrum, (C. notturnum;) and the day fmelling Ceftrum, or Bastard Jasmine, (C. diurnum); and other more

tender species may be cultivated for variety.

The first of these rises with an upright stalk, about fix or seven seet high, covered with a greyssh bark, and divides upward into many stender branches, which generally incline to one side, and are garnished with leaves placed alternate, near four inches long, and one and a half broad, smooth on their upper side, of a pale green, and, on their under side, they have several transverse veins, and are of a seagreen colour, having short foot-stalks; the slawers are produced at the wings of the leaves, in small clusters standing upon short peduncles, each sustaining four or five slowers, of an herbaceous colour, appearing in August, but which are not succeeded by berries in this climate. It is a native of the island of Cuba, &c.

And the second species rises with an upright stalk to the height of ten or twelve feet, being covered with a smooth light green bark, dividing at top into many smaller branches, with smooth leaves near three inches long, and one and a

lobed, incumbent, half within the tube; germ superior, egg-shaped, five-channelled, smooth, on a rather large five-cornered receptacle; flyle somewhat thickened at the top, rather shorter than the stamens; sigma obtuse, impressed. Dr. Smith and La Marck. 10. C. venenatum, coriaccous; flowers selfise." It seems nearly allied to the preceding, but distinct. Willd. 11. C. tomentosum, Linn. jun. supp. 150. Matt. 4. Lam. Enc. 7. Ill. S. Willd. 9. autumn, and is a native of the Havannah, &c.

Method of culture. In these plants the mode of increase is either by seeds or cuttings; but as the sommer cannot be cally procured, the latter is the more common method of practice. The seeds should be sown in post silled with light friable fresh earth in the early spring season, and plunged in a gentle hot-bed. After the plants are sufficiently strong, they should be removed into separate pots, shade and a little water being given occasionally, till they are well rooted again, and become perfectly ellablished.

The cuttings mult be made from the fide floots, to the length of five or fix inches, and be planted in pots of fresh earth in the summer season, plunging them in a bark hotbed, a little water and slade being given till they have stricken firm root; and in both methods the plants require to be kept afterwards in pots filled with light earth in the story of the hot house.

The evergreen flowery nature and fragrance of these plants afford a fine effect, when placed in affemblage with

other flove exotics

CESTUI, a French term, literally fignifying he or him;

frequently used in our law writings. Thus,

ČESTÚI que truft, is he in truft for whom, or to whose use or benefit, another person is enseossed or seized of lands or tenements. By stat. 29 Car. II. c. 3. lands of cestai que trust may be delivered in execution.

CESTUI que vie, one for whose life any lands or tenements

are granted.

CESTUI que use, he to whose use another man is enseoffed

of land or tenements. 1 Rep. 133.

Feoffers to uses were formerly deemed owners of the lands; but now the possession is adjudged in easily que use, and without any entry he may bring assise, &c. Stat. 27 Hen. VIII. c. 10. Cro. Eliz. 46. See Use.

CESTUS, among Ancient Poets, a fine embroidered girdle worn by Venus, endowed with a faculty of charming, and conciliating love. The abbe Winckelmann observes, one immediately beneath the breaft, and the other round the lower part of the body, above the hips. In proof of the statue of the goddess in the possession of lord Egremont. It is the lower cincture which is properly the ceftus of Venus. When Juno, withing to inflame the heart of Jupiter, solicited and obtained the loan of this mysterious girdle, she put it, according to Homer, not upon the ordinary cincture, immediately under her breatt, but where Venus wore it, below: for that fuch is the true fenfe of τω δ'εγκάδιο κολπω, (Il. l. 14. v. 219.) is evident from the context, which informs us, that Juno was already encompassed with a zone, profusely adorned with fringe. (v. 181.) Of this myflic cellus Homer has given the following defeription, (l. 14. v. 215-218.) which we shall here subjoin in the words of his translator :

"In it was ev'ry art, and ev'ry charm,
To win the wifeft, and the coldeft warm:
Fond love, the gentle vow, the gay defire,
The kind deceit, the fill-reviving fire,

Perfualive

Persuasive speech, and more persuasive sighs, Silence that spoke, and eloquence of eyes."

This fiction, which is extremely beautiful, has been happily imitated by Taffo, in his magic cincture of Armida.

The cincture of virginity, zona virginea, or cingulum virgineum, which was worn at Rome by females newly married, before they furrendered themselves to their husbands, was also called cesture. It was formed of wool, and served as the symbol and defence of the modelty of the married semale; and it was reserved for the bridegroom to untie this mysterious cincture. Whence zonam solvere was used to denote being married. Thus Catullus (67. 14.);

"Quod possit zonam solvere virgineam."

The expression of untying the cincture fignified, among the Greeks, the first mutual access of the married pair. Accordingly, the scholiast of Apollonius, (Argon. i. 281.) says, that the semales of Athens consecrated at this period their cinctures to Diana, who had in this city a temple, where she was honoured under the title of \(\lambda under \lambda under \lambda \text{temple}, who untied the cincture.

The word is also written cestum, and ceston: it comes from x550;, a girdle, or other thing embroidered, or wrought with a needle; derived, according to Servius, from x67511, pungere: whence also incestus; a term used at first for any indecency by undoing the girdle, &c. but now restrained to that

between persons near akin. See INCEST.

CESTUS, CÆSTUS, CESTE, in Antiquity, a large leathern gantlet loaded with lead or other metal, which the ancient Athletæ ufed in their exercifes for disputing the prize of pugilism. The Greeks had four kinds of cestus. The first was of an ox hide not dressed, and dried, and was called μως, or Ιμωντιος. The fecond was loaded with metal, and called Μυρμάς. The third was made of fine and fost thongs, leaving the fit and singers uncovered. And the fourth was the large globular gantlet first mentioned, and called Σφαίρα. See Cæsτus.

CESURE, or CESURA, in Poetry. See CESURA.

CETACEOUS Animals, in Zoology. See CETE. CETÆUM, in Ancient Geography, a promontory of India, in that part which was S.E. of the illand of Taprobana, according to Ptolemy.

CETARIA, a town placed by Ptolemy on the western

coast of Sicily.

CETE, in Zoology, the seventh order of mammalia, in the Linnæan System of Animals, including the four genera, MONODON, ornaval; BALÆNA, whilale; PHYSETER, cachalot; and Delphinus, dolphin. The cetaceous tribe has one or more spiracles placed on the fore part of the skull; no feet;

pectoral fins without nails, and tail horizontal.

It is well observed by the late Mr. Hunter, in one of his papers on the whale (Phil. Tranf.), that the cetaceous order of animals has nothing peculiar to fish, except living in the fame element, and being endowed with the same powers of progressive motion as those sishes which are intended to move with confiderable velocity. The popular idea of cetaccous animals being fithes is so strongly impressed on the public mind, that it can never, perhaps, be entirely removed, for the critical observations of naturalists appear too abstruse to be generally examined, and of confequence to be commonly understood. The cetaceous tribes live in the same element as fithes, and, partaking fomewhat of their external figure, will ever be confidered as appertaining to that class of animals by the less informed portion of mankind. Ray and Willinghby, and, after their example, Pennant, are the only writers of any moment who acquiesce in this popular preju-

dice, with the exception of the earlier authors. The writings of Ray and Willughby appeared before the time of Linnaus, or it is likely they would have been reconciled to the arrangement of the latter: it was through the observations of Linnaus chiefly that the world became acquainted with the true diffinction between the animals of the cetaccous tribe, and fishes, as founded on anatomical inveiligation. Pennant was acquainted with the circumflances that induced Linnæus to place them with the mammalia, but notwithflanding confidered it more natural to follow Ray, and place them in the rank of fishes, because, as Ray observes, " the form of their bodies agrees with that of fish : they are entirely naked, or covered only with a thin fkin; and they live entirely in water, and have all the actions of fifh." Much as we respect the talents of our illustrious countryman, Ray, it is difficult to perceive, in the prefent instance, f. flicient reasons for preferring his arrangement to that of Linnæus. The first is founded on a vague resemblance in external figure between cetaceous animals and fifnes, without regard to their internal organization, while the latter reits on an unshaken basis; it was the result of much anatomical investigation, and a due confideration of the nature, habits, and affinities of these two tribes of animals. We need only add, on this point, that the recent observations of that great comparative anatomist, Mr. Hunter, have perfectly evinced the accuracy of the Linnæan distribution of these animals, and that it has obtained the further countenance of Pallas, Schreber, Fabricius, Muller, Bonnaterre, and most other naturalists of distinguished celebrity in Europe at the pre-

Cetaceous animals, or, as Dr. Shaw expresses them, "fishformed mammalia," have lungs, intestines, and other internal organs formed on the same principle as in quadrupeds; and, indeed, on first comparison, the principal differences that exist between them will not be found very considerable; one of the most material feems to consist in their want of posterior legs, the peculiar structure of the tail supplying that defect, this being extremely throng and tendinous, and divided into two horizontal lobes, but which has no internal bones. Like quadrupeds, they have a heart furnished with two auricles, and two ventricles, and their blood is warm and red: they breathe by their lungs, and not by means of gills, as in true fifthes. In their amours they agree with quadrupeds; the female produces her young alive, which rarely happens among fifthes, and the fuckles them with her teats, as in the true mammalia. The flructure of their brain, their fexual organs, stomach, and liver resemble those Their fkin is fmooth, or not of mammiferous animals. covered with scales; and their tail is placed in a position the very reverse of fishes, in being always flat and horizontal, instead of vertical. The cetaceous animals of the cachalot and dolphin genera have the mouth armed with conic teeth; the whales with horny laminæ in the upper jaw; and the narwal with teeth, or tulks of enormous length. They are neither fanguinary nor ferocious. Their stomachs are large, and divided into chambers to the number of five, as in the whale and porpeffe, or even feven, as in the narval. In the last particular they feem to conflitute an intermediate link between carnivorous and herbivorous animals, approaching nearly to ruminating quadrupeds; but differ in fubfilling on animal food, as they live chiefly on actinize, medufize, and other zoophytes, on crustaceous animals, and on small fish. See the articles Monodon, BALENA, PHYSETER, and

CETERACH, in Botany, Bauh. Pin. See Asplenium Ceterach.

CETERACH,

mant plant; the same with what is otherwise denominated

affilinium and feologendrium. See Asplenium.
This plant flunds recommended as an excellent diurctic, and a promoter of the menfer. The whole plant is to be used, and should be gathered in the month of September. It is given by fome in jaundices, in quartan agues, and in obstructions of the spleen; but it is much neglected in the prefent practice. In some parts of Eslex, where it is comchurch-yards, the common people tell us wonders of its effects in the flone.

CETERIS paribus. See CATERIS paribus.

CETHIS, in Ancient Geography, a river of Afia, in Car-

CETII, a people of Asia Minor, in Mysia; mentioned by Homer, and Strabo. The latter fays, that Eurypylus, their king, had his territories about the Caicus, near Cilicia. They probably took their name from the river Cetium, which traverfed their country, and discharged itself into the Caicus.

CETINA, in Geography, a town of European Turkey, in Dalmatia; 50 miles W.N.W. of Mollar.

CETIS, or CITIS, in Ancient Geography, a country of Afia Minor, in Cilicia-Trachea. It was the feat of a priefthood founded by Ajax, fon of Teucer, and of which the pontiff was also the lovereign.

Arlape, according to the Itinerary of Antonine.

CETIUS, a mountain of Norica, according to Ptolemy; and in the Itinerary of Antonine marked between Vindebona and Arlape. Busching supposes that the ancient Cetius is a ridge extending from near the fource of the river Save, towards the Danube, about 9 British miles on the west of Vienna, where it is called Leopoldsberg. The general

name is the Kalenberg; which fee.

CETOBRIGA, SETUVAL, denoting the town of fishes, and inhabited by fishermen, belonged to Lusitania. Without tracing the origin of this city, with some fanciful antiquaries, to Tubal, who fay that he came into Spain in the year from the oreation, 1801, we may affirm, with greater probability, that it had fuffered much about 33 years B. C. by an African pirate or fovereign (Bogud), who, having landed at Portus Annibalis, and pillaged the adjacent dwellings, doubled the Promontorium Sacrum (Cape St. Vincent), and took possession of the town by surprise. The inhabitants were put to the fword, without diffinction of age or fex; and the town was then facked, its walls deftroyed, and its buildings fet on fire. Other Portuguese authors say, that Marcus Portius Cato, after having conquered the Spaniards, destroyed Cetobriga. Another opinion has prevailed, which aferibes the destruction of this ancient city to an earthquake. In its vicinity, to the extent of more than a league, there have been found the ruins of many buildings, and abundance of antiquities; and as no medals have been found belonging to the period immediately subsequent to that of Heraclius, it is probable that Cetobriga was deftroyed either in his time or foon after.

- CETON, in Geography, a .town of France, in the department of the Orne, and diffrict of Mortagne; 10 miles

CEIRA, in Ancient diffuary Language, a short buckler or fliort square target, which was very light, and used by the Africans and Spaniards, and was made, as fome fay, of fionally, it is probable, of both. From the great refem-

CETERACH, in the Maderia Medica, an officinal, aggluti- blance of the cetra to the pelta Livy gave the name of ceta-

CETRIBONI, in Amient Geography, a people of India.

ants: the territory includes 47½ kiliometres, and one commune. N lat. 45° 23' 51". E. long. 3° 43' 7". CETUMA, in sincient Geography, a town placed by

CETUS, in Astronomy, the Whale; a large confiellation of the fouthern hemisphere (being one of the 48 old after-Greeks pretend that it was the fea-monfler, fent by Neptune to devour Andromeda, but was killed by Perfeus.

The stars in the constellation Celus, in Ptolemy's Catalogue, CETIUM, a place of Norica, between Comagenes and are twenty-two; in Tycho's, twenty one; in Hevelius's,

The star o Ceti, in the neck of the Whale, is subject to great variations in its luftre and apparent magnitude; appearing and disappearing periodically, or rather appearing brighter and fainter by turns, which changes may be owing to the alternate revolution of its bright and cure note towards us, as it turns on its axis, or elfe to the flar's having changes is 333 ays; but Dr. Herschel, who has shewn from that the above speriod does not agree with prefent observaof August, 1596, when this star was in its greatest lustre. M. Cassini allo found, that his observations, in the beginning of August, 1703, when the star was brightest, did not agree with the interval of 333 days; and therefore, supposing the flar to have changed 117 times fince the epoch of Fabricius, he gave it a period of 334 days. This, however, changes; and it appears now that M. Caffini ought to have affunied 118 inflead of 117 variations, which would have pointbe perceived, when we admit it to have undergone 214 changes between the 13th of August, 1596, and the 21st of October, 1790; by which ong interval we obtain the period of 331 days, 10 hours, 19 minutes. The different defrom fome parts of its furface, which being more copious of the time of its maximum; while, notwithdanding, the general period of its changes will not be confiderably affectpiter, which feems to vary on account of the lattle flabilit - Acad. Scienc. Ann. 1719. p. 122. feq. Phil Tranf. for 1792. vol. lxxxii. p. 24. &c. Id. for 1796. pt. ii. p. 464. p.

CEVA, in Geography, a city and fortress of Italy, in the principality of Piedmont, and conné or Alli. the capital of a marquifate, fituated on the Tanaro; in a plain furrounded by hills, at the extremity of the country, which extends from the Appenines to the Tanaro, and from thence to the northern part of the maritime Alps. It was anciently celebrated for its cheefe, made of ewe's milk. This cheefe, called by the Italians " Rubiola," is much effected, even at prefent, and fold not only into Piedmont and the Milanefe, but other more diftant parts. The hills about Ceva also produce excellent wine; great quantities of chefnut grow at the foot of the mountains, and excellent truffles are found on the neighbouring plains. It was formerly an independent state; but in 1295 a great part of the domain was fold to the town of Alti, whence, in 1531, it came to the house of Savoy. In 1543, it was befreged unsuccessfully by the French: and in 1584, a fudden inundation beat down a great part of the walls, destroyed the bridges, houses, and churches, and drowned many of its inhabitants; and in 1625, and the five following years, a pestilential disease carried off the greater number of the survivors. Ceva was taken by the French, in the month of April, 1796. It has one collegiate church, and three convents. It is distant 40 miles W. from Genoa, and 25 S.S.E. from Turin. N. lat. 44° 20'. E. long. 7° 51'. CEVADILLA, SEBADILLA, or SABADELLA, i. e. Hor-

deolum, little barley, in Botany, the South American name of the Hordeum exoticum caulticum of Caspar Bauhin, taken up by him. Ray, and Parkinfon, on the authority of Nicholas Monardes, who attributes to it the habit of the European barley, with a feed not larger than that of the common flax, but possessed of highly acrid qualities, of which the inhabitants of New Spain avail themselves in the cure of gangrenes and other foul ulcers. He fays they have the fame effects as corrofive sublimate, or the actual cautery; and that the mode of using them is to sprinkle a little of the powdered feed upon the part, or for the greater fafety, to dilute it with watery liquors, and apply lint dipped in the mixture. In Linnœus's " Amœnitates Academicæ," they are faid to be the most effectual of all medicines for destroying cutaneous infects in children. In our country they are very rarely met with, but in France they have been ranked among the officinals and obtained the name of the Capuchin powder. They have been administered internally for the expulsion of worms; but caution is necessary in the use of them. See Murray's Apparatus Medicaminum, vol. v. p.

CEUDUM, or CEVELUM, in Ancient Geography, a place of Beigie Gaul, marked in the table of Peutinger on the route from Noviomagus to Atuaca or Atuataca, and sup-

posed by M. D'Anville to be the present Cuik.

CEVENNES, in Geography, the principal center of the primitive mountains of France, ariling to the west of the Rhone, feeming to run from north to fouth, and fending out various branches towards the east and well. The principal branch runs along the river Ardeche towards Ales. Another traverses the Rhone, on the fide of Tournon and Vienne, towards the plains of Dauphiné. Another branch forms the mountains of Beaujolois, passing by Tarare, Autun, &c. till it be lost at Avalon. This is about 70 leagues in length, but in breadth fometimes not more than a league; it contains the copper mines of Cheft and St. Bel, and fome lead mines. Coal is also found in the declivities. A fourth

Hevel. in Phil. Tranf. No 66. p. 2028. Marald. in Mem. Allier, and forms the mountains of Forez. It passes Roanne on the one fide and Thiers on the other, and is lott towards St. Pierre le Moutier. The plain of Montbriffon is boun led by this and the last granitic branches. A tifch branch separates the bason of the Allier from that of the Cher, and puffes by Clermont to Montluçon. A fixth firetches towards Limoges; another from the Dordogne towards the Charente; and an eighth branch divides Dordogne from the Garonne. These mountains are naturally dry and barren, and are almost entirely formed of steep rocks; and yet skill and industry have converted them into fertile lands, fo that a foil which in past ages would not have afforded subfiftence for one family of savages, does at this moment support two or three hundred thousand inhabitants. M. Chaptal has described two processes, which are practifed for this purpofe. It is a well known fact that the waters which flow down the fides of a mountain carry the earth along with them, and wear furrows or ravins of a greater or less depth, according to the hardness of the rock and steepness of the descent. By a series of these progresfive degradations the hardest rock is laid bare, deep ravins are cut in the face of it, and every refource of which the cultivator might avail himfelf is utterly dellroyed. The inhabitants of the Cevennes have found means to correct this double effect of the waters. In order to fill up a ravin, they begin by raifing at the foot of the mountain a wall confifting of loofe flones quite across the ravin, and of a height corresponding to its depth. This wall forms a kind of dyke, oppoling its flank to the current of the waters, and fullering them to pass through while they are clear; but when, after a ftorm or fudden shower, they become turbid, and bring down earth and stones, these substances are deposited against the wall, while the waters escape through the Itones nearly pure. By the continuance of this process, the triangular space above the wall at length is filled. At the other extremity of this plat of new formed ground, another such wall as the first is built, and this in the same manner detains the earth and vegetable mould, thus forming a fecond piece of ground. By a fuccession of similar operations, other platforms are produced; till at length the whole ravin is converted, even to the fummit of the mountains, into a number of platforms of good ground, forming steps one above the other. Under these circumstances, the waters no longer run in deftructive torrents down the fides of the mountains, but flow gently along the level ground, or are filtered through the porous earth deposited against the walls that detain and support it. Thus the mountain, which formerly prefented to view a feene of defolation, is made to exhibit amphitheatres of vegetable ground capable of the richett cultivation. When these natural disficulties are overcome, the hufbandman plants the vine against the upper part of the wall; on the small platforms above deferibed he plants mulberry-trees, and cultivates potatoes, Indian corn, and every kind of grain; varying his culture to the greatest advantage on this virgin foil, which is well watered, and in general of the highest fertility. The vines, trees, and other vegetable products render the ground firm, and defy the floods of subsequent times

By another process the inhabitants of the Cevennes give fertility to the flope of a calcareous mountain, . Most of these mountains are formed by beds of flone about half a yard in thickness; and the different strata constitute shelves one above another, corresponding to the inclination of the mountain. The cultivator, in order to render all these stages of equal breadth, breaks away the rock, and employs the fragments in constructing a low wall on the edge of the platform itself. He then fills the cavity with a bed of vebranch separates the bason of the Loire from that of the getable earth, taken out of the clefts of the rock, or con-

CEY CEY

veyed on his back from the foot of the mountain, where it of Bengal, by which it is bounded on the north. On the has been gradually deposited by the waters. In this manner, after unremitted labour, the fide of the mountain becomes covered with low walls parallel to each other, which confine beds of vegetable earth from one to three yards in width. When these beds of earth are removed, and the walls overfet by a violent florin of wind or rain, the inhabitant of the Cevennes exerts himself in preventing or repairing the destructive ravages of the elements. At the first indications of an approaching florm, he clothes himself in a long garment of oil cloth, with an enormous hat of tinned iron, firmly fixed by means of flraps. Thus defended, with a mattock in his hand, he directs the water to the feet of previously formed in the rock itself. By these laborious exter for his grounds at times when the burning heats rendered them necessary. Such instances of agricultural exertion are not unfrequent in the Cevennes; and by fuch methods one of these mountains is converted, from a state of absolute barrennels to a high degree of fertility, and covered from its bale to the fummit with trees, fruits, grain, and other uleful productions. This practice of converting the fides of mountains into platforms for the purpoles of agriculture is common in China, and gives a fingular aspect to the country around Canton; but by the inhabitants of the Cevennes the barren mountains themselves, instead of being left in a flate of nature, are rendered fertile.

CEVERTA, a town of Naples in the province of Cala-

bria Ultra; 10 miles N.N.E. of Bova.

CEURAWATH, the name of a particular feet of Banians in the East Indies, who hold the metempsychosis with fo much superflition, that they will not kill the least infect; their priests carry a piece of linen over their mouth, that no flies may enter. All the other feets of Banians have an aversion for this; and continually exhort their auditors to shun all discourse and conversation with them. See

CEUTA, in Geography, a fea-port town of Africa, in the kingdom of Fez, and province of Garb, on the fouth coalt of the Mediterranean, belonging to the Spaniards, and ferving as a harbour for small vellels. It is the see of a bishop, fuffragan of Lifbon. This place corresponds with the Exiliffa of Ptolemy, and probably with the Septa and Arx Septensis of Procopius, who intimates, as others have done, that this latter name was derived from the feven hills in its neighbourhood, called by Mela Septem Fratres. It has been conjestured, that it was built by the Carthaginians, and afterwards belonged to the Romans, by whom it was colonized. In the time of the Goths, it was a station of great eminence; being the metropolis of the places which they held in Hifpania Transfretana. It was afterwards abandoned to the Arabs and the Moors by Count Julian; and taken from the Moors in 1409 by J hn, king of Portugal, and continued annexed to that crown till the revolution in 1640, when it fell to Spain, and was finally ceded to that country by the treaty of Lisbon in 1688. It has been no less considerable for its advantageous fituation at the entrance of the Mediterranean on a rifing ground, which is the nearest point to the Spanish coast, than for the beauty of its public buildings and the strength of its walls and bulwarks; and it has still a good palace and noble cathedral. The Moors laid fiege to it in 1697, and have occasionally kept it in a state of blockade fince that time. It is diffant from Gibraltar about 5 leagues. N. lat. 35° 48'. W. long. 5° 25'.

CEYLON, an island of the East Indian ocean, that lies between 5° 51' and 9° 52' N. lat.; and between 79° 43' and 31° 56' E. long. It is fituated at the entrance of the bay

north-west it is separated from the Coromandel coast by the gulf of Manaar, a narrow strait, full of shoals, and impassable by large ships. It is distant about 60 leagues from cape Comorin, the fouthern point of the peninfula of India, which divides the Coromandel and Malabar coafts. circumference is computed to be about 900 miles; and its length from point Pedro at the northern extremity (9° 52' N. lat.) to Donderhead or Dundra Hend at the fouthern (5° 51' N. lat.) is about three hundred miles. Its breadth is very unequal, being in some parts only from 40 to 50 miles, while in others it extends to 60, 70, and even 100. Towards the fouthern parts it is much broader than in the northern, and nearly refembles a ham in shape; and the peninfula of Jafnapatam has received from the Dutch the name of " Hamsheel," and point Pedro they call " Hamsheel" point. Major Rennell (See Memoir, p. 449.) has collected a variety of observations, tending to ascertain the true

Ceylon is the Taprobana of the ancients; though they very much differed in fixing its position. Prior to the age of Alexander the Great, the name of Taprobane was unknown in Europe. In consequence of the active curiofity with which he explored every country that he subdued or visited, some information concerning it seems to have been obtained. From his time almost every writer on Geography has mentioned it; but their accounts of it are fo various, and often fo contradictory, that we can feareely believe that they are deferibing the fame illand. Strabo, the earliest writer now extant, who has given any particular account of it, affirms that it was as large as Britain, and fituated at the the Indian peninfula; from which, contrary to what is known to be its real polition, he describes it as stretching towards the coast above 500 stadia. (Geog. l. ii. 124. 180. 192. l. xv. 1012.) Pomponius Mela, the author next in order of time, (De Situ Orbis I. iii. c. 7.) is uncertain, whether he should consider Taprobane as an island, or as the beginning of another world; but as no person, he says, had ever failed round it, he feems to incline toward the latter opinion. Pliny (Nat. Hitt. l. 6. c. 22.) though his defeription of this island is more ample, involves every thing revarious and difcordant opinions of Greek writers, he informs us, that ambaifadors were fent by a king of that illand to the emperor Claudius, from whom the Romans acquired the knowledge of feveral particulars, which were formerly unknown; particularly that there were 500 towns in the island, and that in the center of it there was a lake 37 miles in circumference. These ambassadors were astonished at the fight of the Great Bear and Pleiades, which were constellations that did not appear in their fky; and they were still more amazed when they beheld their shadows pointing towards the north, and the fun rifing on their left hand and feeting on their right. They also assistmed, that in their country the moon was never feen until the eighth day after the change, and continued to be visible only to the fixteenth. Such are the particulars, some of which are totally groundless, which Pliny relates, and in which he acquisfees without animadversion. Ptolemy, though living near the age of Pliny, feems to have been altogether una quainted with his description of Taprobana, or with the embassy to the emperor Claudius. He places that island opposite to Cape Comorin, at no great distance from the continent, and delineates it as ilretching from N. to S. no lefs than 15 degrees, two of which he supposes to be S. of the equator; and if his reprefentation of its dimensions had been just, it was well entitled

from its magnitude to be compared with Britain. (Ptol. I. vii. c. 4.) Agathemerus (lib. ii. c. 8. apud Hudson, Geogr. Minor, vol. ii.) who wrote after Ptolemy, and was well acquainted with his geography, confiders Taprobana as the largest of all islands, and assigns to Britain only the second place. Missed by these accounts of the ancient geographers, the modern's have entertained very different fentiments concerning the island in the Indian ocean, which was to be confidered as the fame with the Taprobana of the Greeks and Romans; and therefore fome learned men have erroneously maintained that Sumatra was the island correfoonding to the description of Pliny and Ptolemy. The opinion more generally received is, that the Taprobana of the ancients is the island of Ceylon; and not only its vicinity to the continent of India, but the general form of the island, as delineated by Ptolemy, as well as the position of feveral places in it, mentioned by him, establish this opinion with a great degree of certainty. Under the emperor Judinian, Colmas, an Egyptian merchant, in the course of his traffic, made some voyages to India, whence he acquired the firname of Indicopleuites; and from him we learn, that the illand of Taprobana, which he supposes to lie at an equal distance from the Persian gulf in the west, and the country of the Sing on the east, had become, in confequence of this commodious fituation, a great staple of trade; that into it were imported the filk of the Sinæ and the precious spices of the Eastern countries, which were conveyed thence to all parts of India, to Perfia, and to the Arabian gulf. To this illand he gives the name of "Sielediba" (lib. xi. 336.) nearly the fame with that of "Selendib" or "Serendib," by which it is still known all over the east. Cosmas further informs us, that in most of the cities in India he found christian churches established, in which the functions of religion were performed by priests ordained by the archbishop of Seleucia, the capital of the Persian empire, and who continued subject to his jurisdiction. According to his account, however, none of these strangers settled in India, were accustomed to visit the eathern regions of Asia, but were satisfied with receiving their filk, their spices, and other valuable productions as they were imported into Ceylon, and conveyed thence to the various parts of India. These churches were established by the Nestorians, who fent missionaries from Pertia into India, and particularly into Ceylon. Our knowledge of this island, and other parts of India, was further extended by means of the commercial spirit and successive voyages of Marco Paolo, 2 Venetian of noble family, who, about the middle of the 13th century, explored many regions of the east, which no Eu-ropean had ever visited. He also visited in person Java, Sumatra, and feveral islands contiguous to them, the island of Ceylon, and the coast of Malabar as far as the gulf of Cambay; to all-which he gives the names they now bear.

In the traditionary accounts which are current among the Ceylonese, nothing occurs besides a mere catalogue of some of their princes, accompanied by a long lift of high-founding titles, and fome uninteresting details of their petty wars and commotions. From some of these accounts, which have been recorded in MS. we learn, that Lankaw Petti Mahadalyn, or the much beloved offspring of the always moving fun, who lived at a diltant period, was fovereign of the whole island. His two grandsons, however, quarrelled about the possessions which had been left them, and at last compromised their disputes by dividing the island between them: to the one were allotted the interior parts which form the prefent kingdom of Candy (fee CANDY), and to the other the whole of the low country bordering on the fea-coasts. This divi-Sion gave rife to a long feries of civil wars, and fet the exam-VOL. VII.

ple of partitioning the kiugdom among the children of the fovereign; and hence we find that there were not lefs than fix or feven princes who reigned at the fame time over feparate divisions of Ceylon. After a variety and succeffion of quarrels between its princes, Zinale Darma Seria Adaleyn subdued all his competitors, and simply established himself as its sole monarch. He married his coustin, who was so famed for her personal charms, as to acquire the name of "Roke Wandiggie," or the beautiful queen. From this union sprung the princes who ruled over Ceylon, when it was first visited by the Portuguese.

The earliest period at which we can look for any authentic or interesting information, is that of the arrival of the Portuguese under Almeyda, in the year 1505 or 1505. Being accidentally forced by firefs of weather into one of the harbours of Ceylon, he was hospitably received by the inhabitants; and perceiving the advantages that might refult from the fituation of the island, and its valuable productions, he thought it an object worthy of his attention to cultivate a closer connection with the natives, to which they were also inclined, with the view of defending themselves against the attacks of the Arabs. Almeyda, upon being introduced to the king of Ceylon, found no difficulty in perfuading him to pay an annual tribute to the Portuguefe, on condition of their protecting his coalts from external invation, with which he was then threatened by the Zamarin of Cochin on the Malabar coast, and a rajah who reigned on that part of the Coromandel coast opposite to Ceylon. At this time the inhabitants confifted of two diffinet races of people. The favage Bedas (fee BEDAUS) then occupied, as they do now, the large forests, particularly in the northern parts; and the rest of the island was in the possession of the Cinglese. The towns of the sea-coast were not ravished from the latter people by foreign invaders; and their king held his court at Columbo (see COLUMBO), which is now the European capital of Ceylon. Cinnamon was even then the principal product, and the staple commodity of the island, as appears by the tribute paid by the king to the Portuguese, which confisted of 250,000 pounds weight of cinnamon. Almeyda, whose attention was attracted by the rich harvelt which the cinnamon of Ceylon prefented to commerce, foon endeavoured to fecure these advantages by forming a Portuguese settlement on the island; but this conduct roused the jealousy and indignation of the native princes. The reigning fovereign was a Brahmin, and encouraged a trade which his subjects then carried on with the Moors and Malabars of the continent; and they, fearing left their traffic would be cut off by thefe ftrangers, began to foment jealousies between the king and the Europeans. Although Almeyda had obtained the monarch's permission to traffic with the natives, and to build a fort at Columbo, the Moors contrived to induce the king to repent of his grants, and to revoke them. After a vigorous contest, and in consequence of some internal troubles which then diffracted Ceylon, the king was obliged, in 1522, to renew the original treaty, and to grant full permission to build a fortress at Columbo. A contest, however, enfued, in which the Ceylonese were completely deseated; and the Europeans acquired fuch fuperiority, that the king, despairing of recovering Columbo, only thought of preventing the Portuguele from extending their possessions. With this view he crected a strong fortress at Sittavacca, 35 miles from Columbo, and secured the passes of Cuddavelli and Garawaddi, which led into the interior of his dominions. The Portuguese, on the other hand, began to foment internal diffenfions among the natives. The king was weak and irrefolute; and as the encroachments of the Portuguele increased. and they began to treat the natives with great cruelty, an ambitious ambitious person of low birth, named Raja Singa, seized the advantage of the moment, and by his talents and intrepidity over the king, that most of the nobles were mathered in order to fatisfy his jealoufy and ambition; and he terminated his career by murdering the king himtelf, and uturping the throne. Raja Singa gratified the people by a long course of implacable hostilities against the Portuguese; but cruelty of this usurper knew no bounds. At length his fought relief from the Portuguefe, who readily availed themsclves of the occasion. It was at this time they had at first an opportunity of exploring the N.W. parts of the island. Among those who fought the protection of the Portuguese, were two fons of Vinna, who, in consequence of an insurrecmafter of feveral of the internal provinces. These young Portuguele, converted to their own religion, and baptifed under the names of Don Juan and Don John. One of them was to be appointed king, and the other generalissimo; and in return for these promised benefits, they were to marry Portuguese ladies, and to own subjection to the crown of Portugal. In the mean while it was publicly announced, that Don Juan was to marry Donna Catherina, the daughter of the late king Adafeyn, who had been murdered by Raja Singa. As this princels was the lawful heirefs of the whole empire, the Portuguese, who were her oftensible and avowed protectors, were enabled to form a powerful party among the natives against the usurper, and to obtain over him a decifive victory. Upon this, they immediately crowned Don Juan king, and put him in possession of Candy. Don John, however, offended by this preference of his brother, contrived to poifon him, and to feize the royal authority. The Portuguese auxiliaries were now summoned to quit the dominions of Candy; and Raja Singa taking the field, threatened Don John and his adherents with the most cruel death. A desperate battle was fought between the two usurpers, and the issue was the complete overthrow of Singa, who foon after died. After his death, Don John found another competitor in his minister Janiere Wandaar, who, having taken possession of his master's treasures, proclaimed himfelf king, and applied to the Portuguese for succours, which were readily granted him. The Portuguese, who had received a reinforcement from Goa, marched against Don John, gave him a complete overthrow, and obliged him to take refuge in the woods. In confequence of this advantage, they began to tamper with the inferior princes, and attempted to perfuade the Ceylonefe to acknowledge the fovereignty of the king of Portugal; but the natives were unanimous and urgent in their requelt, that Donna Catherina, the daughter of their beloved emperor, should be placed on the throne. The Portuguese consented to this proposal, hoping that her youth would allow them to exercise an uncontroused government under the mask of her authority. During the fellivities that took place on her return from Manaar to Candy, Don John, in the difguise of a beggar, attempted to set fire to Candy; but frustrated in his object, a reward was offered for apprehending him, and he escaped with difficulty. The Portuguese thinking their power secure, renewed the exercife of their wonted perfidy and cruelty. The natives, incenfed by the injuries they fuffered, formed a league against their oppressors, at the head of which was Janiere, who had been deluded by the Portuguese with the promise of marrying Donna Catherina, after she had been quietly seated on

negociation with Don John, to whom he offered the dominion of the low lands, provided he was allowed to retain tendants to be murdered in the palace of Candy, where he then refided; upon which all the other princes, with their troops, immediately fled from the Portuguele camp, and the treachery. Accordingly the Portuguefe, against whom the natives combined, were obliged to leave Candy, and to retreat towards the coad. They were purfued, however, by the Ceylonefe, and in the end overpowered. Don John, availing himself of the victory, made himself matter of the the Portuguele, to fue on their knees for mercy; and completed his career by marrying Donna Catherina, then 12 years of age. After many fruitless conquetts, the Portuguese at an early period to fecure the most important part of the island, viz. the sea coasts, where the valuable spiceries were views to other parts of India; and Ceylon, inflead of being made the centre and guardian of the Portuguese possessions in that part of the globe, continued to be cultivated by them chiefly on account of its own natural productions. The Portuguese conducted their government in a manner that alienated instead of conciliating the attachment of the natives; and befide other acts of infult and oppression, they treated their religious opinions with contempt, and perfecuted those who held them with the most wanton cruelty. At length the religioushigotry of the Portuguese competely triumphed over their real interests; and the Cinglese regarded with horror strange gods, who feemed to delight in blood, and chofe rather to leave the fea-coasts to their enemies, and to feek refuge for themselves and their grotesque idols in the mountains of the of the Portuguefe. This defultory warfare continued for almost a century, with much bloodshed, and no real advantage to either party. As the jurifdiction of the interior was at this time parcelled out among a variety of petty princes, each of whom was the fovereign of his particular tribe, or up animofities among them, and to prevent their making a common cause for the deliverance of their country. By acts of this kind they gradually extended their dominions into the interior of the island; and wherever they became masters, pean hateful to the ears of a Cinglese. In this flate of diffres, the Cinglese were offered powerful assistance by the Dutch, whose admiral, Spilbergen, in the year 1602, venfrom their hatred of the Portuguese, gave him a very favourable reception. At the time of their arrival, Don John was was introduced, with the affurance that he and his countrymen were the inveterate fors of the Portuguese, and that they would effectually aid the Ceylonefe in expelling the Portuguese from their island. The king of Candy received the throne; and who refented the delution by opening a this propofal with great joy: "Tell your countrymen,"

faid he, "that if they will only be willing to build a fort in this illand, myfelf, my wife, and my children will be the first to supply them with the necessary materials." The Dutch loft no time in availing themselves of the advantages that were offered; and next year Sebald de Wert and Van Warweck arrived with feven ships, and in a conference with the king, proposed to conclude a treaty. A ferious dispute, however, occurred, and Don John, under the fudden impulse of refertment, caused the Dutch commander, De Wert, and Lis arcendants, to be inflantly nurdered. The king foon repeated of this rash act; and it is said that to the day of his death, which happened foon after, he lamented the murder princes, hitherto awed by his authority, began to affert their independence; and the prince of Ouvé, the most powerful among them, openly aspired to the supreme dominion. The empress Donna Catherina, however, foon succeeded, by her activity and address, in reducing these diffurbances. 'She refused an alliance with the Portuguese, and afterwards married Coniveirat, a kinfman of the late king, and fent a deputation to the Dutch, requesting their assistance against the Portuguefe. The Dutch speedily complied; and in 1612 Marvellus de Bouchover arrived at Candy as ambaffador from the States of Holland, and was received with every possible mark of distinction; a chair of gold being prepared for him, and also robes of white, which is the royal colour. He concluded with the king a treaty, confifting of 33 articles. Among other flipulations, it was agreed that a permanent peace should be established between the Dutch and Candians; and in cafe of an attack by the Portuguese, the Dutch agreed to refift them with all their forces. In return, the king allowed the Dutch to build a fort at Cottiarum. They were also allowed to erect at Candy warehouses for goods. The king likewife engaged to convey all the merchardife of the Dutch to Candy, and whatever they purchased in his dominions to Cottiarum at his own charge. All his subjects were to be at liberty to traffic with the Dutch, who were allowed to export all forts of merchandise free of duty. He also engaged to deliver to them all the cinnamon grown in his country, to be paid for in goods at the usual exchange rate. The king stipulated further not to grant free commerce to any European nation, without the express confent of the Dutch. The cultoms agreed upon by both parties were to be shared equally by the contracting powers. The king agreed to furnish the Dutch with timber, and other materials for ship-building, at a moderate rate, and he obliged himfelf to dispose of all his precious stones and pearls to the Dutch, at a fair rate; and they, on their part, stipulated to supply him with set jewels and other valuable ornaments. The king alone was to have the power of coining money, or to fix its value; and any fubjects of either power who were convicted of coining bale money were to be put to death. All the officers of the Dutch company were to be exempt from his majesty's jurisdisdiction, and to be tried for any offence by their own countrymen; and the fame privilege was reciprocally extended to the subjects of the king. All prizes taken on the coast of Ceylon were to be fhared equally between the contracting parties, provided the prisoners be ransomed and not put to death. Passes were to be granted by the Dutch officers to fuch of his majefty's subjects as intended to trade in the parts possessed by the company, and the fame from the king to the Dutch fubiccts intending to traffic in his dominions; and all who traded without fuch passes were liable to be seized, and to have their goods confilcated. The contracting parties engaged to do their utmost to preserve inviolate the stipulations of this treaty, the principal of which have been above recited,

and to give full fatisfaction for any damages incurred by the violation of them, as well as to inflict fevere punishments on those who were guilty of infringing them. This treaty, which was concluded in the name of the king of Candy and the prince of Orange, displayed much seeming moderation on the part of the Dutch; and it would have been happy even for their own interests if they had maintained the same moderation in their transactions with the natives, after having gained a firm footing in the island, as while they were attempting to obtain a fettlement by the arts of infinuation. The Portuguese were alarmed at this alliance, and attempted to prevent its effect; but their efforts, though renewed with vigour for feveral fuccessive years, proved ultimately unfuccefsful. In 1656 the Portuguefe were reduced to the neceffity of furrendering Columbo to the Dutch, after a fiege of feven months, and a loss to the combatants of not tewer than 3000 lives. By the fall of this place, an end in fact was put to the dominion of the Portuguese, about a century and a half after their first arrival. In 1658 the Dutch, under Vander Goens, took Manaar, and the Portuguele were thut up in Jafnapatam, the only fort remaining in their pofsession. At length, after an obitinate defence, a Portuguele fleet, which attempted to relieve the place, being defeated, and no hope of fuccour being left, the garrifon furrendered, and the Portuguese were thus totally driven from the island.

The joy of the Ceylonese, on being rescued from the yoke of these tyrannical invaders, and their gratitude to their deliverers, at first knew no bounds. The king of Candy voluntarily paid the expences of their armaments in cinnamon; and conferred upon his new allies the principal possessions, from which he had by their affiliance expelled the Portuguese. Among these were the port of Trincomalee, and the fortress of Columbo. The former of these, which lies on the N.E. part of the island, is that harbour which renders Ceylon the most valuable station in the Indian Ocean. Columbo was originally built by the Portuguese in the S.W of the island, in the heart of that tract most celebrated for the production of cinnamon, as the most commodious for collecting that staple production of the country. Along with this port, the king of Candy also bestowed on the Dutch the towns of Nigumbo and Point de Galle in the fame quarter, together with a large tract of rich land adjoining to them. The Dutch appeared exceedingly grateful to the Candian monarch for all these concessions; they asfumed only the humble appellation of "Guardians of his coasts;" and began to fortify the different stations put into their hands, merely, as they faid, for his fecurity; and the Candians were fo well convinced of the good intentions of their new allies, that they assisted them to the utmost of their power in completing their operations. The Dutch took this opportunity of increasing the strength of their principal port at Columbo; enlarging the town and rendering the fortifications as complete as possible. Their port of Trincomalee they also endeavoured to secure against any attack either from an external or a domestic enemy. Their numbers in the mean while were daily increosing by the accels of new adventurers from Europe. The parts affigned to them were the best fitted for cultivation in the island; and they loft no time in turning them to the best account. By means of these prudent measures, and persevering industry, the colony was foon brought into a flourishing state, and was able to depend upon its own internal resources. During this period, they maintained the most friendly intercourse with the natives, and this conduct, belides favouring the uninterrupted profecution of their plans of improvement, was also of very considerable benefit to their commerce. If the

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Dutch

Dutch had perfifted in the fame wife and moderate policy, it is probable that Ceylon would, in process of time, have become as profitable to them from their intercourse with the natives, as if it had been wholly possessed by Dutch settlers. But the ruling passion of the Dutch, their avarice, foon began to over-reach itself; and by rapacionsly feizing every opportunity of gain, they quickly difguilted and alienated the natives. By pushing their posts farther and farther into the interior, and fixing upon every spot that seemed to be fit for cultivation; and at the same time by increasing their demands on the king for the protection they afforded him; the king foon found that all the cinnamon which grew in his dominions was infufficient to gratify the "Guardians of his coasts." At length, enraged by their repeated extortions, he fell fuddenly upon their fettlements, and committed the greatest devastations. This breach between the Candians and the Dutch was succeeded by a long course of hostilities, which occasioned the shedding of much blood, and afforded no permanent advantage to either party. The Dutch, however, were the greatest losers. Their successes in the interior, amidst woods and defiles, were dearly purchased; whilst the incursions of the natives into their cultivated possessions on the coasts, though in general easily repulsed, often dethroyed the labour of years. Several of the Dutch governors were induced by these considerations to attempt the restoration of tranquillity, rather by conciliating the natives than by ineffectual struggles with them. Accordingly they fent ambaffadors to the Candian king, with rich prefents, and with various expressions of respect. They wrapped their letters to him in filk embroidered with gold and filver, and their ambassador carried them all the way on his head, the highest token of respect known in that country; and in ing titles usually conferred upon an eastern monarch. Such conciliating measures, though not often adopted, produced effect. The renewed oppressions of the Dutch were the constant figual for the renewal of hostilities between them and the natives, in which the Dutch were frequently great fufferers; though European discipline and Dutch perseverance generally furmounted all difficulties, occasioned by the woods and fortreffes to which the natives retired. Dutch, however, fuffered much from the climate, which, in the interior parts, is exceedingly unwholesome to Europeans. See CANDY. Indeed, the behaviour of the foreign nations, which have successively invaded Ceylon, has tended greatly to nourish sentiments of independence and of allegiance and attachment to their native kings among the inhabitants; and the cruelties of the Portuguese and Dutch have so exasperated them against all Europeans, that it will require much pains to reconcile their minds fo far as that any confidence can be rep fed in them. These and fimilar causes combined to frustrate the attempts of the Dutch at forming a fettlement in the interior of the island; whilst the difficulties which they encountered made them affect to despife the advantages which they could not attain. But notwithflanding they feem to have been convinced that it was impracticable to retain possession of the interior, yet their own misconduct had fown so many seeds of jealousy between them and the Candians, that they were often obliged to have recourse to arms. The last great war which they carried on with the natives was about the middle of the last century. In 1764 they penetrated into the heart of the king's dominions, and made themselves masters of Candy. But after experiencing great hardships from the climate, and from the activity of the natives, they were at last obliged to evacuate the capital. Not with flanding the difasters which they suffered, they continued to harass the king of Candy;

and, particularly, by depriving him of falt at pleafure, they compelled him to comply with all their demands. In 1766, he was under a necessity of acceding to a treaty which greatly dition of a presoner at large in those that remained to him. All those parts of the sea-coast, which had not formerly belonged to the Dutch, were now ceded to them, with the addition of feveral other advantageous tracts. They infifted that the king should have no intercourse with any other power, and that he should deliver up all foreigners or subjects of other princes, who should happen to come into his dominions. All cinnam in which grew on the coasts was deemed as exclusively Dutch property; and the natives, by way of special privilege, were allowed quietly to cut and carry it to the several Dutch factories in the island. The cinnamon that grew in the woods was allowed to be, in fome degree, the property of the natives; they were obliged to peel and fell it to the Dutch at a rix-dollar per pound; that is, a coin of nominal value, which exchanges for about the worth of two shillings sterling of their copper-money. Independently of cinnamon, the other productions of the island were not over-looked; but the king of Candy was also obliged to flipulate, that his subjects should gather the pepper, cardamoms, coffee, and cotton growing in the interior, and fell them to the Dutch at certain very low prices. A certain proportion of elephant's teeth, areka nut, and betel-leaf, together with a share of the precious stones found in the country, formed part of the tribute imposed on the natives. The number of elephants to be delivered up was 50 in the two feafons; which the Dutch transported to the opposite coall of the continent, and fold to the native princes there at very high prices, as the elephants of Ceylon are accounted superior to all others. The pearl-fisheries on the well and northwest shores, where the pearl-banks are tituated, formed ancther acquifition to the Dutch by this treaty. Several perfons from the Malabar coast, and other parts of the contitowns of the island, particularly at Jasnapatam : all of which were now given up to the Dutch. In return for all thefe valuable acquifitions, the Dutch acknowledged the king of Candy to be the emperor of Ceylon, with a long string of other founding titles, which ferved only by their mockery, to aggravate his mortification; and under which magnificent appellations, they engaged, as his dutiful fubjects, to pay him a tribute, and to fend ambaffadors yearly to his court. The most important stipulation, on the part of the Dutch, was that of supplying his people with falt, free of expence, and in fuch quantity as to equal their confumption. The one flipulation of the treaty was fulfilled with good faith. By this treaty the Dutch obtained a monopoly of all the his fubjects only the hard condition of aiding them in availin their breafts the most rooted and inveterate hatred to their oppressors. The consequence was a renewal of hostilities; the king's country; but they were fo vigoroufly attacked the Dutch service, narrowly escaped being cut off with a At length hostilities, which were unavailing, were discontinued by mutual confent. The Dutch were chiefly anxious to prevent any connection from being formed between the natives and foreigners; and the king of Candy was refolved to prevent any intercourse between his subjects and a nation, which

which he found ready on every occasion to deprive him of view's fresher green, and more fertile appearance than most his rights in order to gratify their own avarice. A few articles of no great value, such as betel-leaf, areka, and cocoanuts, were occasionally smuggled by the natives down to the Dutch provinces; but these practices, when discovered, were

feverely punished by the king.

Such was the fituation in which affairs flood between the Dutch and the native Ceylonese, towards the commencement of the late war. It was now about 140 years fince the Portuguese had been finally expelled, and no other European power had fince that time been able to acquire a permanent footing on the island. Soon after the expulsion of the Portuguese, about the year 1672, the French seem-ed inclined to dispute the possession of Ceylon. Accordingly they appeared off the island with a large fleet, entered into a treaty with the native prince, and avowed their determination to expel the Dutch. But their enterprise planned without wifdom was executed without spirit, and imaginary obstacles prevented the French from even attempting to gain a fettlement on the island. Towards the conclusion of the American war the English made a more formidable attempt against the power of the Dutch in Ceylon. A fleet, under the command of Sr Edward Hughes, having on board a detachment of land-forces, commanded by Sir Hector Munro, was dispatched about the beginning of the year 1782, to attempt the reduction of this illand. This etterprife, which commenced prosperously, by gaining posses fion of fort Oftenburg, a strong fort in the vicinity of the bay of Trincomalee, afforded an encouraging prospect of speedily reducing the whole island; and lord Macartney, then governor of Madras, determined to lofe no time in fecuring and improving this valuable acquitition. But dilatory measures, always incompatible with success in military operations, afforded to the French admiral Suffrein an opportunity of taking possession of Trincomalee, and of mooring in the bay a fleet of thirty fail of the line. Although the British fleet, after being refitted in the roads of Madras, arrived off Trincomalee, and notwithstanding its inferiority in number, attacked and routed the French; the latter found a secure retreat under the cannon of those forts, which their activity, and the want of precaution on the part of their enemies, in not leaving a garrifon and stores fufficient to undergo a fiege, had fuffered to fall into their hands. Thus, the attempts of the English to attain poffession of Ceylon were, for this time, frustrated. As the harbour of Trincomalee, which is equally secure at all seasons, offered to the English the means of obviating disadvantages to which the coast of Coromandel is subject, it must be evident that, on the first rupture with the Dutch; our countrymen would again attempt to gain possession of it. Accordingly, the junction of the Dutch with the French republic in the late war was the fignal for the commencement of our operations against their colonies in the East. In 1795, a body of troops was detached for the conquest of Ceylon; and this enterprise was crowned with success, after a course of military operations which will be detailed in defcribing the feveral places where they were carried on.

After this abstract of the history of Ceylon, we shall now proceed to give a particular account of the island itself; which is become of peculiar importance to this country, fince, by the fifth article of the treaty of Amiens in 1802, the Batavian republic has ceded and guaranteed, in full property and fovereignty, to his Britannic majefty, all the possessions and establishments in the island of Ceylon, which, previous to the war, belonged to the republic of the United Pro-

vinces, or to the Dutch East India Company.

In approaching this island from the sea, it presents to

parts of the Malabar and Coromandel coalts. All the flat tracts on the sea-shore are bounded by beautiful topes, or groves of cocoa-nut trees, while the intermediate plain is covered with rich fields of rice; and the prospect commonlyterminates in woods, which cover the fides of the mountains, and display a verdant foliage through every feason of the year. The castern coast appears hold and rocky, and a few reels of rocks run out into the fea on the S.E. between Point de Galle and Batacolo. The deep water on the eastern shore admits the access of the largest vessels in fafety; and if that fide of the ifland be the least fertile, its other defects are amply compensated by the harbours of Trincomalee and Batacolo. The north and north-west coast from point Pedro to Columbo is flat, and indented with confiderable inlets of the fea; the largest of which extends almost quite across the island from Mullipatti to Jasnapatam, on the N.W. point of the illand, forming the peninfula of Jafnapatam. Several of these inlets form small harbours, accessible to vessels of small size. The interior of the island abounds with steep and lofty mountains, covered with forests and full of almost impenetrable jungles. The woods and mountains completely furround the dominions of the king of Candy: and the island is divided by the most lofty range of mountains nearly into two parts, fo completely separated from each other, that both the climate and feafons on either fide are effentially different. These mountains also terminate the effect of the monfoons, which fet in periodically from their opposite sides; to that not only the opposite sea-coast, but the whole country in the interior, fuffers very little from thefe ftorms. The monfoons fet in much fooner on the weltern than on the eaftern fide of the island. On the west fide, the rains prevail in the months of May, June, and July, and this is the feafon when they are felt on the Malabar coast. This monfoon is very violent, being accompanied with dreadful florms of thunder and lightning, together with vast torrents of rain, and violent south-west winds. In the meanwhile, the northern parts of the island are very little affected, and are even generally dry. In the months of October and November, when the opposite monsoon sets in on the Coromandel coast, the north of Ceylon is affected, and fearcely any impression is felt in the fouthern parts, with the exception of some partial rains. These monsoons pass flightly over the interior of the country, which nevertheless experiences dreadful florms. During its own periodical feason, in March and April, the rain descends in torrents, and the thunder and lightning are extremely awful. The days and nights in this ifland, lying near the equator, are of nearly equal length: the variation, during the two feasons, not exceeding fifteen minutes. The seasons are more regulated by the monfoons than by the course of the fun; the cooled feafon being at the fummer foldice, while the western monfoon prevails. The fpring commences in October, and the hottest seaf n is from January to the beginning of April. The heat, in the day, is much the fame throughout the whole year; but in the rainy feafon, the nights are much cooler. Upon the whole, the climate is much more temperate than on the continent of India; as the heat is fanned by the constant sea-breezes, and it is not annoyed by the hot and fuffocating land-winds. The shade of the houses furnishes a tolerably cool retreat. In the interior of the country, however, where thick and close woods and the hills crowd upon each other, the heat is greater by many degrees than on the fea-coast, and the climate is often very fultry and infalubrious.

The principal harbours in the island for large ships are Trincomalee and Point de Galle; and they also anchor, and

from the beginning of December to the latter end of March moor fecurely, in the roads of Columbo. Smaller coalling vellels find thelter in feveral other inferior ports; fuch as Batacolo, Matura, Barbareen, and Caltura, on the S.E.; and on the N. and W., Nigumbo, Chilou, Calpenteen, Manaar, and Point Pedro. At all thefe places are rivers of greater or less magnitude, that empty themfelves into the fea; and thefe rivers, which are generally broad, deep, and navigable to fome diffance for fmall craft, are very beneficial to the inhabitants of the parts that are adjacent to the fea-coast, as they furnish a cheap and eafy conveyance of their produce and merchandife to places where the European veffels wait to receive them. See CANDY. Befides the rivers with which Ceylon abounds, it has many lakes and canals of confiderable extent commu-Columbo and Nigumbo. Along the coasts there are roads and stations for travellers; but they are, in many places, rugfand; and, befides, they are rendered dangerous by the multitude of wild hogs, buffaloes, and elephants, which infest them. These animals are met with particularly from Chilou to Manaar on the well fide of the illand; and from had possession of the island, the roads have been greatly improved. The foil of Ceylon is, in general, fandy, with a fmall mixture of clay. In the S.W. parts, however, particularly about Columbo, there is much marshy ground, very rich and productive; which is chiefly occupied with cinnamon plantations. The island does not produce rice enough for the use of its inhabitants, but requires annual supplies from Bengal, and other places on the continent. The culture of rice, however, has increased since March 1800; and many tracts on the wett coasts, hitherto wild, marshy, and uncultivated, have been applied to this purpose.

The island of Ceylon was originally divided into a number of dillinct petty kingdoms, separated by rivers and mountains, and subject each to its own independent sovereign. In process of time it was reduced under the dominion of the king of Candy, who divided it into a few large provinces, from which were derived feveral of the numerous titles which he still retains. These provinces were Candy, Coitou, Matura, Dambadar, and Sittivacca, which included the rich diffricts on the west coast. The chief of these was Candy, which fee. These provinces were subdivided into districts, known by the name of "Corles," and corresponding to our shires or counties. These subdivisions are still continued in the parts wrested from the natives by the Dutch; and the government of each is given to the civil and military officers, who hold posts in their vicinity. The great divisions of the parts that are under the dominion of Europeans, and the pletely encircle the territories of the king of Candy. The though Trincomalce (fee TRINCOMALEE), is of much superior importance, on account of its excellent harbour. The next polt to Trincomalee on the N.W. is Malativee; which fee; island is stretched out into an oblong peninsula, by a branch of the fea, which penetrates acrofs the island, except that a fmall ftrip of land remains, which is nearly inundated at high water. This diffrict is named Jafnapatam; which fee. Dependent upon the diffrict of Jaffun, and at a fmall diffance in the fen to the N.W. of Point Pedro, are feveral fmall islands, which the Dutch have named Delft, Haarlem,

Leyden, and Amsterdam. These islands they employed in human race refided, or the spot on which he first touched on being expelled the celeftial paradife. Accordingly, that Ceylon at some distant period formed a part of the vuition of nature. Nor is this improbable, if we confider the narrownels of the intervening space, and the numberless shallows with which it abounds. Besides, the appearance of the foil and the furface of the country, on the well femble one another. A stratum of flat calcareous rocks feems to run quite across Adam's bridge; and it is found that lie on the paffage. In proceeding along the coast of ren; equally destitute of accommodation and provisions. Here are none of those lofty eminences which divertity the tract of low flat fand; but faither inland there are rice and to cover the whole furface of the country, till at Chilou the cinnamon woods flew the commencement of the diffriet of attend the pearl-fishery reside during the season. For their barracks, which also serves for the reception of occasional travellers. Arippo is the only place in this quarter where good water can be procured. Here is also a chapel for voutly to offer up their vows and offerings before they commence diving for the oythers. In the neighbourhood of defert and barren appearance, except where it is covered by almost impenetrable jungles. Detachments are posted in

fome few places for the protection of travellers; but the road is for the greatest part extremely bad, and the country is much infelted with buffaloes and elephants. At Pomparipo is a broad lake, which cannot be paffed during the rainy feafon; and belides, there occur in the way two or three broad rivers, as the Mofulec and Madragar, which iffue from the mountains in the interior. The first post at which you arrive is Calpenteen; which fee. For an account of Putallom, Chilou, and Nigumbo; fee these articles. From Nigumbo fouthward the road is extremely pleafant; being fliaded the whole way, and provided with a number of refting places for travellers. About half-way to Columbo is a very large " Choultry," or barrack, to which the officers of the garrifon frequently refort on shooting parties. It is fituated on a very delightful spot in the midst of a picturesque country, abounding with snipe and several species of game. For an account of Columbo, the capital of the Dutch dominions in Ceylon; fee COLUMBO. The country round this capital is, for feveral miles, flat and very rich; diverlified with fields of rice and patture, and a variety of groves, in which the cocoa-tree is most conspicuous; and embellished with gentle eminences, together with a number of finall rivers, lakes, and canals. Shady roads every where interfect the country, which preferts to view country feats and gardens; and on the banks of the river Mutwal is an elegant building, in which the governor refides; and there are also on the same banks and in the adjoining groves several temples of the natives. Cinnamon-trees abound, both wild in the woods and cultivated in the gardens. The road from Columbo hes by the fea-fide for fix miles, as far as Galkieft, a fmall village, in which is a church for the accommodation both of the Dutch and Cinglese; and from hence to Pantura, a distance of 12 miles, the road is well shaded, and agreeably divertified by a part of the cinnamon gardens, which croffes this tract. From Pantura to Caltura, (which fee), an interval of 10 miles, the whole country feems to be one delightful grove; and the road appears like a broad walk through a shady garden. In tracing the eastern coast, we find Barbareen and Bentot, (fee CALTURA), and at length arrive at Point de Galle, for an account of which, fee that article. About 20 miles to the fouth is Billigamme or Bolligam, feated on a bay formed by an indenture of the coaft, and inhabited by fishermen; and at the distance of 30 miles from Point de Galle lies Matura; and about four miles from Matura is the most fouthern point of Ceylon, called Dondre-bead. See MATURA and DONDRE-PEAD. For an account of the principal places in the European dominions on the eastern fide of the iffand; fee BATACOLO and TRINCOMALEE.

It appears, from the furvey of this island, made by captain R. Percival, and delineated in a manner no lefs entertaining than inflructive in his "Account of the Island of Ceylon," which has enabled us to enrich this article with interesting information, that the internal wealth, as well as the population of "the European dominions," lies on the west and fouth-west coasts; while that fecure station for shipping, which renders Ceylon of fo much importance to our other East Indian dominions, lies at the opposite fide, and in the most barren quarter of the illand. The present state of the roads is such as almost entirely to preclude all intercourse by land between the oppofite fides of the island, which are thus prevented from imparting their advantages to each other. In time, however, these defects may in a great measure be remedied; and many beneficial plans have already begun to be executed by the intelligent officers who at prefent command in the island. It is probable also, that in time the poorer lands in the north

and east parts may be employed to raise the necessaries of life, while the rich plains around Columbo are entirely devoted to its valuable spices.

The inhabitants of the fea-coasts of Ceylon are composed of a variety of different races. At Columbo, in particular, the natives of every country in India appear to have their representatives; and the manners and customs of these diftinct tribes are such as belong to their native countries. Besides the native Ceylonese, who live under the dominion of the Europeans, and who are denominated Cinglese, the coasts are chiefly inhabited by Dutch, Portuguese, and Malays. The Dutch, who are born and refide in India, are very different in their habits and modes of life from those of Europe. The chief trait that diftinguishes their original Dutch character is their fondness for gin, and tobacco. In other respects they adopt the customs and listless habits of the country. A Ceylonese Dutchman rises about fix, and begins the day either with a walk, or with fitting down by his door in a loofe robe and night-cap to fmoke a pipe. This, with a glass of gin, fills up the first hour. At 7, a dish of coffee is handed to him by his slaves, and his lounging posture and pipe are again resumed. He afterwards dresses, and either goes to business or to pay visits, in which he ufually takes a pipe and glass at every house where he calls; and in his falutations on these occasions he is very ceremonious. If he prolongs his vifit, he throws afide part of his dress, and puts on a night-cap, and then he and his companions smoke and talk till noon. At 12 he sits down to dinner, regaling himfelf with very gross and heavy food. After dinner he refumes his smoking in an undress, and then sleeps for an hour. As foon as he is again dreffed, he pays vifits abroad or receives company at home; and this, with another pipe, occupies the interval till the hour of nine announces supper. Capt. Percival represents them as proverbially indolent and lazy, ignorant and stupid, without capacity, and without defire of acquiring ex-cellence by exertion. Their children are commonly neglected, and committed to the care of flaves. Their own minds become felfish and contracted, callous to the feelings of humanity, and prone to treat their flaves with feverity upon the flightest provocation, and often from mere caprice. Their women are generally treated with neglect; nor can it be expected that, in fuch circumstances, they should much study the art of pleasing. In the forenoon their dress is flovenly; but at their evening parties they appear decked out in abundance of finery. The culture of their minds occupies as little of their attention as the adorning of their perfons; their education is difregarded; and from their infancy they imbibe manners and superstitious notions from the female flaves to whose management they are entrusted, of which they can never afterwards divest themselves. Neglected by the men they affociate with their flaves; and thus their morals are as destitute of dignity or virtue, as their manners are of politenels. After marriage, much as they are difregarded by the men, they treat their husbands with great veneration and affection; confider their careffes as a high honour, and are therefore extremely jealous of their favour. The Dutch ladies, while young and unmarried, drefs well, and are tolerable in their persons, and many among them are pretty, and even handsome; but afterwards they contract fuch indolent habits that they become coarfe, corpulent, and duty in their persons; and their dress during the day is flovenly and negligent to excess. In such a climate as that of Ceylon, and with fuch habits, we must not look for the bloom of health and the red and white of European complexions. Theirs are for the most part of a pale deadly white, with fome exceptions. Those who have a mixture of the native

Flood, are easily diffinguished by a tinge in the colour of the fkin, and their ftrong thick black hair; marks which are not removed in the course of many generations. The women of this mixed race, of whom there are many in the Dutch fettlements, fooner begin to look old than those who are wholly of European extraction. The Dutch ladies have a cultom of cracking their joints, and rubbing them over with oil, which renders them uncommonly supple. and that of the married and elderly ladies confifts in paying formal and ceremonious vifits; on which occasions they are attended by a number of flave girls, dreffed for the purpole, and walking after them, with their betel boxes, or bearing umbrellas over their heads. Their chief facry confilts in these female attendants, and their splendour is estimated by the number of them which they can afford to keep. Neither the persons nor the apartments of the women are in general very cleanly. Many of the elderly ladies, and most a mixture of "chinam" or lime made of burnt thells, in order to render it hotter and more purgent to the talke. In every house, therefore, they have a number of brass vales which are used as spitting pots for the women who chew these substances, and for the men when they smoke. The women are generally very neat and exact in the arrangement of their fitting-rooms, and when they receive company; thefe are kept remarkably clean, and the tiled floors are highly polished: but their inner apartments, and other parts of their house, are quite the reverse.

Another class of the inhabitants of Ceylon confists of a race known by the name of Portuguefe. They are not the defeendants of the European nation whose appellation they bear; but they derive their name from the spurious descendants of that people by native women, who were feattered in great numbers over this island and all their other fettlements in India. But both the manners and colour of these original Indian Portuguese are now equally lost among that race which now bears their name. The present Portuguese of Ceylon are a mixture of the spurious descendants of the feveral European possessors of that island, by native women; joined to a number of Moors and Malabars. A colour more approaching to black than white, with a particular mode of dress, half Indian and half European, is sufficient to procure the appellation of a Portuguefe. These people are found in all the European fettlements in India, particularly in those belonging to the Dutch, who often form intermarriages with them. The manners of the Portuguese inhabitants differ from those of the Moors, Malabars, and other Mahometans. They affect to adopt those of the Europeans. Although the black Portuguese universally profess the Christian religion, and are commonly Roman Catholics, they nevertheless retain many Pagan customs, and their religion may be confidered as a compound of both. The Dutch have allowed priefts and other millionaries to go among them; and many of them profess the Protestant religion and frequent the churches of the Dutch. They are in general fomewhat fairer than the Moors and Malabars; but complexions of all forts are found among this mongrel race, from a jetty black to fickly yellow, or tawny hue. Their hair, which is black or dark brown, is worn long, and usually hid, contrary to the custom of the Mahometans. Some of their women are pretty, and much admired for their figure. The men are about the middle fize, flender, lank, and illmade. They are fond to excess of shew and finery in their drefs, and never thir out without putting on their belt clothes. They are lazy, treacherous, effeminate, and passionate to excels; and retain so much of the character of their boasted

progenitors, as to be diffinguified for a ridiculous pride. They have no regular calt, and are usually effected the worst race of people in India. Originally a spurious and the characters of their ancestors; and they combine all the vices of the Europeans and Indians, without any of their virtues. From these black Portuguese were derived the or chaufee, feening to be a corruption of the French chapeau, being used in their language for a hat. They were never reckoned good foldiers, being neither to hardy nor to brave in the English service: the French, however, had very generally corps of them at Pondicherry, and in their other fettle-

The Malays are another race, who form a confiderable proportion of the inhabitants of Cey on. This ferocious race is widely scattered over the eathern parts of India. Their original empire lies in the peninfula of Malasca (which fee); and they have extended themfelves from thence over Java, Sumatra, the Moluccas, and Philippines, and a great number of other islands in the Archipelago of India. æra of their first introduction into Ceylon is not easily afcertained; but the Dutch have been accustomed for many years to introduce them to this and their other fettlements in Afia and Africa, for the purpose of carrying on various branches of trade and manufactures, and also to employ them as foldiers and fervants. The religion, laws, manners, and cultoms of the Malays, as well as their drefs, colour, and persons, differ very much from those of all the other inhabitants of Alia. Those of the various islands or fetthments differ also among themselves, according to the habits and appearance of the nations among which they are difperfed. For, although they intermarry with the Moors and other casts, particularly in Ceylon, and thus acquire a much darker colour than that which is natural to a Malay, their characteristic features are still so strikingly predominant, that they cannot be millaken. Those who are born and brought up in the European colonies naturally contract more of the habits of civilized fociety; but they never entirely get rid of their natural ferocity, though they become much less cruel and vindictive than those of their race who refide in the peninfula of the Malacca and their other native possessions. The men are of a middling stature, remarkably well proportioned, and of a itrong and mufcular con-Their legs and arms are particularly well-shaped flitution. and very slender at the writts and ankles. They are of a light brown or yellow colour, approaching, in old age, or when much exposed to the fun, to a copper hue. forehead is broad and flat; their eyes are Imail, black, and very deep funk in their orbits: their nofe is flattish, broad towards the nothrils, with a fort of curve at the extremity approaching the lip. Their hair is long, coarfe, and black, and always moistened with a quantity of cocoa-nut oil; fome of the poorer fort bind it up with a coloured handkerchief. The Malays of a higher rank wear a wide Moorith coat or gown, called badjour, refembling our drefling-gowns, and composed of rich flowered filk, or party-coloured cotton: and their under dress is a vest of filk or calico, called hadjou, worn close to the body, with loose wide drawers of the same stuff. The dress of their head is of a singular shape, and is often elegantly ornamented. Their shoes or fandals are like those of the Moors. The dress of the poorer fort confists of a piece of cotton wrapped round their waifts, with one end drawn between their legs, and tucked up at the lower part of the back: the arms are left completely bare. Some

wear a kind of veft or jacket without fleeves; but most of of their principal instruments is the gong-gong, which consists fuffer their beards to grow, but, in conformity to their religion, pluck out the hairs as foon as they appear. The drefs of the poorer classes of the women consists merely of a large piece of coarfe calico, or cotton, called a Sarozu; which is folded and wound round the body above the bofom, and reaches down to the ankle, or middle of the leg; the upper part is tucked up and fallened under the arm-pits. Their hair is twifted up like that of the men, and fastened with a fillet or with pins or skewers, called condés. The dress of women of a fuperior station is selected with talte, and is very fplendid. Inflead of the upper garment, called badjou, refembling that of the men, fome use the falendang, which is a piece of filk or muslin about five feet long, thrown loofely around the neck and shoulders, falling down before, and brought across the waift backwards. On the crown and back part of the head are stuck three or four tortoise-shell combs with plates of gold. About their necks and arms they wear chains or filigree, and are all provided with earrings. The Malays make very beautiful filigree work in gold, which they use as ornaments for their persons.

The faces of the Malays are generally very ugly; and their features indicate their ferocious, treacherous, and revengeful dispositions. Some, however, have comely countenances; and many of the women might be considered as beautiful, if they were not much exposed to the fun, and had not their nofes compressed. It is a common practice among them to break by compression the griftle of the upper part of their nofes in infancy; a flat nofe being regarded as a fymbol of beauty. The men are extremely jealous, particularly of the decided preference which the women give to Europeans; nor do they ever pardon infidelity in a wife. The passions of the women are no less violent than those of the men, and they are equally capable of taking the most terrible revenge; either by stabbing the objects of their refentment, or difpatching them by poison. The Malays go naked till about 12 years of age, and are foon after married. As they are of the Mahometan religion, those of the higher casts marry as many wives as they can maintain, while the poverty of those of the lower classes restricts them to one wife. Their usual food consists of fowl, sish, rice, and vegetables. The better fort eat also beef and mutton, when killed by one of their own race, and prepared in their own manner. hold swine in such abhorrence, agreeably to the prejudices of their religion, that they will not fo much as touch their fleth; nor will feveral of the Malay casts carry a plate which has ham or bacon on it. Their common drink is water, or the juice of the palmyra; though some will not scruple to drink arrack when they can procure it. They are constantly chewing betel, or penang, and they smoke bang, from which herb they extract a kind of opium, that is used by them in great quantities for exhibarating their spirits.

The amusements of the Malays are suited to their dispofitions, and are either bold, vigorous, or ferocious. Both men and women are much addicted to bathing, which they use several times in a day. Their select amusements are gaming and cock-fighting; and they are so inordinately fond of gaming, that the poorer fort will sell themselves and their families to procure the means of gratifying their passion for play; and after having lost their last stake, they often facrifice themselves and their lucky antagonist to their de-

The Malays have a great variety of musical inftruments, which are usually employed in a band or concert, at their religious ceremonies, their marriages, and their featts. One VOL. VII.

the flaves in the fervice of Europeans, instead of the piece of a hollow plate of a compound metal, fo contrived as to of cloth, wear breeches of coarse stuff. None of the Malays emit a very loud noise when struck. The tom tom is a drum of a peculiar form; and they have other inflruments, made of bamboos bound together with iron wire, fomewhat in the

shape of a dulcimer.

The Malays univerfally profess the Mahometan religion; though with regard to some inferior points and duties, the feveral classes differ among themselves. They have temples and mosques dedicated to their faints and their dead, where they attend with great devotion. They value themselves much on their skill in medicinal herbs, and the application of them in the cure of diseases; and they are fond of gardening, to which they are addicted from their infancy, and in which they excel. In all forts of cane-work, and in ratanning couches and chairs, they are fingularly ingenious; and they are accounted capital builders of bungaloes, or houses of the cocoatree. In other respects, such as the manner of cating their victuals, and their modes of falutation, they much refemble the natives of the Malabar and Coromandel coalts; though they are fufficiently diffinguished from the other natives of India, by the difference of their constitutions, and the pecu-

liar ferocity of their dispositions.

The government, under which the Malays live in their own country, refembles in fome degree the ancient feudal inftitutions of Europe; and, confequently, war is the business of the nation. Their arms are all fuited to their favage and fanguinary dispositions. These consist of a kind of dagger, called a kreefe, or CRISSE (which fee), in the use of which they are particularly dextrous. Before they enter upon any desperate enterprise, or act of revenge, the Malays take a quantity of opium, or, as they express it, bang themselves. (See BANGUE.) Having thus previously prepared themfelves, and poisoned their criffes, they rush headlong into the street, stabbing every one indiscriminately that comes in their way, and at the same time vociferating amok, amok, or kill, kill, whence this horrid mode of revenge is termed by Europeans "running a muck." (See AMOK.) This ferocious practice was repressed by the Dutch government at Ceylon, by the severest punishments; a reward of one or two hundred rix-dollars having been offered for the destruction or capture of those who ran a muck, and those who were taken alive having been put to death with the most excruciating torments. Since the arrival of the English at Ceylon, this barbarous practice has been almost unknown; and a few private murders committed on the Sepoys and black people in the Pettah, were the only crimes of this nature attributed to the Malays during Capt. Percival's stay at Columbo. The Malays, however, in their present state are, from their ideas of morality, almost incapable of being admitted into focial life; they have no idea of revenge being a crime, and they triumph in shedding blood on such an occasion. It is hoped that the introduction of Christianity among these people will meliorate their disposition; and it is consequently of great moment that the Malays in our fettlements should embrace this religion. It would ferve, not only to foften their temper, but to unite them by the firmest bond with this country. The Dutch government of Ceylon had always a regiment of Malays in their fervice; and this corps constituted the strength of their garrisons, as they were the only troops which maintained discipline, or displayed any fort of bravery in the field. They feemed, however, to have imbibed, by the ungenerous policy of the Dutch, fuch a rooted aversion from the English, that there was at first little appearance of their ever becoming our friends. Soon after the arrival of governor North on the island, he new-modelled this corps, and put it on a larger and more respectable establishment; 3 A

and it has now obtained a place among our other regiments that they will frequently defiror themselves in order to obof the line. The Malay troops are armed and clothed much in the fame manner as the European, with the exception of shoes, the wearing of which is contrary to their religion; inflead of these they use a particular fort of fandal. Along with their other arms they always wear their kreefes by their fides; and in the heat of an engagement they often throw down their musket and bayonet, and, rushing upon the enemy with these kreeses, carry terror and destruction wherever they come. The patience with which the Malays fubmit to the fentence of their courts martial, compoled, by the new regulations introduced among them, of their own native officers, who are acquainted with their language and cultoms, and their refraining from revenge when they are affured that julice is intended them, afford reason for concluding, that mild and generous treatment will in the end have the effect of fubduing their natural ferocity.

The far greater proportion of the inhabitants of Ceylon confifts of the native Ceylonefe, who have submitted to the dominion of the Europeans. These retain their original appellation of "Cinglese," while those who live in other parts which acknowledge only the authority of their native princes, are diftinguished by the name of "Candians," from the country they inhabit. In most points these two classes continue to refemble each other, though they are respectively distinguished by some peculiar characteristics. Whether the Cinglese were the original inhabitants of the island, or from what other country they came, and at what period they fettled there, are points of which we have no diffinet account, either from them or from other persons. The distance is so small between Ceylon and the continent, that it is the most probable, and the most generally received opinion. that it was peopled either from the Coromandel or Malabar coafts. Some circumstances, however, are suggested by Capt. Percival, which feem to indicate that they have migrated from a greater distance. Their complexion, features, vians, as to afford reason for concluding that both were of days' fail from Ceylon; and from the diffimilarity of the habits found among them to those of the Indians on the continent, it might be argued that the natives of these islands have not directly originated from those of Hin-

eight inches, and fairer in complexion than the Moors and Malabars on the continent; but they are neither fo well made nor fo throng, and in appearance much r.femble the nen are proportionably lefs tall than the men, are much continually amoint their bodies with cocoa-nut oil, with which also they monten their hair. Both fixes are remarkably clean and neat in their perfons and their houses: and in drelling their victuals they are ferapulously nice. with their lips, they hold it at some distance over their heads, and pour the liquor down their throats. In their diet, they are very abitemious; fruits and rice conflituting the chief articles of their food. They use fome fish when it is abandant, but flesh is scarcely any where eaten. They are courteous and polite in their demeanour, and in many qualities much superior to other Indians. They neither fteal nor lie; their disposition is generally mild; but when their anger is roufed, it is proportionably furious and Latting. Their hatred is excessive and invincible, infomuch

tain the deftruction of the object they deteil. If a Ceylonese cannot obtain money due to him by another, he goes to his debtor, and threatens to kill himself, if he is not instantly paid. This threat, fometimes executed, obliges the in a great degree, among the Cinglese by their intercourse ranks is maintained with ferupulous exactness; and extends the Candians are not allowed to whiten their houses, nor to cover them with tiles, which is a royal privilege, and re-ferved folely for the great king. The Ceylonele never em-ploy nails in their houses, either from the remains of a tyrannical prohibition, or a fuperflition ariling from the danger of the electrical fire in their climate. Their huts are fmall and low, confitting of one flory, and fattened with withes of rattan or coya rope. They are constructed of they fit and fleep; and these benches, as well as the floors of their houses, are covered with cow-dung for keeping away vermin and preferving the furface fmooth and clean. Their furniture is of the most simple kind; consisting of a brass basons out of which they eat it; a wooden mortar and peftle for grinding it, with a flat stone on which to pound pepper, turmenc, and chillies for their curries; a homeny, or kind of grater, being an iron instrument like the rowel of a spur fixed on a piece of wood like a boot-jack, and used in rasping their cocoa-nuts. They are neither tables,

The Ceylonefe are extremely polite and ceremonious: and as a token of refpect and friendinp, prefert each other with the betel-leaf, which is chewed by perfons of all ranks, and fupplies the differt in all their entertainments. They mix with it tobacco, areka-nut, and the lime of burnt shells. The black stain occasioned by this mixture, which is indelible on the month, lips, and teeth, is confidered as an addition to their beauty; but it renders them toothess at an early age. The Ceylonese manifest a surprising degree of gravity in conversation, even among relations and intimate friends; fitting for a long time mate and chewing betelleaf. In their falutations they are very punchilous, using the form common among the Indians of bringing the palms of the hands to the forehead, and then making a phem, or low bow. The natives of Ceylon are more continent with

treat their females with greater attention. Mr. Knox has drawn a picture of their total difregard to chastity, or any bounds to fexual intercourse, which is extremely abhorrent to the ideas not only of an Asiatic, but even to the inhabitants of the most diffolate metropolis in Europe; and Captain Percival is convinced, from his own observations among the Cinglefe, and from all the accounts which he could obtain of the Candians, that he has not in many inflances exaggerated their licentiousness. A Cinglese husband is neither jealous of his wife, nor particularly offended at her infidelity, unless she be caught in the fact; in which case he thinks himself warranted in executing the rights of an Afiatic hufband. Many of the men have only one wife, while others have as many as they can maintain. The eafe with which promifeuous intercourfe is carried on, and with which marriages are disfolved, is, together with their poverty, the true cause why polygamy is not more general among them. The marriage ceremony is better regarded among the Ceylonese, and marriages are often contracted by the parents while the parties are in a state of childhood, for the purpose of matching them according to their rank; and they are often diffolved by confent almost as foon as confuminated. It is also customary for those who intend to marry, previously to cohabit and try each other's temper; and if they find they cannot agree, they break off without the interference of the priest or any further ceremony. When they have agreed to marry, the man prefents his bride with the wedding clothes, confifting of a piece of cloth, 6 or 7 yards long, for the use of the bride, and another piece to be laid on the bed. Prefents are delivered by the bridegroom in person, and the following night he is intitled to cohabit with the bride. On this occasion a day is appointed for bringing her home, and celebrating the wedding with festivities. On this day he and his relatives repair to the bride's house, and carry with them what they are able to contribute to the marriage featl. The bride and bridegroom, in the presence of this assembly, eat out of the fame diff, to denote that they are of the fame rank. Their thumbs are then tied together, and the ceremony is closed by the nearest relations, or the priest, when he is present, cutting them alunder. For a more firm and indisfoluble union, the parties are joined together with a long pièce of cloth, folded several times round both their bodies; and water is then poured upon them by the prieft, who always officiates at this ceremony, although rarely at the former. After the ceremony is performed, the parties pass the night at the bride's house; and in the morning the husband brings her home, accompanied by her friends, who carry with them provitions for another feaft.

The Cinglese women are much more pleasant in their manners, and more elegant in their persons, than those of the

other Indian nations.

The Cevlonese are fond of bathing, like other inhabitants of warm climates, and plunge into the water feveral times a day. Gravity is their characteristic quality: they imbibe from their infancy superstitious fears, that haunt or torment them through life; and sports and diversions are almost totally unknown among them.

During the wet feafon, they are subject to a variety of difeases; leproly appears to be very prevalent; but their apprehensions are chiefly excited by the small-pox, and if any one dies of it, he is looked upon as accurfed, and his body is denied the rites of burial. Every man in Ceylon is his own phylician; and a platter of herbs, or cow-dung, is universally applied to the part affected.

The language of the Ceylonese seems to be almost wholly peculiar to this island, and, as Captain Percival fays,

regard to women than the other Afintic people, and they is most nearly allied to the Maldivian. Of this language there are two-dialects, which differ confiderably from each other and have each a feparate grammar. The poetic or court language, called the "Candian Sanferit," or more properly the "Paulee" or "Mangada," is retained. in those parts, where the language may be supposed to be preserved in its greatest purity; it contains a considerable mixture of Arabic, and is accounted the most elegant as well as the most smooth and sonorous. Among the natives it is a current opinion, that Arabic is their original language, and that fome mixture of the Sanferit was introduced by a colony who came over by Adam's bridge from the continent of India. Among the Cinglese on the coasts, the vulgar dialect, denominated "Cinglefe," is fpoken; and it appears to have been greatly corrupted by the introduction of foreign words, fo that it has loft in a great degree that melody and force, which are attributed to the language of the interior. In the pronunciation of the Ceylonese there is something peculiar, as they hurry out the first part of a fentence without commanding any attention, and dwell with a loud and long accent on the concluding fyllables. Te or ab forms the lall fyllable of a great number of their words, and with this they are fond of cloting. The language univerfally fpoken among the Cinglese who have any intercourse or connection with Europeans is the low Portuguese; and this is also spoken by

the Moor and Malabar fervants.

The Ceylonese divide their time nearly as we do: except that their year commences on the 28th of March; and they allow for leap-year or any odd portions of time by beginning this year a day fooner or later, or by adding a day to the former year. Their months, like ours, are divided into weeks of 7 days: Wednesday and Saturday are the days on which they perform their religious ceremonies. The day, which is reckoned from fun-rife to fun-fet, is divided into 15 hours, and the night also into as many; and in this latitude the length of the day and night is subject to little variation. Before the arrival of the Europeans on the island, it does not appear that the Ceylonese had contrived even the rudeit fpecies of dial. On any particular occasion, they employed a veffel with a hole in the bottom, that let out the water with which it was filled in one hour according to their division; but this rude instrument was feldom employed except at court ceremonials. The learning of the Ceylonese confifts chiefly in some pretended skill in astrology; although it appears from certain infcriptions on the ruins of fome of their temples, that they formerly possessed some literature, as well as some refinement in the arts. Reading and writing are no ordinary accomplishments among the natives of Ceylon. Among the Candians they are chiefly confined to the learned men of the fect cailed "Gonies," who are retained by the king to execute all the writings of state, and those which respect religious affairs: and the Arabic is the character en ployed on these occasions. For writing, as they do not understand the manufacture of paper, they use the leaf of the talipot tree; and from these leaves, which are very large, they cut out flips, about a foot to a foot and a half long, and about two inches broad. These slips are smoothed; and the letters or characters are marked on them with a fine-pointed steel pencil, like a bodkin, set in a wooden or ivory handle; and in order to render the characters more visible and distinct, they are subbed over with oil mixed with charcoal powder. Several of these flips are strung together by a piece of twine passed through them, and they are attached to a board as we file our news-papers. Palm-leaves are fometimes employed for the same purpose; and they occasionally use a fort of paper made of the back of a tree. Some of the talipotbooks or files, called by the natives "Olioes," are richly ornamented, and bound in thin lacquered boards of ivory, or

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even filver and gold. Letters or dispatches sent by the king formerly to the Dutch, and now to the English governor, are enclosed in leaves of beaten gold like those of the cocoa-leaf, rolled up in a cover richly ornamented, and almost hid in a profusion of pearls and other precious stones. The whole is enclosed in a box of filver or ivory,

which is fealed with the Emperor's great feal.

The progress of the Ceylonese in the other arts of life bears proportion to their literature. Their agriculture remains in the rudest state; and the Ceylonese are naturally indolent in the extreme. Their foil, where it can be watered, yields, with little cultivation, a fufficient quantity of rice for their subfiltence, and with this they are satisfied. Their plough confifts merely of a crooked piece of wood, fhaped fo that one end ferves for a handle, while the other, shod with iron, ploughs, or rather tears up the ground. After a first ploughing, the fields are slooded, and some time after they are again ploughed. The other tools employed in their agriculture are a board for fmoothing their fields, which is dragged over them edgewife with their oxen; and a piece of board fastened to the end of a long pole, which ferves instead of rakes. At the season of ploughing, each village makes it a common concern; every one attending with his plough and his oxen till the whole of the field belonging to that fociety is finished. The same method is purfued in reaping the corn. Seed-time and harvelt are feafons of general industry and good fellowship. The women are not employed in either of these laborious operations; their business being to gather the corn after the reapers, and to affift in faving it. Oxen are employed both in ploughing and in treading out the corn. For unhusking their rice, they beat it in a mortar, or more frequently on a hard floor; and if it be of a brittle fort, they boil it before they beat it. The only manure they think requilite is water. Although the labour required for the cultivation of their rice is inconfiderable, many of them let their ground to their neighbours, less indolent than themselves, for a certain proportion of grain, which is commonly about one-third of the produce. A confiderable proportion of grain is carried off by the priefts for the fervice of their temples, or is offered up for protection and thankfgiving, both on account of the bleffings they have received, and in the hope of farther affilt-

The religion of the Ceylonese forms a very prominent and diffinguishing feature of their character; and there are few people, if any, that are more under the influence of superstitious fears. Omens regulate their whole conduct, and even determine their destiny from their birth. When a child is born, they immediately call the aftrologer, who pronounces whether it is deftined to be fortunate or unfortunate. If he declares that it was born to misfortune, they often anticipate its future evils by destroying it. By various omens they determine whether the business they undertake will be prosperous or unfuccefsful. A white man, or a woman with child, when they prefent themselves in the morning, are very favourable omens; but a beggar or deformed person is accounted a grievous mischance, and the fight of him will prevent their proceeding on that day with any bufiness proposed, if it be in their power to avoid it. Under the impression of superstitious fears, the poor Ceylonese considers ftorms of thunder and lightning, which frequently occur, as a judgment from heaven, and as directed by the fouls of bad men who are fent to torment and punish him for his fins; and the frequency of their occurrence is regarded as a proof that the island is abar doned to the dominion of devils. The Ceylonese conceive fiends without number to be hovering round them, and they afcribe every difease or trouble

that afflicts them to the immediate agency of the demons that are fent to punish them; while, on the other hand, they regard every bleffing and every inflance of fuccess, as coming directly from the hands of the beneficent and fupreme God. In order to guard themselves against the power of inferior deities, whom they confider as wicked spirits, they wear various amulets, and employ charms and spells, imagining that they may thus ward off the influence of witchcraft and enchantments by which they think themfelves befet on all fides. Many even of those who have been converted to Christianity, still labour under their original terrors; though they believe them to be delufions. Some of the Cinglefe, when their defires are disappointed and their prayers difregarded, quarrel with their deities, revile them, and even trample their images under foot. The inhabitants of the more mountainous parts of the country are diffressed by their superstitious terrors to such a degree, as to be driven to madness by their disturbed imaginations. The progress of civilization, and the removal of these superstitious sears, are greatly opposed by the interested arts of their priests, who contrive to direct their operation to their own emolument. The devotion of the Ceylonese towards supernatural beings derives its peculiar character from their superstitious fears, and confifts of various ceremonies created by them. With regard to what may be properly termed their religion, a difference of opinion has prevailed. Some have faid that with a flight variation of names and forms, it is the same with that of the Hindoos; but there is little reason to question its being founded on a different system of idolatry from that practifed among the Hindoos. Many of their notions feem to be borrowed from the latter, and with thefe they have blended a confiderable mixture of Mahometanism. In one point, it is faid, they agree with both, as well as with Christians; viz. in acknowledging one Supreme Being who made and governs all things; but they differ from the Mahometans and rigid Hindoos in another respect; for though they are unable to conquer their original supersitions, they entertain the highest reverence for the Christian religion, and fome of the Cinglese have been converted without incurring scarcely any censure from others for their apostacy. Neverthelefs, whilit these people adore one Supreme Being, more powerful than all others, they offer up their devotions to devils, animals, and the very productions of the earth. Besides the one Supreme Being, who is worshipped as the creator and ruler of heaven and earth, the Ceylonese acknowledge a number of inferior deities, as well as tormenting demons: the former, who watch over them for their good, are supposed to be the fouls of good men, and the demons the fpirits of the wicked; but both are regarded as acting by the permission of the Supreme Being. The object of their immediate worship is Buddou, or Boodh (which see), who is represented under a variety of different forms and images. Some have supposed that the worship of Buddou was introduced into Ceylon about 40 years after the Christian æra; at which time, as it is faid, a violent quarrel took place between the Brahmins and the votaries of Buddou, who then formed one of the religious fects on the continent. The Brahmins, as they fay, prevailed, and the Buddites were compelled to take refuge in Ceylon. The Buddites are faid to have been originally a class of hermits, who led a wandering folitary life, remarkable for chattity, renouncing all the pursuits of the world and all attention to property, and contented with the practice of devotion amidst the extremest poverty. Others, however, have traced the religion of Buddou to a much higher original; and pretend that it was introduced in the reign of Vegirajah, who came with his people to Ceylon in the 6th century before Christ; and that

supposed to have made his appearance 542 years before the birth of Christ. Accordingly it has been supposed, that the worship of Buddou originated in Ceylon, and that it fpread from thence to ancient Hindooftan, to exterior India, Tibet, and even to China and Japan. See Boodh. Between the priests of Boodh and the Brahmins, three principal diffinctions have been noted: the former may lay down the priesthood; they eat flesh, but will not kill the animal; and they form no call or tribe, but are selected from the mass

of the people. The priefts of Boodh or Buddou are in Ceylon accounted fuperior to all others. They are called "Tirinanxes," and are held in high estimation at the court of Candy, where they are entrusted with the chief management of affairs. The king has no authority over them, but endeavours to gain their good will by respecting their immunities, and conferring upon them numerous dillinctions. The followers of Buddou believe in the immortality of the foul, and its transmigration into various bodies before it reaches Nimban or the region of eternity. The perfons of the Tirinanxes are held facred; and the king of Candy, although his power be absolute, cannot take away their lives, or in any way punish them even for conspiring against his own life. They chuse their own fuperiors; and their chief priest is invested with the prerogative of fettling all religious disputes. They are exempted from all taxes; but they are totally debarred from wine or women. They never eat meat, or any thing that has had life. To their girdles they suspend strings of beads made of a brownish or black wood, and mutter prayers as they go along. Their dress confilts of a large loofe piece of yellow cloth thrown over their left shoulder, and fastened round the waift by a girdle of the same. The right shoulder, the arms, the head, and the feet, are completely bare. In one hand they carry a painted cane, and in the other an umbrella of the broad end of the talipot leaf. The temples of Buddou are superior to those of all the other deities; for they never dedicate temples to the Supreme Being, nor represent him by any image. In the temples of Buddou, are figures of men habited like his priefts, and placed in various postures: fome of them are seen sitting cross-legged on the ground with long bushy heads of hair like their women, while others recline at full length on the ground. In various parts of the island a number of images of the god Buddou are found, which by their extraordinary fize indicate the great reverence in which he is held. It would be endless to describe these images, and the various temples in which they are found. He has a temple at Calane, 6 miles N.E. of Columbo; another at Oogulbodda, 6 miles from Caltura, which is much frequented; and in Biligamme Corle is an immenfe figure of a man 6 yards high, which stands about 10 miles N. from Matura, and is faid to reprefent the Cotta Raja, an ancient prince who taught them the planting and use of the cocoa-nut, and instructed them in its various falutary qualities. In the interior of Ceylon, there are many ruins of pagodas and temples, of hewn stone, and of much superior workmanship to those in the lower parts of the country. Several of them are in a state of perfect preservation; and when compared with those that have been erected in later times, they afford the strongest proof either that the Ceylonese had formerly attained a much higher state of civilization, or that the island had anciently been inhabited by a different race from its present possessors. But many of them have fuffered much from the ravages of the Portuguele.

The temples dedicated to the inferior gods are poor, mean, and contemptible, being usually constructed of clay and wood; and mere huts, one flory high, without windows, and

Goutama Buddou, the fame that is now worshipped, was covered with cocoa-tree leaves. Without are elephants' heads of earthen ware, little pots, &c. in which paffengers deposit their oblations; and at the doors is a pole or flag, near which fits a priest who remains there the whole day; and within are " fwammies" or facred images of different construction, such as gigantic figures of men with boars' heads, reprefentations of beafts, birds, and pieces of confecrated armour, and some very indecent figures of men and women. The priests of the inferior deities, called "Gonies," are casily distinguished from the Tirinanxes by the little respect that is paid to them. They are continually met with in their wandering excursions over the island, and are a fet of lazy, impudent vagabonds, who live well on the extortions which they practife on the people.

The superstition of the Ceylonese supplies ample provision for the support of their religious establishments. The Candians allow certain portions of land and particular taxes to maintain their pricits and religious houses; whilft the inferior priests support the temples and themselves by their own dexterity. As all diseases are accounted immediate indications of the divine wrath, a time of fickness is the feason when the temples are thronged, and when the priefts ex-pect their principal harvest. There are feveral particular festivals which are held by the Ceylonese in honour of their gods, and for the purpose of conciliating their favour. In the month of June or July at the new moon, called " perahar," a olemn and general concourse takes place to the various reigious resorts on the island. At Candy this selsival is celebrated with great pomp, and is attended by the king with his whole court. In November, at the time of full moon, there is another festival, which is celebrated in the night. These festivals, which are more solemn and splendid in the domnious of Candy than among the Cinglese of the coast, are very numerous, amounting in the whole to 48. Those in hypour of Buddou are not held in the temples, where he is usually worshipped, but on a high hill, called " Hammallel," or Adam's peak, one of the highest in Ceylon, and a the distance of about 50 miles to the N.E. of Columbo, and at a confecrated tree, denominated the "Bogaha," which fee. Notwithstanding the many religious ceremonies and superstitions that prevail among the Ceylonefe, they are ar from being fuch devotees and zealots as any of the feet on the continent. They are firm believers in the doctrine of the immortality of the foul, and the refurrection of the pody. It is their opinion, that the fouls of the just are immediately after death admitted into the rank of gods, and the their ancient prophets and good kings are long fince employed in exercifing the powers of this station ; while, on the other hand, the fouls of the wicked, particularly of unjust tyrants ad impious priests, are supposed to have pasted into wild beasts ad reptiles. The Ceylonese are rigid predestinarians, and believe that people are born to their peculiar dettinics, whoher good or bad, which they are incapable of avoiding or altring. They imagine, however, that their calamities may b alleviated by spells and charms, and they place confiderable reliance on giving alms; and hence the Ceylonese are vey liberal in the distribution of charity. Presents to their priests and alms to their beggars are confidered by them aseffential acts of goodness. The Cinglese in our fervice, while natural ferocity is in a great measure fubdued, referve certain proportion of their food for the poor; nor do thy withhold relief from the Malabar or Moor who asks it. They extend their compassion even to the brute creation fo that during certain festivals or seasons of devotion, they refrain from killing any living creature, and subsist wholly in herbs and fruits. The Cinglese, who are naturally abitelious, frugal, and free from covetoufneis,

are never tempted by indigence to purloin the property of their neighbours; but the Caudians, though endued with much more pride and fiprit, are by no means to confecientious or honet. The burials among the Ceylonefe are not attended with any particular religious folemnity. Mr. Knoe Rates, that in his time it was cultomary to burn the dead, particularly the bodies of persons of distinction. But this practice, if it fill continues in any part of Ceylon, has escaped the researches of captain Percival; and it must therefore be rare, and confined to the remotest parts of the interior. The ceremonial of burial is very simple; the body being wrapped in a mat or piece of cloth, and carried to some unfrequented spot, where it is deposited.

Captain Percival has pointed out, with his accurate discrimination, fome particular shades of difference which arise between the Candians and Cinglese, both from the nature of the country they respectively inhabit, and from the more frequent intercourse of the latter with foreigners. These chiefly relate to their political fituation, and their forms of administering justice, which, among the Cinglese, are of course considerably assimilated to those of the people who hold them in subjection. The Cinglese, he says, are a quiet inoffenfive people; exceedingly grave, temperate, and frugal. In their application to labour, though their bodies partake of the indolence of their minds, they are capable, when roused, of considerable active exertion; but being less robust than the Moor or the Malabar race, they never make good palankeen bearers, or coolies to carry burders. They are gentle, charitable, and friendly, and have fearely any of the falle, treacherous, and defigning arts, which are often found among the Candians. The countenance of the Candian is erect, his look haughty, his mien lof.y, and his whole carriage marked by the pride of independence. The humble yielding deportment of the Cinglese, on the other hand, with the patient or rather abject endurance which is depictured in their faces, plainly denotes the dependent and helpless flate to which they are reduced. A mild and equitable government, with a first administration of justice, cannot fail to conciliate the minds of these peple who have already been trained to fubmillion, and an unbounded reverence for Europeans. As the natural dispositions of the Cinglese are mild and humane; their morals except in the promiscuous intercourse of the sexes, are farfrom being depraved. The Candians, who have acquiredwarlike habits, are thus induced to look with contempt or the Cinglese, who are almost entirely unacquainted with ne use of arms.

The drefs of the poorer forts of the Englese indicates their indolence and wretchedness; and the women of this class are employed in performing all kinds of servile work, and in bringing the fruits and vegetables o market. Perfons of superior rank pay particular attenton to their drefs. They wear a piece of calico wrapped rund their wailts, which either hangs loofe down to their akles, or is drawn together between the legs, in the form of wide trowfers. The body is covered by a jacket with fieves, having the appearance of a thirt and waincoat, and s buttoned at the neck and wrifts. The buttons are numeous, and they are either of alver, gold, or precious stones. To their ears they fix enormous ear-rings, which are adapted for receiving them by applying pieces of wood to the orifies in their infancy. heads they wear caps of various shapes, and others of them coloured handkerchiefs, as fancy fuggds, or the rules of their call preferibe. The drefs of the hiher rank of women is fimilar to that worn by the black Poruguese ladies; and that of the young Conglele females is no inelegant, nor are their appearance and manners difagreeale.

The Cinglese are ingenious and expert artificers, and display their dexterity in gold, silver, and carpenters' work. The number of persons employed in all forts of handicrast work renders furniture, and other similar articles, both good and cheap. The Cinglese supply the English garrisons with bees, south, eggs, and other such articles, at a very moderate rate, as they seldom use them for their own consumption; bees, in particular, they never talte, as the cow is an object of their worship. Some of them drink arrack, and all ranks use toddy, both as a medicine, and for the sake of the liquor itself. The vessels which they use for holding the juice of the palmyra and cocoa-tree is a rind of the betel-tree, resembling in colour and texture bleached sheep-skin, and being as strong and better adapted for retaining liquor. Fowls are plantiful, and sold at from 4d, to 8d, each; eggs at 2d, a dozen; and a good dish of sish may be bought at from 1d, to 3d.

As the Cinglese live under the protection of the British government, they are subject to our laws and forms of administering justice, except in very few points, with regard to which they are permitted to retain their ancient cultoms. The fame laws of inheritance remain among all the Ceylonese: the lands descend to the eldest son, if the father makes no will; but a certain proportion of the property must always be appropriated to the maintenance of the widow and the younger children. The Cinglese under the British dominion are governed by the native magiltrates, the controuling power reliding always in the fervants of the British into corles and diffricts, the fubordinate fuperintendance of which is affigued to the "Moodeliers," or native magistrates, who are always chofen from among the class of the nobles ftyled "Hondrews," and "Mahondrews." The nobles, or "Mahordrews," from whom the Moodeliers are chosen, form a particular cast completely distinct from the others, and their appearance, drcfs, and manners indicate superiority to the rest of the natives. These Makondrews are fairer than the other Cinglese, from their being less exposed to the fun; when they go abroad, they are entitled, by their rank and wealth, to be carried in coolies or palankeens; or when they go on foot, their attendants hold over their heads the brellas and betel-boxes, which latter are usually made of ivory, tortoife-shell, filver, or calamander wood inlaid. In their own hands, they carry a fmall filver box, like a very affable, and much more polite and engaging than the natives of the continent of India. They are partial to the Europeans, who have been accustomed to treat them with manifelted a defire of copying the manners of the Europeans. Their drefs is very rich, and combines the ancient European with the Afiatic. They are fond of magnificence, and particularly at their wedding-featts they are anxious to exhibit

Many of the Cinglese have been converted to the Christian faith; and whilst some profess to be Roman Catholics, others attend the Calvinit and Lutheran worship; but the fundamental principles of Christianityare understood by searcely any one of them. The natives of Ceylon, says Capt. Percival, belonging to our fettlements, are already become much attached to the English; and there is every reason to expect that their prejudices against foreigners will soon be done away by our liberal conduct towards them. For an account of the Candians, see Candr. Of another class of the inhabitants of Ceylon, a brief account has already been given under the article Bedahs. These Bedans, or Vaddahs, are seattered

over the woods in different parts of the island; but they are resting on a beam, which projects like the pole of a carmost numerous in the province of Bintan, which lies to the N.E. of Candy in the direction of Trincomalee and Batacolo. Here they are completely favage, and have never entered into any intercourse with the other natives, or have scarcely ever been seen by them. They acknowledge no authority befide that of their own chiefs and religious men. Those that border on the dillrict of Jafnapatam, and the tribes that inhabit the W. and S.W. quarters of the island, between Adam's peak and the Raygam and Pasdam corles, are the only Bedahs who have been feen by Europeans; and they are much lefs wild and ferocious than those who live in the forests of Bintan. The Bedahs, as they acknowledge no power but that of their own chiefs, adhere, from generation to generation, to their own laws and customs, without the slightest variation. They subfift entirely by hunting deer and other animals, with which their forests supply them. The flesh of these animals, and the fruits that grow spontaneously, compose their whole food. They sleep either in trees, or at the foot of them; and in the latter cafe fecure theinfelves from wild beafts by placing thorns and bushes all round them. As foon as the least noise rouses the apprehension of a Bedah, he climbs up the tree with the utmost expertness and celerity. The dogs of the Bedahs are remarkable for their fagacity, and not only readily trace out game, but also distinguish one species of animals from another. These faithful animals constitute their chief riches. When their daughters are married, hunting-dogs form their portion; and a Bedah is as unwilling to part with his dog as an Arabian with his horfe. Those Bedahs who converse with the other natives are represented to be courteous, and in address far beyond their state of civilization. Their religion is little known; they have their inferior deities, corresponding to the demons of the Cinglese, and observe certain festivals. On these occafions victuals of various forts are placed at the root of a tree, and the ceremonies of the festival consist in dancing around them. Their origin has never been traced; but they are supposed to have been the aboriginal inhabitants of the island, who, upon bei: g overwhelmed by their Cinglese invaders, preferred the independence of favages to a tame fubmillion. For another account of them, fee BEDAHS.

At the head of the class of quadrupeds in this island, and Superior to those of the same species found in any other part of the world, are its elephants. See ELEPHANT. Of the animals applied to domestic purposes Ceylon produces but few. The horse and sheep are not natives of this island, and can fearcely be made to thrive when imported. The borfes, which are bred on the fmall islands beyond Jafnapatam are a mixture of the Arab and the common horse of the Carnatic. They are chiefly used for drawing gigs and other light vehicles for pleafure: the Manilla, Pegu, and Atcheen horfes are also used for these purposes. Sheep, as well as horses, are much dearer here than in any other part of India. Sheep, in particular, sometimes fetch 10 and even 20 times the price they bear on the opposite coast of Coromandel. In Ceylon horses are never employed in servile work, or for drawing burthens. As they are scarcely ever castrated, they are fo spirited and vicious as in some degree to be unfit for these purposes. The oxen of Ceylon are remarkably fmall, generally of a black colour, and fearcely exceed in fize our calves of a year old; the beef, however, is fat, and tolerably good. The price of an ox is about 11. 5s. fterling. These bullocks, though small, are very useful, and are employed in drawing artillery, and conveying burthens which are too large for the coolies to carry, and which they draw in earts, known in the island by the name of " bandles." Thefe are long, narrow clumfy vehicles, with the body

riage, to the end of which is attached crofs-wife a piece of wood, very thick, and about fix feet long. Under it are hoops for the necks of the oxen, which are kept fait by pegs; fo that the whole weight of the load rests on the neck and shoulders of the cattle, while they drag the cart along. The fides of the cart are composed of thin boards, the skins of buffaloes, or split bamboes; while a strong post of wood is placed at each of the four corners to give it shape or hold it firm. The bottom is formed of boards, or interwoven bamboes: the axle-tree and wheels resemble those of the Irish truckles, or cars, being blocks of wood rounded. Buffaloes, which are much larger and stronger than the oxen, are much more frequently employed in drawing burthens. These animals are found in great numbers on the island, both wild and in a tame state, and are all of the same species and appearance. See Buffalo. The markets of Ceylon are well fupplied with pigs, which may be always had at a moderate price from 5s. to 10s. forests of this island are rendered dangerous by beatts of prey and noxious reptiles of various kinds. Varieties of deer and elks are every where met with in the woods and jungles. Hares, like the common ones of Europe, abound in every quarter of the island. The wild hog is more efteemed than the tame; and the wild bears, which are large and fierce, add much to the dangers of the Ceylonese forests. The smaller species of tiger infelts the woods; but the larger kind, called the royal tiger, is not an inhabitant of the island. Ceylon has also the tiger-cat, the leopard, jackals, the hyana and bear, great number of monkies of different species, and a variety of porcupines, racoons, armadilloes, fquirrels and mungoofes; the ichneumon, flormoufe, or flyingfox, feveral species of rats, and the ant-eater are also animals found in the island. The birds of Ceylon form a very numerous class All forts of our domestic poultry, turkies excepted, ar natives of this island; and there are few birds found in our marshes that do not abound here. geefe, pheafalts, parrots, and parroquets, are found in great numbers, both wild and tame, and usually in flocks. Snipes are also plential in the wet feason, which is the best time for shooting them The florican, which is a species of the crane kind, about the fize and weight of a large capon, lives among the woods, and is efteemed excellent for food. The banks of the rivers and lakes abound with florks, cranes, herons, and water-fowlof various descriptions. Wood-peckers are also found with beautiful top-knots of a golden colour. Pigeons, both yld and tame, form a principal part of the birds of Ceylon and the cinnamon pigeon, in particular, which is of a hautiful green colour, and as large as our common fowl, forms in Ceylon at all feafons of the year. There are a few prividges of the small red-legged kind, which are found on the felt coalts between Nigumbo and Manaar. Among a great vricty of fmaller birds, the honey bird and tailor bird attrac particular notice. The crows are here, as in every other art of India, exceedingly impudent and troublesome, and are with difficulty excluded from the houses. Here ar also kites and vultures, the Indian roller, the yellow-crownd species of peacock, and the jungle-fowl, which refembles i fize our common fowl, but prefents a much more beauful plumage and is diftinguished by its double spurs. The reptiles and infects of Ceylon are very. numerous, and thre are feveral species very little known. Serpents also about to the great annoyance of the inhabitants; among whih we may reckon the covra capello or hooded make, from 6 to 15 feet long, the covra manilla, the most dreadal of all makes, about two feet long, whose bite proves Mantly fatal; the whip-make and grafsfew other species among old ruins that are perfectly harmless. The rock-snake extends to 30 feet in length, and inhabits chiefly the rocky banks of rivers. Alligators of an immense files inset all the rivers of Ceylon, and render them every where very dangerous. The guana resembles the alligator, but is persectly harmless. It lives in holes in the ground, is esteemed good food by the natives, and makes excellent curry, or rich foup. An immense number of toads, lizards, blood-fuckers, chameleons, and a variety of others of the fame class, abound every where throughout the island. Befides the leeches which are employed in the materia medica, there is another species which infests the woods and fwampy grounds of Ceylon, particularly in the rainy feafon, to the great annoyance of passengers. The infects of Ceylon are very numerous; but the most mischievous is a species of ant, called the white ant, which is equally destructive in the fields and the dwelling houses. Land tortoises abound in many parts of the island. The black scorpion of Ceylon is a very dangerous infect, and its fling is frequently mortal. The centipedes, or common large spider, and an overgrown beetle, called the carpenter, from its boring large holes in timber, are met with in Ceylon. Fish of every fort, in great abundance, are found in the lakes and rivers of Ceylon, as well as in the furrounding feas. Many excellent kinds of fish are caught all round the coasts of this island, and form a principal article of the food and traffic of the natives.

Ceylon is particularly prolific in plants. Except in one or two species, the mangoes of Massegon, and the manderine orange of China, this island maintains an undenable superiority over all our fettlements on the continent of India. Among the fruits which grow fpontaneously are found pineapples, oranges, pomegranates, citrons, limes, mdons, plums, pumpkins, water-melons, fquafhes, figs, almonds mulberries, raifins, bilberries, bog-berries, &c. We might alfo mention Mangoe, Shaddock, Malacca rofe-apple or Malacca apple, the cushoo apple, the katapa resembling our walnut, the paupa or papaya of the fize of a meloi, and refembling it in taste and smell, the custard appe, the tamarind, the plantain, two species of the brad-fruit tree, the cocoa tree, the betel-tree, feveral fots of pepper, cardamoms, coffee, the palm or palmyra tee, the fugartree, the tea-plant, the talipot-tree, the binyan-tree, the cotton-tree, the tickwood tree, or oak of Ceylon, nando wood, fatin-wood, calamander, manjapuneram, morinda, findric-mal, used by the natives to supply thewant of clocks, as it continues open from four in the evening till four in the morning, and remains thut during the otler twelve hours, limes, the manghas tree, the true cbony, zamboge, ambergris and coral, gum-lac, the fugar-can, the nepenthes, known among the Cinglese by the nam of Badura, the champaca, rice, corocan, which is a fmall ted, like our muftard, beat in a mortar and formed into ckes, and tanna, a prolific grain that requires hardly any culivation. But the most valuable and important of all the egetable productions of Ceylon is its cinnamon. See CINAMON.

Ceylonhas long been famous for its precius stones, of which it furnishes no lefs than 20 different forts. The ruby, topaz, and diamond of Ceylon or Matura, are not so valuable as those of Golconda or the Brazils; but he sapphire, amethyst, aquamarine, and tourmalin are equl to those of any other country. To the class of minera we may refer the diamond, the ruby, the hyacinth, garnt, cinnamon-stone, agate, amethysts, sardonyx, emerald, jaser, tourmalin, red, green, blue, and yellow, topaz, blue and geensapphire, blood stone, nephrytus, or kidney stone, white, fellow, brown, and black crystals, cat's eye, and cornelians. For the pearls of

fnakes, both poisonous, the water-snake, wood-snake, and a few other species among old ruins that are perfectly harmines. The rock-snake extends to 30 feet in length, and inhabits chiefly the rocky banks of rivers. Alligators of an immense fize infest all the rivers of Ceylon, and render plied by springs and wells in this island; see Pearl. Lead, tin, and iron ores are found in the interior, but they are never wrought to any purpose. Several mines of quickssilver were wrought by the Dutch in Ceylon. Mineral waters of various kinds are supjuiced by springs and wells in this island.

The revenue of Ceylon is an article of great importance to the British government. In 1795, the expence of Ceylon to Holland was 57,9341. fterling. But this deficiency was easily made up by the cinnamon, cardamoms, coffee, and other articles fent from the island to Europe, as well as by the profits of the pearl-fishery, and the imposts laid on the feveral articles imported into Ceylon from other parts of India. As to the fources of the revenue of the island, Capt. Percival observes, that the cinnamon and pearl fishery together produce an annual revenue of about 350,000/. sterling. All calicoes, cottons, and other Indian manufactures, must be stamped on importation into the island, and pay a duty of 5 per cent. The fisheries, the betel-nut, and the manufacture of arrack are annually farmed out to the black merchants, and the revenue derived from them amounts to at least 50,000l. per annum. From pepper, cardamoms, elepliants, ivory, precious stones, and a few other articles of native produce, fuch as cocoa-nut oil, coya-rope, &c. goverument derives an annual revenue of about 800,000%. Something is also derived from a tax imposed on the rice imported for the use of the troops. Out of this revenue the falaries of the civil officers and the pay of the troops are defrayed, as well as the other incidental expences of the island, such as the erection and repair of public works.

The natural strength of the island of Ceylon, and the few points at which it can be fafely approached, feem to promise it a great degree of security; nevertheless a considerable military establishment is necessary to protect it completely against a powerful or an enterprising enemy. The force formerly maintained by the Dutch on the island confilted of about 3000 Europeans, and 2000 Malays, Topasses, and native Cinglese. This military establishment, rarely exceeding 5000 men, was found sufficient to repel the attacks of the native princes, and from the nature of the country, of baffling the attempts of any European force that did not much exceed in number the troops stationed at any particular point. But it is not merely the defence of the island itself, that renders it necessary to maintain a powerful force here. Its fituation is fuch, that it affords the best points for stationing those troops that are destined to protect our feveral establishments in India, and to act as a constant check on the native princes. Troops may be fent to any of our possessions in the peninsula of India from Ceylon at a less expence, and in much shorter time, than from either of the prefidencies of Bombay or Madras. The smallest establishment, as Captain Percival apprehends, which can be appointed to this island, must consist of at least three European regiments, and feven or eight battalions of native troops for the garrisons of Trincomalee, Columbo, and the Point de Galle alone; without including the fort of Jafnapatam, Manaar, and the other subordinate posts round the island, which will require garrifons proportioned to their importance. The tranquillity and prosperity of the island, after it has been sufficiently secured by a proper military establishment, must depend upon the arrangement of the civil department, and the due administration of justice. Whilst it remained in subjection to the Dutch, its governor was absolute with regard to the affairs of the island, but subordinate to the governor of Batavia, who was confidered as the governor-general of all the Dutch settlements in India. The governor of Ceylon was affilled by a council, composed of the most respectable Dutch gentlemen residing at Co-

lumbo. The members of this council were nominated by the governor, and confirmed in their appointments by the government of Holland. For the administration of justice, a high court was established at Columbo, to which the ultimate decision in all capital cases belonged. At Trincomalee, Jafnapatam, and Point de Galle, there were fubordinate civil magistrates. And in all the inferior forts and stations through the island, there were petty courts called " landraeds," for the more speedy administration of justice, and matters of less importance. In these the military com-manders of the district usually presided. An appeal lay from all these inserior courts to the high court of jultice at Columbo. The whole Dutch civil establishment, independent of the military who acted as civil magistrates, was computed to amount to 450 persons, comprehending all who were anywife attached to it. According to the estimate of the Dutch, Ceylon ranked only as their eighth Indian government. For some time after the English took possession of Ceylon, the government was necessarily a military one, till the arrival of governor North, when the civil establishment took place. He abolished the office of provost-marthal, and the jurisdiction of the military courts, and reftored the civil establishment nearly to the same form which it bore under the dominion of the Dutch. He re established the supreme court of justice at Columbo, with a civil magiftrate to superintend the police of the fort, and another in the Black Town. The various officers necessary for these departments were also appointed at the same time; and fimilar regulations were adopted through the other parts of the island. The petty courts in the distant parts of the country flill continue to be prefided over by the commanding officer of the nearest post. The government of Ceylon was for some time dependent on that of Madras, but is now only fubject to that of the mother country, and entirely unconnected with the East India Company. For the conduct of military affairs, there is a military board established at Columbo, confilling of fix members felected from the commanding officers of the feveral corps stationed in Ceylon. The commander in chief of the forces in the island is prefident of this board, and the commandant of Columbo for the time being, vice-prefident. To it are attached a fecretary, clerks, &c. with fuitable falaries. Robertson's Hill. Disquisition concerning India, 8vo. 1799. Percival's Account of the Island of Ceylon, 4to. 1805. Afiatic Refearches, vol. vi.

CEYRAS, a town of France, in the department of

Herault; 7 miles E. of Lodeve.
CEYSERIAT. See CEIZERIAT.
CEYSERIEU, a town of France, in the department of the Ain, and district of Bellay; 5 miles N. of Bellay CEYSSAC, a town of France, in the department of the

Gironde, and district of Blaye; ten miles S. E. of Blaye. CEZE, a river of France, which runs into the Rhone, 2

miles W. of Caderousse.

CEZIMBRA, a small sea-port town of Portugal, seated on the Atlantic, in a hollow furrounded by fleep, rocky, naked fummits, and close to the fea; 10 miles west of Setuval. The harbour is small and badly protected; and close behind the town is an old cattle situate on a mountain and vifible to a great distance. The town is supported by the fifthery, and fends a great quantity of fifth to Lifbon. In former times, Cezimbra was more confiderable.

CEZY, a town of France, in the department of the Yonne, and diffrict of Joigny; three miles N. W. of

CHA, in Commerce, a filk fluff very thin and light, made in China, which most commonly serves the inhabitants VOL. VII.

for a fummer drefs; it is fomewhat like our taffeties, or luftrings.

CHA, in Geography, a town of China of the third rank, in the province of Fo-kien; 25 miles S.S.W. of Yen-ping.

CHAA, in Botany, Bauh. Pin. Sec THEA.

CHAA, in Ancient Geography, a town of Peloponnesus in Triphylia, towards the N.W. of Macistus. It was pretended in the time of Strabo, that it was defignated by Homer under the name of Pheia, and that it was the subject of a war between the Arcadians and Pylians.

CHAALLA, a town of Arabia Felix. Strabo. CHAALONS, in Geography. See Chalous fur Marne. CHABACA, in Ancient Geography, a town of Cappadocia, placed by Strabo in the country called Sillene.

CHABALA, a town of Albania, according to Ptolemy. CHABALON, or CHABAL, a town of Palefline, placed by Josephus S. of Tyre, and in the vicinity of

Ptolemais

CHABANOIS, in Geography, a town of France, in the department of the Charente, and chief place of a canton, in the district of Confolens; three leagues S. of it. place contains 1,444 and the canton 10,306 inhabitants. The turritory comprehends 310 kiliometres and eleven communes.

CHABANON, M. in Biography, Ci-devant member of the Mead. de Inferip. et Belles Lettres at Paris : a poet and aningemous writer on various subjects of literature and criticism. But we allowhim a place here only as a writer on music. In 1750 he published a work of considerable merit, entitled, Observations sur la misique et principalement sur la metaphysique de l'art. "Observations on music and chiefly on the metaphysics of the art." This was only the first part of his plan; but in 1785, the work came out entire, under the following title: De le musique considerée en elle même, dans ses supports avec la parde, les langues, la poese, & le theatre; "Concerning muse, considered in itself, and in its connexion with speech languages, poetry, and the theatre." In which he discovers a relined taste, nice discovering much meditation and knowledge of the subject, and an uncommon fpirit of invellgation.

Though ou fentiments are not always in tune with the opinions and nafoning of M. de Chabanon, yet there are fuch enlarged views and luminous and elegant observations in analyting the fentations which mufic excites, in affigning reasons for the pleasures which this art communicates to ears that vibrae true to mufical intervals and concordant founds, that its perufal will generate reflexions on the art, and fet the mindof a mufician at work, who had never before regarded muie but as a mere object of fenfe.

M. Chabanon as proved that mulic has its metaphyfics, as well as philosophy and languages. This work therefore requires less knowledge of practical music in the reader than a mind accustome to reflexion. The author himself fays that "he writes mre for intelligent readers, ignorant of mufic, than for muficianswho neither know how to reflect nor how to think," and we car there are fuch to be found fometimes,

even among great performers.

M. Chabanon ufornes us, that he has fludied mufic theoretically and ractically-execution and compositionhas played out of te fame books with the greatest masters of all countries; and as reflected on the subject more than 30 years. Indeed, histork feems to have been the fruit of long experience and oblivation, and fo totally independent of the variations which offic has experienced of late years, that the changes in talte lyle, and execution leave his observation

The author confines his reasoning to what he calls the most effential part of music, melody; perhaps too pertinacloufly, as mufic now can never be regarded as complete but by the union of melody and harmony. By his definition of music, he seems to regard harmony as unaccessary to its exiltence. This ingredient, fo effential in modern music, though deemed unnecessary in high antiquity, and though still unknown in three quarters of the globe, would loudly be called for in Europe, by obtule northern ears (according to Rouffeau) which want flimulants to put them in vibration, awaken attention, and excite pleafure.

When the author fays it is impossible to conceive an agreeable melody, whence a base and chords may not be deduced, we cannot entirely agree with him: for melody is fo far from always arising from harmony, that the contrary is frequently true. There are many delicate and pleafing passages in melody that cannot receive an accompaniment without injury. The Italians, whose take and feeling in music feem more refined and acute than the people of any other country, are so fensible of this, that they frequently leave a score thin rather than crowd it with notes of no other effect than to destroy the beauty and expression of the melody.

.The superiority which the author gives to melody over harmony will pleafe the extremes of ignorance and refinement; but the middle class of half-bred judges and exclusive lovers of harmony, will be feandalized at the impiety of the decision which annihilates the chief merit of their favourite ole masters, and excommunicates plalmody from good mulic, if not from

The author discusses the question, whether misse is an imitative art? and whether its original object wasimitation? but throws a doubt on its power of imitation, as well as cenfures the attempt, except in fome very few instances. Nothing so true as that fituation gives energy aid meaning to dramatic music, which taken out of its niche eems insipid or absurd. In a theatre the scenes, dress, action, and previous business, prepare the mind of an auditor and spectator for illusion, and enable it to assist the poet, composer, painter,

and performer to deceive itself.

We can subscribe to this author's opinions refinements, and metaphysics, concerning music, and allow them to be not only ingenious, but just; except when, is order perhaps to flatter his nation, he prefers French finging to Italian. While he confined himself to instrumental milic, he reasoned like a man of knowledge, tafte, and candou; but in speaking of finging, his opinions are so totally different from those of every nation in Europe, except France that we cannot help regarding them as national prejudices. "The Italians (he fays) either in fwelling their tones, or by a stronger aspiration, introduce that exaggeration in heir singing with which we are fo much displeased. I remember having heard 20 years ago Voi amanti, when first sung a Paris by Signora Piccinelli to the original Italian words, ofpleafed fo much, that the audience murmured at a mulic fo hrbarous, or at least fo different from our own; till French wods were ingeniously applied to the fame air which had fo displased before; when it foon became, by a more fober and mitiated manner, when fung by a native of Paris, fo familiar ard popular, that we began to doubt whether it could ever have been fung to Italian words." All this defence of Frech vocal expression, or rather attack of the Italian, is a proo that this ingenious author, with all his study, practice, and xperience in instrumental music, was very ill qualified to creet the public opinion concerning vocal.

M. Chabanon's book was written in he midst of the war of musical opinions between the Glucists and Piccinists. The author, who died in 1800, had hard very little good

finging, and was lefs able to judge with decision on that art than of any other mufical faculty or excellence. He is faid to have been not only an excellent judge of inftrumental composition and performance, but, among dilettanti, to have ranked high as a performer on the violin.

CHABAQUIDDICK Ifle, in Geography, an ifle of America, belonging to Duke's county in the Massachusetts. It lies near to, and extends across the east end of Martha's

CHABEIUL, or CHABEUIL, a town of France, in the department of the Drome, and chief place of a canton, in the district of Valence; 2 leagues S.E. of Valence. The place contains 4,050, and the canton 11,107 inhabitants; the territory includes 285 kiliometres, and 12 communes.

CHABERIS, or CHABERUS, in Ancient Geography, a river of India, in the peninfula on this fide of the Ganges, according to Ptolemy; which discharged itself by a great number of branches into the fea on the eaftern fide, N. of the promontory of Calligicum, and near it. See CAVERY.

CHABERIS, Caveri-Patnam, a town of India, in the eaftern part of the peninfula, on this fide of the Ganges, and at the northern mouth of the river of the same name, ac-

cording to Ptolemy.

CHABINUS, a mountain wholly covered with wood, according to Diodorus Siculus, who places it in Arabia Felix, upon the coast of the Red Sea.

CHABIS, in Geography, a town of Persia, in the province of Kerman, at the edge of a defert, on the confines of Segestan; 115 miles N. of Sirgian.

CHABLAIS, duchy of, a province of Savoy, which firetches along the fouthern bank of the lake of Geneva, as far as the Valais, which bounds it on the east; on the fouth it is bounded by Faucigny; and on the west by the republic of Geneva. The country, though mountainous, exhibits a delightful variety of fields, meadows, vineyards, and woods, and is well cultivated and populous. Its capital is Thonon.

CHABLASII, in Ancient Geography, a people of Arabia Felix, who inhabited a district in the vicinity of the Naba-

CHABLEAU, a middle-fized rope for tracking and drawing bateaux up rivers. It is impossible to row large boats loaded with provisions, &c. up violent rapids, fuch as those of the river St. Laurence above Montreal, or to take them up, indeed, with fetting poles. Each bateau, therefore, employed in carrying provitions, ammunition, &c. from La Chine, about 12 miles higher up that river than Montreal, to the upper posts, has a rope fastened to its bow. And as it is extremely difficult for the crew of one boat to take her up some of the rapids with the affiliance both of the rope and fetting-poles, the bateaux, when loaded, generally fart from that place in divisions or brigades, and when they reach the foot of a bad rapid, the crews of two or three of them join together, and first take up one of them, then another, and fo on.

CHABLER, to fasten a heavy parcel, bundle, burthen, or weight to a rope, in order to haul and raife it up, as they

do in store-houses and work-houses.

CHABLIS, in Geography, a town of France, in the department of the Yonne, and chief place of a canton, in the district of Auxerre, celebrated for its excellent white wine; 3 leagues E. of Auxerre. The place contains 2223, and the canton 7736 inhabitants: the territory includes 1821 kiliometres, and 13 c. mmunes.

CHABNAM, or Rosee, in Commerce, a kind of muslin or cotton linen, very clear and fine: it comes from the Eath

Indies, particularly from Bengal.

CHABNO,

CHABNO, in Geography, a town of Poland, in the pala- that Beard and Lew hardly ever escaped being called upon tinate of Volhynia; 68 miles N.E. of Zytomiers.

CHABON, or CHEBBON, in Ancient Geography, a town of Palestine, so called by Eusebius and Jerom, who place it

in the tribe of Juda. CHABONS, in Geography, a town of France, in the department of the Isere, and district of La Tour-du-Pin; 30 miles S.E. of Lyons.

CHABOR, or CHABORA, in Ancient Geography, a strong place of Afia, in Mesopotamia, fituated at the confluence of

the Chabor and Euphrates, according to Ptolemy.

CHABOR, Or CHABORAS, Khabour, a river of Afia, in Mesopotamia, springing, according to Ptolemy, from mount Mafius. It ran towards the S.W., paffed near the town of Anemusia, and discharged itself into the Euphrates, in the strait on which were fituated the towns of Chabor and Cercafium. Julian is faid to have croffed this river on a bridge of bosts. Strabo and Ammiacus Marcelliaus cail this river Aborras. See Aborras.

CHABORA, a town of Mesopotamia, placed by Pto-

lemy near the Euphrates.

CHABORAS, a mountain of Affyria, which, according

to Ptolemy, lay on the borders of Media.

CHABOT, in Ichthyology, the common French name of the fmall fish, vaguely called by the English fishermen the miller's thumb. See Corres golio.

CHABOTTES, in Geography, a town of France, in the department of the Higher Alps, and diltrict of Gap; 7

miles N. of Gap.

CHABRIA, a town of Persia, 60 miles N.E. of Astera-

CHABRILLAND, a town of France, in the department of the Drôme, and diffrict of Creft; 3 miles W. of

CHABRIS, a town of France, in the department of the Indre, and district of Isloudun; 71 leagues N.N.W. of Isfoudun.

CHABRIUS, in Ancient Geography, a river of Macedonia, which had its fource in mount Bertifeus, ran towards the fouth, watered the town of Anthemusia, and discharged itself into the sea. Ptolemy.

CHABURA, a fountain of Asia in Mesopotamia, mentioned by Paulanias, Athenœus, and Pliny; the latter of whom fays that its waters were naturally perfumed.

CHACA-HAMAR, in Geography, a town of Chinese

Tartary. N. lat. 44° 50'. E long. 92° 37'. . CHACAL, in Zoology, the French name of the animal we denominate jackal, canis mesomelas, Linn. Busson calls it chacal, and likewife calls the canis nureus of Schreber and Gmel. chasal adive.

CHACAMEL, in Ornithology, the name given by Buffon to the crying curaffaw, crax vociferans, Gmel. It is also called chachalacametl in the Hift. New Spain. Fernand.

CHACANGA, in Geography. See CHICANGA.

CHACA-TERGASO, a town of Afia, in the country of Tribet. 42 miles N.N.E. of Tchouteri.

CHACAO, a port town of South America, in the island

of Chiloe, where the governor ulually refides.

CHACE. See CHASE.

CHACE, La Chaffe, French, Alla Caccia, Ital. in Mufic, 'all equally imply a hunting-piece, or movement, in which the French Loru, feale, and thyle chiefly prevail. "With 'early horn," an admirable fong in the hunting flyle. accompanied by the French horn, composed by Gallard for a pantomine entertainment at Covent Garden, 60 years age,

every night, for a long time, to fing it at the theatres between the acts, or in the play and farce. One of the most animated and pleasing of Haydn's symphonies is called "La Chasse." Schobert, Kotzeluch, Clementi, Dussec, Steibelt, Cramer, and other great players and eminent compofers for the harpfichord and piano forte, have feverally published a chasse that has never failed to please whenever well played. See Russian Music.

In the "Almanac de Gotha" for 1772, there is an abridged history of music in Russia, well drawn up, and allowed by the natives themselves to be authentic. In this fketch of mufical history we have an account of a band which attends fome of the grandees of that empire in the chafe of fo extraordinary a kind, that it was long regarded as fabulous by the rest of Europe, till the late coronation of the present emperor Alexander, at Moscow, at which splendid solemnity many of our countrymen were present, who have fent and brought hither a description of the extraordinary performance of this band, which exactly tallies with, and confirms that in the Gotha almanac 30 years ago. We shall, therefore, under the prefent article on the music of the chase, give our readers, in our own language, a translation of this part of the hiltory of Russian music.

"The lovers of the chale in Ruffia formerly knew no other mufical instrument than an ordinary brazen horn of a

strait conical form, a little curved.

"These clumfy and ill-shaped horns in themselves resembled each other in length and caliber, and, confequently, produced the fame tone in tuning them together. It was not music which they produced, but a kind of frightful scream, fit at best but to terrify and start game. The grand vizier, Nariskin, undertook to reform this music, or, at least, to render its effects less barbarous. With this view, he applied to one of the huntimen of the court, named Marælch, a name which ought to be recorded in the history of music. This inventive spirit began by having 37 horns made of the fame kind, but of different length and diameter; fo that by each producing a different tone, he acquired a feries of founds, extending to three complete octaves. These 37 horns were diffributed to as many young men of the hunt, who were taught to blow them in such a manner as to produce the clearest and sweetest tone possible. After this, they were taught musical measures, and to count the time not only of founds but of filence, fo as to know precifely when the tone of their inftrument would be wanted, and for what duration, in proportion to the measure of the air or piece of mufic that was to be executed. This was certainly the most difficult part of the task; but the Ruffians accultomed to discipline and obedience, and manifesting docility, and a difposition for so pleasing an art, by a little patience on the part of the mafter, and great perfeverance in the pupils, the undertaking was crowned with fuccess. The rest was the bufinels of the compoler, who distributed the feveral parts to the performers of each note, with the rells in whole bars and fractions, which they had to count between every two notes in their port. From this fingular invention, in a fhort time, these young chasseurs were able to perform whatever was put before them, and they are at prefent in fuch high practice, that they play marches, airs, entire fymphonies, with their allegros, andantes, and preftos, executing with altonishing precision the most difficult compositions, crowded with femiguavers, and even demi-femiguavers, During performance every one holds a paper in his hand, on which the notes, or rather the repetition of the fingle tone of his inflrument is marked, as well as the refts which was in fuch favour during the middle of the hall century, he has to count, in order to be ready at the inflant his tone is wanted, either loud or foft, fhort or long, according to the pleasure of the author.

"The ear of the auditor is so deceived, that he imagines passages to be played by one instrument, which, if no one note is repeated, is performed by as many different instru-

ments as there are notes in the melody.

"This mufic has the most allonishing effect, particularly in the open air, where it has room to expand without the vibration being reflected back by the echoes which these sources inframents excite. The effect is at once grand, majetic, and pleasing: indeed, it is impossible to form an accurate idea of it without hearing it. Twenty-four or thirty common French-horns may, perhaps, if united, something approach to the same effect; but always of an inferior kind to the association and vibration of such full and round tones, by the undulation and vibration of such full and round tones, which no one instrument can produce in succession with that equal force, at once alsonishes the ear and the heaver."

on the Neva, where it generally precedes the barges of the court; and we have been affired by good judges of music with nice cars, that they have not discovered, till they were told, how this music was produced: and that, as in a bestry, where no ringer has more than one best or note to his share, so here a man's whole life is devoted to one and the same

found or note.

CHACE of a gun. See CANNON.

Chace, order of, or grand order of Wartenburg, was inftituted by Eberard Lewis, Duke of Wartenburg, in 1702, in allufion to his being grand hundriman of the empire. The entign is a crofs of gold of eight points, enamelled red, with an eagle difplayed, and bugle horns. On the centre is the letter W, and over, a ducal hat of the empire. The crofs is worn pendent to a fearlet ribbon, from the left floulder to the right fide: on the left breaft of the coat is a filver flar, and the motto in a green circle is "Amicitiae virtutifque facdus."

CHACE, in Geography, a town of France, in the department of the Mayne and Loire, and diffrist of Saumur; one league S, of Saumur.

CHACHALACAMETL, in Ornithology. See CHACA-

MEL and CRAX vociferans.

CHACHAPOYAS, in Geography, a jurifdiction of South America, in Peru, in the diocefe of Truxillo. As it lies without the Cordilleras, its temperature is hot, and towards the east its territories have a low fituation. It is of great extent and thirdy inhabited; and the products of the earth are only fuch as naturally flourish in fuch a climate. The Indians here are very ingenious in making cottons, particularly tapeflry, which, by the liveliness of the colours, and debiacy of the work, exhibit an elegant appearance; these together with the fail-cloth, yield great profits to the country, as they are highly valued in the other provinces.

CHACING. See CHASING.

CHACK, in the Manage, is taken in the fame fense as beat upon the hand; it is applied to a horse when his head is not steady; but he tasses up his nose, and shakes it all of a sudden, to avoid the subjection of the bridle. Turkish horses have this fault frequently. We say, they beat upon the hand; and neither the belt bits, nor the belt hand, can ever fix their heads. Croats, or Croatian horses, are also subject to beat upon the hand; which proceeds from this, that the bars are too sharp and ridged, or edged, so that they cannot bear the pressure of a bit, though ever so gently. If a horse had not too sensible, or too tender a mouth, he would not beat upon the hand: but in order to fix and secure his head, you need only put under his nose-band a

fmall flat band of iron, bent archwife, which answers to a martingale. This will hinder him to beat upon the hard, but will not break him of the habit; for as soon as the martingale is taken off, he will fall into the same vice

CHACO, Lt., in Geography, a province of South America, in the country of Buenos Ayres, reckoned 200 leagues in length, and 125 broad, on the welf fide of the river La Plata, and bounded on the east by a chain of mountains: it is in-

habited by Indian nations that are little known.

CHACONNE, French, a ferious and splendid dance to music formerly written on a ground base; but that referaint has of late been given up. The measure, however, is invariably that of 2, and there are frequent returns to the subject or first frain, after episodes and excursions into new modulations and thytes.

The word is formed of the Spanish chacona, which may probably be deried from the Persian flack, a king, thus intimating, that this might have been a royal dance; not, as others pretend, from the Italian Cecene, a blind man, the

invento

CHACRELAS, the name of a race of people, according to Buffon, who, like the Bedas of Ceylon, are of a white colour, and inhabit the island of Java. Similar to thefe are the white Indians of the illhmus of Darien, and the white negroes of Africa. Some have supposed that these people form a diffinet race, inhabiting the ifthmus of Darien, the negro country, and the ifland of Ceylon, all which are under the fame parallel. Others imagine, that they are individuals who have accidentally degenerated from their original flock. To this last opinion Buffon inclines. The production of whites by negro parents, he fays, which fomeof the French Academy we have descriptions of two of these white negroes; and Buffon adds, that they are very frequent among the negroes of Africa. This variation of nature, which is a fingular circumflance, takes place from black to white only, and not vice verfa: and it is no lefs fingular, that all the people in the East Indies, in Africa, and America, where these white men appear, are under the same

CHACTAW Itills, in Geography, hills of America,

thate in the N.W. corner of Georgia river.

CHACTAWS, or Flat-heads, a powerful, hardy, fubtle, and of hilly country, interfected with large and fertile plains, between the Alabama and Missisppi rivers, and in the western part of the state of Georgia, in America. To this nation bedivitions, containing 12,123 inhabitants, of which 4,041, or, as Flat-heads; all the males having the fore and hind part of their skulls flattened when young. These men, unlike the Muscogulges, are slovenly and negligent in every part of their drefs; but they are faid to be ingenious, ferfible, and virtuous men; bold and intrepid, and yet quiet and peaceable. Some late travellers, however, have observed, that they pay little attention to the most necessary rules of moral conduct; or at leaft, that unnatural crimes are too frequent among them. Different from most of the Indians bordering on the United States, they have large plantations, or country farms, in which they employ most of their time in agricultural improvements, after the manner of the white people. Although their territories are not one-fourth fo large as those of the Muscogulge confederacy, the number of inhabitants is greater. The Chactaws and Creeks are inveterate enemies to each other.

CHADACA,

CHADACA, in Ancient Geography, a town of Albania, placed by Ptolemy, between the Albanus and the Cassius. CHADÆI, a people who inhabited the eastern part

of Arabia Felix, according to Pliny. CHADAGHI, in Geography, a town of Persia, in the province of Farfittan, five miles W. of Schiras.

CHADARA, in Botany. Forsk. See GREWIA popu-

CHADBOURNE'S river, in Geography, ariver of America, in the diltrict of Maine, called by some Great Works river, about 30 miles from the mouth of the Bonnebeag pond, from which it flows. It is faid to have derived its latter name from a mill with 18 faws moved by one wheel, erected by one Lodors; but the project was foon laid afide. The former name is derived from Mr. Chadbourne, one of the first fettlers, who purchased the land at the mouth of it, of the natives, and whose posterity possess it at this day.

CHADCHOD, in Jewish Antiquity. Ezekiel mentions chacehod among the feveral merchandizes which were brought to Tyre. The old interpreters, not very well knowing the meaning of this term, continued it in their translation. St. Jerom acknowledges that he could not difcover the fignification of it. The Chaldee interprets it pearls; others think that the onyx, ruby, carbuncle, crystal, or diamond, is meant by it. Ezek. chap. xxvii. ver. 16.

Calmet. Dict. Bibl. in voc.

CHADDEIR, in Ornithology, a name given by the French

to the MEROPS ÆGYPTIUS.

CHADER, in Geography, an island of Asia, formed by a river which runs from the Euphrates to the Persian gulf, and extends from Baffora nearly to El Catif, 240 miles long, and 30 wide.

CHADISIA, in Ancient Geography, a river of Cappadocia, which runs between the town of Amilus and the river Lycalte.

CHADRAMOTITÆ, or Cathramotæ, (Ptol.) a pcople of Arabia Felix, who inhabited the fouthern coalt oppolite to the Indian ocean, near the strait in which the river . Prion discharges itself.

CHEANOITE, a people mentioned by Strabo, and

placed in Afintic Sarmatia.

CHÆDENI, a people placed by Ptolemy in Scandi-

CHALA Cancrorum. See CRAB's claws.

CHÆMÆ, in Ancient Geography, a people of Germany, who inhabited the diffriers near the river Amafius, according to Ptolemy.

CHÆNIDES, a people of Afiatic Sarmatia, according to Ptolemy; supposed to be the same with the Chwanoitæ of Strabo.

CHÆRCELA, a town of Africa, in Cyrenaica.

CHÆRETAPA, a town of Afia Minor, in Phrygia. CHEROPHYLLO similis, in Botany, Bauh. pin. See

CHEROPHYLLUM, (from xusper, rejoicing; and Curλos, leaf; alluding to the luxuriance and beauty of its leaves.) Linu. gen. 358. Schreb. 490. Juff. p. 220. Clafs and order, pentandria digynia. Nat. Ord. Umbellata, Linn.

Umbellifera, Juff. Vent.

Gen. Char. Cal. Umbel univerful spreading; partial nearly equal in the number of its rays. Invol. univerful generally none; partial five-leaved or more; leaflets lanceulate, concave, reflexed, about the length of the partial umbel. Perianth profer scarcely discernible. Cor. univer-fal nearly uniform; florets of the disk often abortive. Profer, petals five, inflexed, heart-shaped, with an inflexed point, flattish; outer ones a little larger. Stam. Filaments five, simple, the length of the little umbel; anthers roundilli.

Pift. Germ inferior; flyles two, reflexed; fligmas obtufe. Peric. none. Fruit oblong, acuminate, even; divisible into two. Seeds two, oblong, attenuated upwards, convex on one lide, flat on the other.

Eff. Ch. Involucre reflexed, concave. Petals inflexed,

heart-shaped. Fruit oblong, even.

Sp. 1. C. fylvestre, smooth cow-parsley, or wild chervil. Linn. Sp. Pl. 1. Mart. 1. Willd. 1. Lam. S. Jacq. Auft. tab. 149. Curt. Flor. Lond. tab. 25. Eng. bot. tab. 752. (C. fylvestre perenne, cicutæ folio; Tourn. Iust. 314. Cerefolium; Hali, helv. n. 748. Riv. tab. 43. Myrrhis fylveitris, feminibus lævibus; Bauh. pin. Cicutaria vulgaris; Dod. pempt. 701. Bauh. hift. 3. p. 181. Rai Syn. 207.) " Stem ftriated, flightly swelling below the joints." Root perennial, spindle-shaped, slightly milky, but little branched. Stem about three feet high, erect, branched, leafy, round, downy towards the bottom, almost always void of pubescence above. Leaves triply pinnated, deeply cut, rough at the edge, petioles short, dilated, ribbed. Flowers whitish ; umbels erect, terminal; leaves of the partial involucre egg-shaped, membranous, fringed with thick-fet white hairs; petals more or less emarginate, rarely entire. Fruit oblong, somewhat elliptical, roundish, very slightly striated, quite smooth. Common in meadows and pattures in most parts of Europe; flowering in April. The whole herb has a fweetish carrotlike smell and taste; and is eaten by domestic cattle. Dr. Smith. John Bauhin mentions instances of two families having been poisoned by eating a small quantity of the root; and a few years fince there was an account in the public papers of a fimilar difafter with respect to some children in the neighbourhood of Chester. 2. C. bulbasum, Linn. Sp. Pl. 2. Mart. 2. Lam. 4. Wilid. 2. (Myrrhis; Hall. helv. 752. Pluk, tab. 206. fig. 2. Barrel. Ic. 555. Cicutaria bulbola; Bauli. pin. 161. Scandix bulbofa; Roth. germ. 1, 123. 2, 318.) "Stem even, fwelling at the joints, rough, with hairs at the base." Root biennial, sleshy, succulent, of a pleafant talle. Stem fix feet high, marked with reddiffibrown spots. Leaves triply pinnated, deeply cut, the upper furface smooth, the petioles and midrib heset with scattered white hairs underneath. Umbels small, terminal; leaslets of the partial involucre awl-shaped, unequal, a little united at the base. Petals white, inversely heart-shaped, unequal. Some of the florets of the disc abortive. Seeds flightly friated. A native of hedges and wood fides in France, Switzerland, Hungary, and Norway; flowering in June and July. The roots taken up early in the fping are caten boiled with oil, falt, and vinegar. Gmelin afferts that both these and the seeds occasion vertigoes; but this is probably in a more advanced time of the fummer. 3. C. ariflatum, Murray Syft. 288. Willd. 3. Thunb. jap. 119. "Stem even, fwelling at the joints; feeds rough with hairs, twoawned." Sam round, ilriated, smooth, crect. Lauves twice pinnated, villous; flieaths of the petioles ciliated. Umlels terminal, compound; general and partial involucres awifhaped, reflexed. Seeds oblong, awned with the divaricated flyles, rough with white hairs. Thunb. 4. C. temulum, rough cow parfley, or rough chervil. Linn. Sp. Pl. 3. Mart. 4. Willd. 4. Lam. 9. Curt. Flor. Lond. tab. 24. Jacq. Flor. Aust. tab. 65. Eng. bot. tab. 1521. (C. sylvestre; Bauh. pin. 152. Mysthis; Hall. helv. 750. Riv. tab. 68. M. annua femine striato levi; Morsf. Umb. 44. Tourn. Inst. 315.) "Stem rugged, joints swelling." Root biennial, spindle-shaped, often divided. Stem about three feet ligh, erect, branched, leafy, round, theatly furrowed, marked with purple spots. Leaves flightly narry, twice pinneted, pinnatifid and lobed, pale underneath. Umbels drooping before the opening of the flowers; rays rough. Flowers

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white; petals irregular, deeply cloven. Fruit flightly ftriated, quite smooth. A native of hedges in England and other parts of Europe, flowering in June and July. The whole plant has a fweetish aromatic taste, and is eaten by cattle. Dr. Smith. Its trivial name is derived from its supposed narcotic or inebriating quality. Linnaus, and numerous authors after him, have spelt it temulum; but as there is no fuch Latin word, Dr. Smith has very properly changed it into temulentum. 5. C. capenfe, Willd. 5. Thunb. prod. 51. "Stem even, equal; feeds furrowed; leaflets trifid, smooth." A native of the Cape of Good Hope. 6. C. feabrum, Mart. 9. Willd. 6. Thunh. jap. 119. (Jainma Ninfin; Kampf. amen. p. 882.) "Stem equal; leaflets gashed, acute, rough with hairs ; peduncles scabrous." , Root fibrous. Stem a foot high, fomewhat zigzag, erect, angular, striated, smooth near the bottom, hairy above; branches alternate, spreading, lomewhat fastigiate. Leaves twicepinnated. Umbels terminal. Seeds ovate-oblong. It differs from the following in having fmaller and more divided leairom the following in naving insider and more divided leaflets, fleaths not dilated, and finaller umbels. 7. C. hirfurum, Linn. Sp. Pl. 5. Mart. 5. Willd. 7. Jacq. Flor. Ault. tab. 148. (C. paluftre; β. Lam. 3. Myrrhis; Hall. helv. n. 751. Riv. pent. 50. Cicutaria paluftris latifolia; Bauh. pin. 161. Cerefolium; Morif. hift. 3. tab. 10. fig. 6.) "Stem equal; leastets gathed, acute; fruit two-awned." Root perennial. Stem round, very rough, with rigid hairs. Leaves thrice pinnated or pinnatifid. Umbel convex, nodding before it flowers. Flowers white, not radiate; many of them barren. Fruit formewhat cylindrical, flightly striated; awns ftraight, bluntish, more rigid than in C. aromaticum. A native of Switzerland, Germany, and Carniola; cultivated by Mr. Miller in 1768. S. C. aromaticum, Linn. Sp. Pl. 6. Mart. 6. Willd. 8. Lam. 2. Jacq. Auft. tab. 150. (Myrrhis orientalis angelicæ folio; Tourn. Cor. 22. M. fol. podægriæ; Riv. pent. tab. 53. Angelica; Bauh. pin. 156. n. 4. Cerefolium; Bocc. Mul. 2. tab. 19.) "Stem equal; leastets heart-shaped, serrated; fruit two-awned." Root perennial, aromatic. Stem about two feet high, branched, reddish, beset with diffant hairs. Leaves twice pinnated; petioles hairy. Umbels terminal. Flowers white, frall, not radiate, many of them barren; leaflets of the partial involuere from feven to nine, lanceolate, reflexed. A native of Lusatia, Silesia, Austria, and the Levant; cultivated by Mr. Miller in 1758. 9. C. aureum, Linn. Sp. Pl. 4. Mart. 4. Lam. 5. Willd. 10. Jacq. Aust. tab. 94. (Cerefolium; Hall, helv. n. 749. Myrrhis minor; Bauh. p. 160.) "Stem equal; leaslets gashed; seeds furrowed, coloured, awnless." Root perennial, thick, branched. Stems two or three feet high, angular, striated, spotted, hairy near the bottom, not hollow. Leaves swice planated, pale, fmooth above, hairy underneath; leaflets gashed, acute, upper ones confluent. Flowers white, externally reddiff. Fruit fpindle-shaped. Seeds yellow, with four obtule remote furrows. A native of Germany and Switzerland. 10. C. coloratum, Lian. Mant. 57. Mart. 7. Lam. 6. Willd. 9. Jacq. hort. tab. 51. (Myrrhis; Morif. 3. tab. 10. fig. 6. Pluk. tab. 100. fig. 5.) "Stem equal; leaves thrice pinnated; partial involucres coloured." Root perennial. Stem a foot and half high, cylindrical, firiated, hairy towards the bottom. Leaves thinly befet with hairs; petiole dilated, membranous. Flowers yellow, in loofe umbels; partial umbels fmall; leaflets of the partial involucre fix or feven, oval-acu pinate, yellowith as in the bupleurums, the length of the pedicels. Fruit as in the preceding species, but more finely striated. A native of Illyria. 11. C. arboreseeu, Lian. Sp. Pl. 7. Mart. 10. Lam. 7. Willd. 11. (Cicuta arbor virginiana; Rai Supp. a nichitant men brane; gill membrane, with from three to like 257. Pluk, mant. 49.) "Shrubby." Stem woody. Leaves rays. Eody broad, compressed, tealy, and generally face-

refembling those of C. sylvestris, large, triply pinnate: pinnules expanding, smooth, gashed and toothed; umbels small. Flowers white, all fertile. A native of Virginia.

Obf. In this, as in all other very natural families, authors differ very much from each other in the formation of genera. La Marck unites the charophyllum and feandix of Linnæus, and afferts that they make a well-defined genus, which ought by no means to be broken; and which has for its effential character; fruit flender, clongated like the beak of a bird, either even or ftriated, smooth or hairy. Ventenat, on the other hand, has diffributed the species into three genera. T. Chærophyllum, including chærophyllum fylvettre; with feandix cerefolium, nodofa and anthrifeus of Linnæn., with the following generic character. Cal. entire. Cor. Petals heart-shaped or emarginate, unequal. Fruit cylindrical, awl-shaped, smooth, either smooth or rough with hairs. 2. Myrrhis, a name revived from the old botanitis, including feandix odorata, with charophyllum hirlatum, aureum, bulbofum, temulum, aromaticum, and coloratum; under the following character; fruit oblong, attenuated at the fummit into a short point, either even or surrowed, fmooth or hairy. 3. Scandix, including feandix pecten, authralis and grandiflora, with the following character; feuit terminated by a long point, finely firiated, either fmooth or rough with hairs. Gærtner had before made the fame division, and had founded his generic characters on the comparative length of the nucleus and the whole feed. According to him the nucleus of feardix is feareely a quarter of the length of the feed, charophyllum three quarters, and myrrhis the whole length. Under the firit he figured the fruit of scandix pecten; under the second, of feandix cerefolium; and under the third, of feandix odorata, chærophyllum aureum, C. temulum, and fifon canadense. See SCANDIX.

CHÆRUS, in Ichthyology, a name given by Strabo and other old writers to the Caprilcus or goat-fift of later wri-

ters. See Balistes monoceros.

CHATA, in Ancient Geography, a people placed by Ptolemy in Scythia, on the other fide of the Imaus.

CHÆTANTHERA, in Botany, Bosc. Nouv. Dict. Flor. Peruv. pl. 23. Class and order, syngenesia polygania

Gen. Ch. Cal. common, many-leaved; outer leaslets lanceolate, ciliated; intermediate ones linear, ciliated at the funmit; inner ones linear, fearious, sphacellated, terminated by a briftle. Receptacle naked. Seeds oval; down

capillary. There are two species, natives of Peru. CHÆTIA, in Zoology. This is the name under which Dr. Hill describes that kind of intestinal vermes, which the English call Hair-worm. Vide Hill, Hist. Anim. p. 14. It is a species of Gordius, the feta of Müller, and aquaticus

of Linnæus. See Gordius aquaticus.

CHATOCRATER, in Botany, (from xxxxn, the mane of a horse, and upoing, a cup.) Bosc. Nouv. Diet. Flor. Peruv. pl. 35. Class and order, decaudria monogynia.

Gen. Ch. Cal. perianth bell-shaped, with five oval fegments. Cor. none; a wide tube farrounding the germ, crowned by ten brittles. Stam. filaments ten, alternately shorter, inscreed into the edge of the tube. Pil. germ superior, trigonous; thyle thort; tigmas three, capitate. Peric. capfule three-celled. A tree, native of Pera.

CHATODON, in Ichthyclogy, a genus of Thoracic fifthes. The head is finall; mouths finall; lips tetractile; teeth numerous, clofe fet, equal, fetaceous, fexile, and moveable; eyes round, finall, vertical, and lumified with

ated: dorfal and anal fin thick, fleshy, fealy, and com-

monly spinous.

The fishes of this numerous genus are, with very few exceptions, extremely beautiful, their colours remarkably vivid, and their variegations confifting generally of ffripes, lines, bends, or spots; their body covered with strong feales, which are finely denticulated at the margin; and the dorfal and anal fin remarkably broad.

CHETODON aureus, I.a Bandoulière dorée, of French writers, and Golden Chatodon of the English, is one of the most brilliant species of this genus. The colour is golden yellow, with a fpine near the check bone. Bloch. Gmel.

This beautiful fifth was figured by Bloch from one of Plumier's drawings, as an inhabitant of the Antilles. The body is oval, and except the pectoral and ventral fin, the whole is covered with scales. The colour of the body is fine golden yellow; the fins are yellow at the base, and green at the extremity; the pectoral and caudal fins are both rounded, the rest falcated. The pectoral fin contains twelve rays; ventral fix; anal nineteen, caudal fifteen, and dorial thirty-fix. Length of this fish about twelve or four-

CHETODON imperator. Yellow, with numerous longitudinal streaks, and about fourteen dorsal spines. C. Imperator, longitudinaliter striatus, aculeis dorfalibus 14. Bloch. L'empereur du Japan, & la couronne, ib. Ruysch, &c.

The head of this fish is large, the iris golden, and partly furrounded by a blue arch; mouth finall, with the lips large, and the jaws equal; gill membrane of two parts marked with a blue streak; lateral line near the back, and bending down at the end of the dorfal fin. This is a most splendid fish, about the same length, or rather larger than C. aureus, and has the body also of an oval form. It is a native of Japan, where, according to Ruysch and Renard, it is in high esteem as an arricle of food, and is said to be richer and superior in flavour to the salmon, called, by the last writers, der Kaifer von Japan.
CHETODON fafciatus. Body fasciated; abdomen armed

with seven spines. Bloch. La Bandoulière rayée, ib. Chetodon Dux, Gmel. Ikan fengadji molukko, Valent. Douwing batard d'Haroke, et Chietfevisch, Renard. Fasciated

Chatodon.

First described by Valentyn, who informs us the Dutch in India call it Moluksche Hertog. The body is whitish with a filvery hue, rather dufky on the back; and is barred across with nine broad bands of deep blue, each of which is margined on both fides with a narrow streak of brown; the dorfal fin is edged with a blue stripe, and the anal fin marked posteriorly with four nearly equi-distant lines of the fame colour. The iris is white; mouth narrow; jaws equal; gill-cover of one piece; lateral line near the back, and bending at the end of the dorfal fin: pectoral fin short, pellucid and rounded. The dorfal fin contains about thirtyfeven rays, the first fourteen of which are spinous. This inhabits the Indian feas.

CHETODON guttatus. Body spotted; ventral spines two. Bloch. Gmel. &c. The body is long, narrow, covered with minute scales, above cinercous, beneath white, and spotted with tawny. The eyes are large and round, with dufky yellow iris; mouth large; jaws equal; gill-cover of one thin long piece; fins deflitute of feales, with the rays branched; pectoral fin yellow-brown; dorfal and anal cinereous; tail yellow, with cinereous spots. The dorfal fin contains thirty-feven rays; pectoral fifteen; ventral feven; anal twenty-three; and the tail fixteen. This fpecies inhabits Japan, and was first described by Bloch.

CHETODON paru. Dorfal spines ten, anal five. Bloch. Gmel. Paru, Marcg. La Bandoulière Noire, Bloch.

This fish inhabits South America, where it subsists on fmaller fishes, insects, and other aquatic animals; it is found throughout Brafil, and in Jamaica. The body is black, but at the fides grey, and the edge of each feale is large and edged with yellow. The eyes are fmall, with golden irides; lower jaw longest; gill cover of two pieces terminating downwards in a spine, and covering the membrane; vent in the middle of the body; pectoral and tailfins fliort, rounded; the rest long, and falcated; before the pectoral fin a yellow spot. Described by Marcgrave as being from nine to ten inches long, but according to the manuscripts and drawings of Prince Maurice preserved in the royal library at Berlin, the length is more than fixteen

CHETODON pavo. Dorfal spines sourteen: body oblong. Bloch, Gmel. &c.

The head large, and with the breast yellow-brown, spotted with blue and marked near the gills with blue lines; iris greenish-white; mouth small; gill cover of one piece, the membrane loofe; lateral line parallel with the back, and interrupted at the end of the dorsal fin: vent in the middle of the body; rays of the fin branched. This species is deferibed by Bloch as a native of the East Indies, probably. from a drawing, as he observes he is unable to determine its fize; he adds that it is of the number of carnivorous fishes, and that the display of beautiful colours which pervade it induced him to name it paon de l'Inde, Indian Peacock Chætodon.

CHETODON vespertilio. Dorsal and anal fin broad; band

on the tail black. Gmel. &c.

This species inhabits India. The body is cinereous, beneath paler, very thin, and covered with minute scales .. The head is destitute of scales; iris filvery and yellowish; mouth small; lips thick; gill-covers of two pieces; lateral line arched; fins cinereous, with branched rays; fealy part of the dorsal and anal fins yellowish. This species is in particular diftinguished by the extreme length and breadth of the dorfal and anal fin, both which are of a somewhat triangular shape, and nearly equal the body in point of fize; the depth from the opposite tips of the dorfal and anal fins is about fix inches and a half, but that of the body from the front of the head to the extremity of the tail four inches. Supposed to be the sea-bat of Willughby. The French call it, la Bandoulière à larges nageoires.

CHETODON unimaculatus. On each fide, near the back, an oval black spot; dorsal spines about thirteen. Chatodon unimaculatus, Gmel. Bloch, &c. A native of India; the body is of a roundish ovate form; the colour greyish-white, with transverse brown lines; back cincreous; scales large; over the eye is a black band; jaws equal; lateral line parallel with the back, and nearly approaching it; fins yellowish; tail brown at the base. The dorsal fin contains about forty-eight rays; pectoral four, ventral fix, anal thirty-fix, and caudal fixteen. La Bandoulière à tache.

CHÆTODON marginatus. Fins margined and pointed; dorfal spines about twelve. Gmel. Bloch, &c. La Bandoulière bordée, ibid.

Inhabits the gravelly shores of the Caribbee islands near the mouths of the rivers. The body is yellow; head and lower parts whitish, with eight pale brown bands: scales large. The eyes are oblong, with filvery irides; vent nearest the tail; fins without scales, and with the rays branched, yellow on the anterior, and cinereous on the

posterior

posterior part; tail forked and entirely yellow. Flesh good.

CHETODON macrolepidetus. Tail entire; dorfal spines eleven, the fourth filiform, and very long, Gmel. Bandoulière à larges écailles, Bloch, &c. Ican-Pampus and Tereloc,

Valent, &c.

. This species inhabits the East Indies, where it grows to a confiderable fize. Renard affures us it is found in the ifle of Hila, not far from Amboyna, of the weight of twenty or twenty-five pounds. According to Volentyn the flesh is fat, and of a very good flavour, refembling that of the fole. The body is filvery, with two brown bands, and coated with line is arched; vent fituated near the middle of the body; tail truncated. The dorfal fin contains cleven fpiny, and about thirty-four foft rays; pectoral fixteen; ventral feven; anal twenty-feven; tail fixteen.

CHATODON teira. Body with three black bands; dorfal and anal fins very long, Bloch, Gmel. &c. Chatodon, corpore rhombeo fuscescente, fascia transversa duplici obscuriori; pinnis ventralibus, ani et caudæ falcatis corpore longioribus, Forsk. Breedvinnige klipvifch, Mus. Schwenck. Ikan-Kamling, Valent. Cambing, Renard. Zeelotje, Ruyfeh. Bandoulière à nageoires noires, Bloch, &c.

This species inhabits the Arabian and Indian seas. The Arabians call this fifth when finall Teira, or Teyra, whence its specific name is derived, and when large Daakar. Forfkael tells us it grows to the length of three feet, and is an edible fish. Its principal food confists of corals and teftaccous animals. The body is white, broad, long, and floping at the head; scales small and denticulated; irides white, tinged with reddish; the gill-covers confit of a fingle piece, lateral line much bent, and composed of white dots: vent fituated near the ventral fins which are black; the other fins white. The dorfal fin contains five fpiny and and fix foft rays; anal three spiny and twenty-fix foft rays,

CHÆTODON cornutus. Tail bifid; dorfal spines three, the last extremely long. C. Cornutus, cauda bifida spinis pinnæ dorfalis 7, radio dorfali tertio longiffimo, Linn. flamder Trompetter, Ikan Paroeli, Alferez Djazva. Valent. Ican Schwangi, Ruysch. Bezaantje Klipvisch, Specrvisch, Moorfebe Afgodt, Renard, &c. Heron de Mer, Bloch.

According to Valentyn this is an edible fifh of excellent quality. The shape of the body is somewhat orbicular, thin, coated with fine feales, white, and marked with three transverse blackish bands, one passing through the eye, the ral fin, and the third broader and fituated near the tail. The tail also, which is fomewhat lunated, is black, with a black transverse bar of white. The fnout is rather produced, and above each eye is a finall horn-like pointed procefs. Bloch is perfuaded that Linnæus was either millaken in regard to the number of spiny rays in the dorsal fin of this fish, or that an error has crept into the Syst. Nat. in printof feven as Linnaus describes. C. Cornutus is a native of

CHETODON rofleatus. Tail entire; dorfal spines nine; fin with a black occilated spot; fnout cylindrical, Gmel. &c. Bandoulière à lec, Bloch.

The body is of a roundish ovate form, with the mout for greatly lengthened into a tubular form as to afford an excelient criterion of the species; the irides are yellow; jaws whitish, with a dusley tinge on the back, and marked across with five transverse, and nearly equi-distant brown bands, the edges of which are milky-white. The dorfal and and fin are very broad at the hinder part, and the former is gill-covers are fealy, and without spines; the tail with a black band edged with white. This fift lives in all the feas of India. According to M. Hommel, inspector of the hospital at Batavia, it refides principally in the deeper parts of the fea, or the mouths of rivers, the last of which it may ing feafon. The manner in which this species takes its prey, though not entirely peculiar to this fifh, is rather extraordinary. It lives principally on the smaller kinds of infects that fly near the furface of the water, and when it obferves any one of these hovering or gliding near it, darts from its tubular frout a drop of water with an aim fo fleady and certain, as to bring the infect down with it into its jaws. If the fly, or other infect which it fingles out for its object, be at felt on some aquatic plant, the fish cautiously approaches within the distance of four, five, or fix feet before it ejects the water, which, even at this distance, is almost certain of bringing the infect down to the furface of the water. When kept in a frate of confinement in a large veffel, it is faid to afford confiderable entertainment by its dexterity in taking the infects placed at a convenient diffance within its reach. M. Hommel informs us, that they are preferved in the gardens and houses of the great men in India, in very large vales, for the amusement of their ladies. The fiesh is eatable, and the fifth is usually taken with the hook and line. CHATODON orbis. Body orbicular, bluish; second, third.

and fourth dorfal fin elongated and brillle-formed. C. orbis. orbicularis, pinnæ analis radiis 19, Bloch. Scheibe of the Germans, L'Orbe of the French writers. Orb chatodon.

A native of India. The head large and floping; irides golden; gill-cover long, narrow, covering the membrane; ning together into an obtuse angle towards the back; vent in the middle of the body; upper part of the body bluishgreen; belly white; ventral fins long, narrow, and falcated. The dorfal fin contains about 37 rays; pectoral 14; ventral

7; and 26; and caudal 14. CHÆTODON nigricans. Tail bind, with a fpine on each fide. Chetodon nigricans, Gmel. Tail fomewhat bind, with a spine on each fide; dorfal spines nine. Andre in Phil. Trans. 1784.

Acarauna, Ruysch. Philosophe & Caantje of Verkenskop, Renard. Ikan batte boano, ib. Perfien, Bloch, &c.

Inhabits the Indian Ocean and Red Sea. The length is two feet; body blackish, at the sides brown, and beneath white. The eyes are large; teeth in the upper jaw 16; in the lower 10; gill-cover long and narrow; lateral line nearest the back and continued parallel with it; pectoral and caudal fin cinereous, ventral black, dorfal and anal white at the bafe, the rest brownish. Marcgrave found this species in Brasil, Hafgrows to the length of eighteen inches and rarely to two

CHETODON argus. Body fpotted with brown; anal spines four. Chatodon, Ipinis dorfalibus 11 corpore punctis nigris Ruysch. Ican taci, Renard. Casatocha balintang, Valent. L'Alrgus, Bloch, &c.

The Argus chatodon inhabits the fresh waters of India, living principally in fwampy places, where it finds an abundance of infects, on which it feeds. Valentyn speaks of it as a fish of excellent flavour. The body is nearly square, of a filvery grey colour, and violet on the upper parts; fins yellow; the whole body and also part of the fins are marked with numerous round spots, of a dark brown colour. The irides are golden; jaws equal; gill-cover large; membrane loofe; lateral line arched; vent nearly in the middle of the body; tail even at the end.

CHETODON vagabundus. Mouth cylindrical; dorfal spines 13; body striated. C. vagalundus, Gmel. &c. Line. Mus. Ad. Frid. Ican fagadji, Ican foetri, & Japansche prins, Valent. Douvoing prins, Douvoing royal, & Douvoing heriogin, Renard. Princesse, Ruysch. Le vagabend, Bloch. Wan-

This species is mentioned as a native of all the Indian feas, and is effeemed an excellent fish for the table. The body is vellow, lineated with brown; above the eyes runs a black band, which Bloch confiders as one of the leading particulars of its specifical diffinction. There is also another black band at the end of the body, near the base of the tail, which runs both into the dorfal and anal fins; and a third black band across the middle of the tail. The head is covered with small scales, but those on the body are large. The gillcovers are of two pieces, the membrane loofe; vent nearer the tail; fins yellow, with branched rays, the dorfal, anal, and caudal fins edged with black.

CHATODON ciliaris. Gill-covers spinous; scales ciliated. Chetodon, cauda integra, fquamis pienæ dorfalis 1.4. operculis spinosis, squamis ciliatis. Linu. Sparus faxalilis, Osb. Platiglossus, &c. Klein. Acarauna altera major, Ray.

The body is white, with six black bands. The eyes are

large; aperture of the gills very large, the membrane loofe; lateral line interrupted at the dorfal fin; fins large and black; tail forked. Length eight inches. Inhabits the coral reefs on the shores of Brasil, India, and Arabia.

CHETODON Striatus. Tail entire; dorfal spines twelve; body striated; snout prominent. Gmel. Linn. &c. Ikan

Batoe melia, Heeflykke klipvisch, Valent.

The body is yellow, fasciated with brown, one band passing in a femicircular direction transversely through the eyes, a fecond nearly parallel from the back to the belly, acrofs the pectoral fin, a third intermediate between that and the tail, a fourth at the base of the tail, and the fifth across the tail; extremity of the caudal fin, and posterior end of the anal and dorfal fins brown. Found in Japan, and other parts of India. The French call this L'onagre, or Le zèbre.

CHETODON arcuanus. Tail bifid; dorfal fpines twelve;

body barred with brown. C. arcuanus, cauda bifurca, fasciis 3 fuscis. Linn. Mus. Ad. Frid. Bonte duifje, Valent. Bour-

Sonjufe, Renard.
The body is filvery, cinereous on the back, with deep brown bands, one on the head, another on the breaft, and a third passing from the dorsal to the anal fin. The head is large, the mouth narrow, jaws equal; gill-cover of one piece and mucronated in the middle; ventral fins long, and with the anal black; tail and dorfal fin cinereous.

CHETODON capissratus. Tail entire; dorfal spines twelve; a purple foot furrounded with white near the tail. Chatodon

capificatus, &c. Linn. Tetragonoptrus levis, &c. Klein.
The body is covered with rather large feales; colour white, with brown lines. The eyes are very large; band through the eyes black, and edged with white; gill-cover fea-green, and confitting of two pieces; fins yellowish; the rays branched; dorfal and anal fin brown at the edge; fpines VOL. VII.

fea-green; near the tail a black band. Length three inches,

CHATODON rotundus. Dorfal fpines twenty-three; body with five pale bands. Linn. Inhabits South America and India. The body is cinercous and rounded.

CHETODON Linceolatus. Tail entire; body with three hamis, one across the eye, another across the breast, and a Guaperwa, Edwards. A native of India. Form of the body lanceolate. The bands are black, edged with grey.

CHATODON chirurgus. Dorfal fpines fourteen, caudal one.

Bloch. Le chirurgen & Wundarzt, ib.

islands, and is described by Bloch from one of Plumier's drawings and manuscripts. The colour of the body is yellow, with five narrow violet bands, and beneath bluish. The head is large, and of a violet colour, with a black fpot on the month and cheeks. Its upper jaw is longer than the lower; vent nearer the mouth than the tail; fins without feales; pectoral, ventral, and anal fin violet, the last barred with vellow; dorfal fin, varied with yellow and violet; tail yellow at the base, and violet towards the edge. In Plumier's drawing, above-mentioned, the dorfal fin contained 14 fpiny and 26 foft and branched rays; pectoral fin 16 rays; ventral 1 fpine and 6 foft rays, 3 spines and 20 foft rays, and the tail 16.

CHATODON rhomboides. Dorsal spines five; anal three.

Bloch. La bandoulière rhomboïde, ib.

A beautiful species, described, like the preceding, on the authority of a drawing by father Plumier, and which is supposed to attain to a considerable fize. It is a native of the American feas. The body is of a rhombic form, deep green on the upper parts; the fides greenish, below which, near the belly, are three green lines, and three intermediate lines of white; belly yellow. The head is filvery, truncated anteriorly, with the eyes large, and mouth still larger in proportion; teeth small; gill-covers confilt of two semilunar pieces, with the membrane loofe; lateral line flightly curved, vent in the middle of the body; dorfal fin green; pectoral and ventral yellow at the base, and edged with violet; margin of the anal and candal fin green.

CHATODON Plumieri. Dorfal fins two; head without

fcales. Bloch.

This also is an elegant species, described by Bloch from the defigns of father Plumier, and named in compliment to that collector. The fith inhabits the flony shores of the American feas, and is of the number of edible fishes held in most esteem for the table. The body is of an oblong form, coated with small scales. The colour brownish above, cinereous at the fides, beneath white, and marked with fix greenish-black bands. The head is brown above, at the sides white; lateral line arched; fins much falcated, green, at the base yellow, and without scales; all the spines of the first dorfal fin yellowish. In Plumier's figure are delineated 5 fpines in the first dorfal fin, and 35 fost rays in the second; pectoral 14; ventral 1 spine and 5 soft rays; anal 2 spines and 25 foft rays; and tail 12 rays.

CHATODON Curação. Dorsal spines 13; anal 2. Bloch.

La bandoulière de Curassau, ib. Angel-ssib of Curação. A native of South America. The head is large, the jaws of equal length, and the lips thick; the sill-covers are broad, violet, and covered with large scales. The body is thick, brownish, with the sides silvery, and the scales edged with violet. The lateral line is composed of oblong white scales, and is broken, or interrupted at the dorfal fin; vent in the middle of the body; fine yellow, with branched rays; tail forked.

CHATODON Mauricii. Dorfal spines eleven; anal three.

Bloch. La bandoulière du prince Maurice, ib.

The Brafilian name of this fish, according to the above author, is Jaguacaguare. He describes it from one of Pho mier's drawings, and informs us, on the authority of prince Maurice, that it inhabits Brahl, grows to the length of two feet, and that the flesh is white, and of a good flavour. The body is long, and covered with small scales; blue on the back defeend fix narrow black transverse bands, which terminate about the middle of the body. The irides are yellowish-silvery; the mouth and aperture of the gills large; the back rather arched, with the lateral line contiguous; vent nearest the tail; rays of the fins ramose; ventral fin yellow; pectoral dusky; and the rest pale blue. This is named in compliment to the memory of the celebrated prince John Brafil, and who afterwards, while governor of that country, amufed his leifure hours in taking drawings and descriptions of its zoological productions.

CHETODON Bengalensis. Body fasciated; dorsal spines thirteen; anal two. Bloch. La bandoulière bengalenfis,

This fifth inhabits Bergal. The body is large, whitifh, with a bluish back, and marked across with five bay-coloured bands. The irides are yellowish-white; aperture of the gills large; lateral line flightly arched near the back, and interrupted at the extremity; vent nearest the tail; fins brown at the base and edged with blue.

CHATODON offofciatus. Body with eight brown bands; dorfal spines eleven; anal three. Bloch, Gmel. &c.

The head is small, and rather advanced, with the lower jaw projected beyond the upper. Its body is nearly round, of a whitish colour, except on the back, which is violet, and the whole marked transversely from the back to the belly with nearly equidifiant brown narrow bands; the dorfal and anal fins are both edged with brown, the rest of the fins grey. This species is a native of the East Indies.

CHETODON annularis. Brownish, with obliquely curved longitudinal streaks, and a blue ring on the lateral line behind the gills. Chatodon annularis, Bloch, Gmel. &c. Ikan

batoe, Jang aboe, and Ikan pampus Cambodia.

A native of India. The body is ovate, and brownish, with about five blue lines. The irides are filvery; gill-covers of two pieces; the anterior one toothed and fpinous; lateral line parallel with the back; vent in the middle of the body; dorfal fin pointed; anal rounded, both dark brown, banded with blue, the rest of the fins white. The dorfal fin contains fourteen spinous rays, and forty-one fost; pectoral fixteen; ventral one spine and fix foft rays; anal three spines and twenty-eight rays, and caudal fixteen rays.

CHATODON collare. Head with two white and three black bands; dorfal spines twelve; anal seven. Bloch. Le

collier, ib.

This kind is a native of Japan. The body is of a round ovate form; colour bluish on the upper parts, and yellowish beneath. The scales are very large. The head is sloping, of a brown colour, marked with two white, perpendicular ftripes, and three black ones; the mouth is white; eyes large, with the iris blue; lateral line bending in an obtufe angle at the dorfal fin, and interrupted at the end; pectoral fins yellow; ventral cinereous; the reft yellowish edged with brown; the dorfal fin is marked with a yellow band, and the tail across the middle by a brown one. Figured by Seba, who describes it to be about fix inches long.

CHATODON mefoleneus. Head fasciated with a fingle band; gill-cover one spined; dorsal spines twelve; anal three. Chatodon mefoleucus, Bloch. Le mulat, ib. Chatodon

mefomelas, Gmel.

white, the hind part black; and the who'e body covered with very finali feales; gill-covers confit of two pieces, and are armed with one large and feveral small spines; the opening of the gills large; the lateral line runs near the back; vent fituated in the middle of the body; all the fins are white, except the derfal and anal fins, which are black.

CHETODON faber. Body fasciated; the third dorsal spine

This species was first described by Broussonet, under the name of Forgeron. It inhabits the Indian and American by Bloch, is faid to grow to the length of eleven inches. The body is filvery, ornamented with fix bands of deep blue. The iris of the eye is yellow; the lateral line is arched to the form of the back, running parallel and contiguous; the fins are black, and the rest deep blue. This is an edible fith,

CHATTODON Suratenfis. Dorfal and anal fin armed with many spiny rays; body banded with suscous; a black semilunar mark at the base of the pectoral fin. Chetodon Sura-

Form of this fith ovate; colour filvery-grey, darkest on the back and fins; head and body marked with feven brown the tail yellow, with a broad violet border. Received from one of the Danish missionaries in Surat by Chemnitz at Co-

CHETODON canescens. Tail bifid ; dorfal spines two, third ray very long; mouth bidentated. Ginel. &c. Deferibed

The colour of the body is greyith, an! covered with very fmall feales. Inhabits the American and Indian feas.

CHATODON alepidotus. Tail bifid; dorfal fpines three; no ventral fins. Gmel. Linn. &c.

Communicated to Linnaus by Dr. Garden. This inhawithout scales; upper parts bluish; jaws with a simple row of teeth; lateral line parallel to the back, and dotted; dor-

third ray very long. Gmcl. Linn. Inhabits South America and India. The body is marked with three brown bands;

dorfal fin fetiform. Linn. Muf. Ad. Fr. Снетовом pinnatus. Tail entire; dorfal fpines four; dorfal and anal fins very long. Gmel. Greyift Chatodon, with frontal band and tip of the tail white. Linn. This is a native of South America and India, and is remarkable for the

CHETODON Chinensis. Anal'fin eighteen-spined. Bloch. This inhabits China. The body is oblong, marked with

fuscous bands, and a round spot on the gill-cover.

CHETODON argenteus. Tail bilid; eight spiny rays in the dorfal fin, and two ventral fpines inflead of fins. Linn. Amon. Acad. Found in the Indian feas. Obf. The ventral spines are short, and the first dorsal fin so small as to

CHATODON Boddaerti. Body with brown and blue bands;

Gmel. &c. Native place unafcertained.

CHETODON

CHATODON punctatus. Spines in the dorfal fin eight; pectoral fin falcated. Gmel. A species of a whitish or filvery colour, dotted with fuscous; eyes large, red; lateral line curved; three first rays of the anal fin distant.

CHETOBON arcuatus. Tail entire; dorfal fpines eight; body with four white arched bands. Gmel. Length four

inches. This fpecies inhabits Brafil.

CHETODON leucurus. Tail entire; dorfal spines nine, the first recumbent; body black; tail white. Gmel. This is of a small fize, and inhabits America. Obs. The ventral fins are pointed.

CAETODON lineatus. Tail bifid; dorfal spines nine, and one on each fide of the tail. Gmel. Figured by Seba, and is an inhabitant of the South American and Indian

CHETODON trioflegus. Tail fomewhat bifid; dorfal spines nine; branchiostegous membrane three-rayed. Linn. Mus. Ad. Fr. Chatodon, corpore cingulato, pinnæ dorfalis spinis 9, caudæ utrinque 1, dentibus apice serratis. Broussonet.

CHETODON bicolor. Upper half of the body brown; lower and tail white. Chatodon becolor, Bloch. Chatodon bicoloratus, Muf. Schwenk. Acarauna maculata, Seeligm. Ikan koelar, Valent. Ekorkouning, Color foufounam, &c. Renard.

This inhabits South America and India. Its form is oblong: the head is thick; eyes large, with filvery iris; gillcover large, spinous serrated, and of one piece; fins rigid, with branched rays; dorfal and anal fins entirely covered with fcales: ventral fins fmall; pectoral pellucid; dorfal spines fifteen, anal three.

CHÆTODON glaucus. Lateral line straight; dorsal spines

five. Block. Glaucus des anciens, Gautier, &c.

Described from the drawings and MS. of Plumier. It is a native of the American feas, and grows to the length of a foot and a half. The body is of an oblong form, and covered with moderately fized scales, above blue, and beneath filvery, with fix fhort narrow brown ftreaks; flesh good, Plumier. Obf. The eyes are small with yellow iris; mouth large; lips thick, with many bones; aperture of the gills narrower, the gill-membrane loofe; fins with branched rays; ventral very small, and terminating in a long narrow point, and with the pectoral fin whitish, the rest blackish; anal fin without spines.

CHETODON Chiliensis. Golden, with five coloured bands; tail even; dorfal spines eleven. Chatodon Chilienfis, aureus fasciis 5 discoloribus, cauda integra, spinis dorsalibus 11.

Molin, Hift, Nat. Chili.

Length twelve inches; the fnout is lengthened; the body oval, coated with minute scales, and marked with five diffinet bands; the first black, two next cinereous, and the two last black and cincreous. Nostrils two, and placed near the eyes; aperture of the gills arched, the cover of three pieces; lateral line arched and fearcely visible; vent near the middle of the body; pectoral fins fmall, and, like the ventral, pointed; dorfal fin large and yellow; tail filvery, edged with yellow, and a black oval spot near the tail.

CHETODON longirostris. Snout cylindrical; tail un-

armed ; dorsal spines eleven. Broufsonet.

Inhabits the Pacific Ocean. The body is compressed, and citron-coloured; beneath firiated and coated with unequal obliquely imbricated fcales; the head is floping and brownish; beneath silvery slesh-colour; pupil brownish; iris pale glaucous; mouth large and oblong; jaws nearly equal, with a few small unequal teeth; tongue and palate smooth; lateral line straight; vent nearly in the middle of the body; dorfal and anal fins citron-coloured, with a black line on the posterior part, and another edged with whitish, the last with a black spot near the tip; ventral fins citron, edged exteriorly with brownish; tail and pectoral fin pale blue, the latter yellowish at the base.

Body fomewhat roundish: CHATODON orbicularis. cinereous brown; no dorfal fpines. Forfk. Fn. Arab.

Inhabits the stony shores of Arabia. Length about twelve

inches; body refembling a flat fish, spotted with black; beneath whitish; behind yellowish; scales round and entire.

CHATODON auriga. Whitish, with about fixteen oblique brown bands; fifth ray of the dorfal fin long and filiform, Forik. Fn. Arab.

Inhabits the shores of Arabia. Length five inches; shape nearly rhomboidal, and coated with rhombic fcales; the head is flat above, fealy, of a reddish-white colour, and marked with four transverse tawny bands; iris of the eye black; mouth compressed and conic; lips rounded and equal; dorfal fin black at the posterior edge; anal varied with black and yellowish white.

CHETODON mesoleucus. Anterior part of the body white; potterior brown, with twelve black bands. Chatodon parte anteriore albus, polleriore fuscus, fasciis nigris.

Forsk. Fn. Arab.

Found by Forskal on the shores of Arabia. The length is three inches; the body ovate, with large rhombic ciliated scales; head conic and narrow, with a black band through the eye; lateral line curved; pectoral fins glaucous; ventral white; dorfal and anal brown; tail black, with a broad hyaline stripe at the tip.

CHÆTODON asfur. Black, with a transverse yellow lunar-cuneated band, Forsk. Fn. Arab. Chatodon Asfur.

Observed by Forskal on the shores of Arabia. The body is oval, and covered with rhombic scales, disposed in a quincunx order, and finely toothed; the teeth are numerous. filiform, and flexile; anterior gill-cover furnished with a strong spine, nearly half an inch in length. The general colour is black, with a transverse and somewhat lunar yellow band in the middle of the body, having the horns pointing backward; the lateral line is curved and nearest the back; dorfal and anal fins horizontal and falcated; tail rounded, tawny, and edged with black. Forskal describes another fish, which Gmelin and others consider as a variety 8 of the last mentioned species. " Chatodon carulescens lituris et fasciis obliquis, lineolis violaceis." Bluish Chatodon, with oblique bands, blotches, and fine violet lines. This is a native of the Arabian shores, where it is chiefly found among corals; the flesh is bitter.

CHETODON maculosus. Cinereous, with transverse blue fpots; anterior gill-covers armed with a fingle spine. Forsts.

Fn. Arab.

Inhabits the Arabian shores. The body is an ovate oblong, covered with ferrated scales; behind the middle of the head a large transverse golden spot; the front between the eyes is elevated, flat, and fealy; gill-cover fealy on the fore part, and ferrated behind; lateral line near and parallel with the back; pectoral fins oval; ventral lanceolate; dorfal falcated behind; anal triangular; tail fin entire, rather rounded, cinercous, and dotted with yellow.

CHETODON fordidus. Oval; ash-coloured brown, with four obsolete transverse bands. Forsk. Fig. Arab.

This species, which is found among the coral beds on the coalt of Arabia, is about a span in length; the body is covered with broad feales, which are membranaceous at the edge; the gill-cover is bidentated at the potterior .edge; lateral line near the back; fins ath-coloured brown; pectoral

fin oval, ventral pointed; anal and dorfal fin rounded behind; tail fhort, yellowish, divided into two lobes, and marked with a black spot.

. CHETODON unicornis. Front horned; tail with two

elevated ridges on each fide. Forfk. Fn. Arab.

Very abundant on the Arabian coast, where it is seen swimming in shoals of two or three hundred each, and feeding on see weeds. It grows to the length of three seet or more; the body is of an oblong ovel form, rough, and of a shining gray colour; the front is sleping, with an horizontal straight horn before the eyes; the teeth are rigid and disposed in one row, the middle ones larger; this obtose; lateral line parallel with, and nearer the back; aperture of the gills short; pectoral sins pointed, oval; tail truncated. Aloroceros minor, Willinghly. Le Nasion Licernal, Cepede. Lesser Unicorn siste, Grew.

CHETODON fohar. Tail with a bony carena, fituated

in a red cavity on each fide. Fortk. Fn. Arab.

Inhabits the deep waters of the Arabian shores; the body is of an oval form, about three spans long, of a brown colour, with longitudinal violet lines; beneath whitis; the head is scaly; the teeth contiguous, crenated, and disposed in one row; lips equal; gill-cover entire; lateral line obsolete; fins coriaceous, violet; pectoral sin with a yellow spot; tail truncated in the middle. This is nearly allied to Chatodon lineastus.

CHETODON nigrofuscus. Black suscess; tail two lobed, with a recumbent spine each side. Forsk, Fn. Arab.

This species was observed by Forskal in the Arabian seas, where they live in deep waters. A variety of this species, is described under the title of gahm, as being of a black colour, with the base of the tail violet. The length of this fish is five inches; first spine of the dorsal and anal fin covered by the skin; posterior edges of the tail whitish, two-lobed, and the lobes saleated; lateral spine somewhat subulate and moveable.

CHETODON bifafciatus. Tail bifid, yellow, with two

black bands on the head. Forth. Fn. Arab.

Body of an oblong oval form, and filvery; the crown is wrinkled; iris filvery; jaws full of hemifpherical callofities; upper lip longeft; anterior gill-cover ferrated behind; pofterior with a bony point or process on the back part; ventral fins black; dorsal fin and tail yellow; pectoral ones half yellow, the other white; lateral line curved and nearer the back. Gmel. Inhabits the Arabian coatts.

CH.ETODON pidus. Whitish. with oblique violet lines;

ocular band and tail black. Forth, Fn. Arab.

Nearly of a rectangular form; the body covered with broad, ferrated, obliquely imbricated feales, and marked with about eighteen violet lines, dispoted in an oblique direction; on the crown of the head are five transverse tawny lines; the fnout is prominent; lips equal; lateral line curved; dorfal in black, and rounded behind; tail truncated, marked with a golden creteent in the middle, and edged with brown.

CHATODON trifafciatus. Head with three black bands; body with fixteen longitudinal dulky streaks. Trans. Linn.

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Difcovered by Mr. Mungo Park on the coaft of Sumatra, and deferibed in the third volume of the Transactions of the Linnean Society. The length is three inches; colour pale brown, or brownish, and covered with rather large ciliated scales; on the dorsal in is a black band edged with yellow; another at the base of the anal fin, and a third through the middle of the tail; the iris brown; mouth very small; gill-cover of two pieces; lateral line near the back, and interrupted or broken at the end of the

dorfal; vent nearest the tail; fins yellow; tail somewhat rounded.

CHETODON caniculatus. All the spines of the fins

grooved. Linn. Trant.

The body is greenith-yellow above; beneath whitift with paler fpots; feals fmall, oboval; the iris filvery-yellow; gill-cover of two pieces; lateral line parallel with the beck; vent nearer the head; firs greenith and without fpots; tail bild. Observed at the same place as the preceding species.

CHETODON cellatus. A black band across the eyes; dorfal fin with twelve spines, and an occilated spot; anal

fpines three. Chotodon scellatus, Bloch.

Found in India. The body is yellow above; beneath white, and covered with large feales; the jaws are equal and prominent; lips thick; gill-cover confilling of one fhort golden lamina; lateral line flraight, interrupted at the dorfal fpot; firs cincreous, with branched rays.

CHETODON Stifer. A very long setiform ray, and black annular spot in the dorsal sin. Chatodon setifer; Le

Seton, Bloch.

The body of this fifth is of a roundish owate form, with the head rather taper and produced; the colour is purplishered on the back, and a tinge of red and intermixture of yellow pervade the rest of the body, which is transversely fasciated with about nine oblique crimson stripes; through the eye passes a broad black transverse band, margined on both sides with white; the fins are yellow, with a brown marginal stripe on the anal and dorfal sin, and three stripes of the same colour across the tail. A native of the Indian seas.

CHETODON falcula. Back with two black fickleformed fpots, edged with white. Chetodon falcula, La Fau-

cille. Bloch. &c.

This inhabits the coast of Coromandel. Inits general properties this resembles the last; it has a similar ocular band of black, but the colours are paler, more inclining to yellow; the transverse bands violaceous, paler and less angulated, and the dosfal fin has neither the black spot encircled by a white ring, nor the remarkable settiorm ray, like the last species.

CHATODON tricolor. Anterior part of the body yellow; posterior black; tail and border of the dorsal and

anal fins yellow, edged with red.

Duhamel was the first author who published a figure of this superb sith. He speaks of it as a native of Gaudaloupe. Bloch describes it as a Brasilian species, on the authority of Prince Maurice. It is of a more clongated figure than the generality of Cheetodons, and stems to agree better in the respect with the Labrus genus. The head and fere part of the body are of a fine golden yellow, the posterior part deep black, and the two colours separate abruptly in an obliquely incurvated direction, seaving the lower half of the rectional in, and the beily down to the vent, sine yellow. The bed of black passes without interruption into the anal may and posterior end of the dorsal sin, in both of which it forms a substraingular duk within the yellow border of these fins. The tail is much furcated.

CHATODON Kleinii. Head marked with an ocular band

lorfal fin feventeen fnine !.

First described by Klein, and named after that author by Bloch. This fish is of an orbicular form. The opening of the mouth very small; the notirils simple; iris white; gill-cover consisting of two plates; lateral line bent, and situated near the back; the back is yellowish, inclining to olive-brown; the belly fisery; fins yellowish. Figured by Bloch, from a large specimen in the collection of Linke, at

CHA

Leipzig: its general fize in the East Indies, the feas of which it inhabits, is not exactly known.

CHETODON bimaculatus. Head marked with an ocular band; an annular fpot and half fpot on the dorfal fin. Chatodon limeculatus, La Bandoulière a deux taches, Bloch.

This fifth is of a roundish form, the back very gibbous, and the abdomen flattish; the head is sloping, lengthened, and tapering; the back is brown; fides whitish, tinged with grey; pectoral and ventral fins are red; the rest yellow at the base, and greyish at the extremities; band across the eyes edged with white; and the black spot on the dorfal fin is encircled with a white ring; the half spot bounded on one fide with a femicircular white line. Inhabits the Indian

CHETODON biaculeatus. Two spined below the eyes. Chatodon biaculeatus, La Bandoulière a deux aquillons,

The body of this fish is of an elongated form; the head is yellow; the back blue; and the belly white. Acrofs the head, behind the eyes, is a transverse brown streak; another passes across the middle of the body, and a third between the extremity of the dorfal and anal fin, near the tail. The posterior one of the two spines below the eyes is much larger than the other; all the fins are grey. This is a native of the East Indies.

CHÆTODON fargoides. Golden yellow; head and fix transverse bands violet. La Chetodon Sargoide, Capede.

Described by La Cepede from the drawings and manufcripts of Plumier. The dorfal fin contains thirteen fpiny rays; pectoral fin one: there is a depression before the eyes; the opening of the mouth is small, and the upper lip thick; gill-covers rounded. This is a native of the American feas.

CHETODON Lamarkii. Golden yellow, with three longitudinal dusky stripes. Chetodon La Mark, Cepede.

The description of this species is taken by Cepede from a fpecimen in the museum of the Prince of Orange, the native country of which is unknown. The lower jaw is longer than the upper; the scales rounded, striated, and denticulated; fifteen spiny rays, and fixteen foft ones in the dorfal fin; three spiny, and twenty foft ones in the anal fin; gill-

CHETODON confiritus. Yellowish grey, with numerous black bands, and body conffricted in the middle. Shaw, N. Holland. Zool.

The length of this species is about eight inches; the shape of the body inclining to an oblong square, and re-markably contracting in diameter about the middle, so as to appear confinited in that part; feales of moderate fize; colour yellowish-grey, tinged on the back and part of the fins with blue; across the body eight black bands, that in the middle narrowest; on the back two very distinct fins, the rays of the first being all spiny; tail inclining, though very flightly, to a lunated form. Native of the Indian feas, and observed about the coast of New Holland.

CHETODON armatus. Silvery, with feven transverse black bands, lengthened head and two dorfal fins. Shaw Gen.

The length of the specimen described in White's Journ. New South Wales, was about four inches; the colour filvery-white, darker, and with a bleish tinge on the back; head of a somewhat lengthened form; across the body seven black bands; on the back two diffinet dorfal fins, of which the first confists of very strong spiny rays, the third execcding the rest in length; tail very slightly inclining to a lunated form at the extremity. Observed about the coast of New Holland.

CHÆTUORI, in Ancient Geography, a people placed by Ptolemy in the Higher Germany, among the Curiones.

CHAFALIA, in Geography, the first large body of water which leaves the Millifippi, and falls, by a regular and feparate channel, into the gulf of Mexico. It leaves the Miffifippi in the westernmost part of the remarkable bend just below the boundary, and has every appearance of having been formerly a continuation of the Red River, when the Miffifippi washed the high land from Clarksville to the Bayou Tunica, or Willing's creek, the traces of which are yet vifible by the lake, through which a large current flill paffes, when the river is high. The diffance on a straight line from Clarksville to the Bayou Tunica is not more than eight miles; but by the prefent course of the river, it is suppased to be not less than 50 miles. If the Missippi should break its way by a shorter course, which is not improbable, the Chafalia will again become a part of the Red River. When the Miffifippi is high, the draught into the Chafalia is very strong, and has frequently carried rafts, and likewife fome few flats or Kentucky boats down it, which are generally loft. This branch, notwithstanding its fize, is not navigable to the gulf of Mexico, on account of an immense floating bridge, or raft, across it, of many leagues in length, and in some places so firm and compact that cattle and horses are driven over it. This aftonishing bridge, or raft, is conflantly augmented by the trees or rubbish, which the Chafalia draws out of the Missippi.

CHAFE, or CHAFING of a rope, in Sea-Language, is faid of a rope that is galled or fretted, or when the rope runs against any thing. The cable is chafed in the harufe, fignifies that it is fretted or begun to be worn out there.

CHAFE-Wax, or CHAUFEE-Wax, an officer in chancery, whose business it is to fit the wax for the sealing of write, patents, and other instruments issued thence.

CHAFER, in Geography, a town of Persia, in the pro-

vince of Farfillan; 50 miles S. of Schiras.

CHAFF, in Agriculture, the hufky substance of corn, which is separated by threshing and winnowing. It also fometimes fignifies the rind of corn: thus, barley that has a thick rind is said to be thick-chaffed; and it likewife implies straw, &c. cut small for the purpose of being given to horses and other cattle, mixed with corn. This substance, whether obtained by the drefling of grain or made from fraw of hoifes and many other animals, as faving much other more valuable food. Besides its advantage in the common feeding of animals, it is of vast utility in the fattening of different forts of animals, where much luxuriant green food is given, as a dry meat; as without fome fort of material of

It has been remarked by Mr. Young, that the practice of cutting both hay and flraw for all forts of flock is one that has been found very important by many practical and intelligent cultivators of great experience; and though he admits that general observations are not equally fatisfactory with that of comparative experience, there can probably be little doubt of the advantage of this mode of applying it. Besides, there are but few persons who have opportunity, time, and power, to make comparisons between the food and labour of different teams fed in the common way with hay, and with cut chaff, half or one-third straw. The opinions of the best informed and most practical persons are, however, decidedly in support of the latter method. It is, therefore, conceived by the above intelligent writer, that the practice of giving hay cut with a mixture of ftraw, inflead of feeding in the common way with hay, is at all events to be advised to as great an extent as can be effected,

not only be practifed for the teams, but likewife for all the other forts of stock that consume hay. He adds, that Mr. Page of Cobham, in feeding his stock, gives no hay or straw but what is cut into chaff before it is used.

The fame author thinks that if racks are permitted in a stable, it is not an easy matter to prevent horse-keepers from cramming them full of hay, and especially at night. The bett contrivance he has heard of to supply the place of racks was that of Mr. Vancouver, who made, he fays, a fort of hopper the whole length of the manger, which delivered chaff from a loft above it gradually, as the horfes moved the lower lip of the hopper with their nofes; in this manner fupplying themselves. But a very intelligent nobleman, he observes, on trying it, found that it would not deliver regularly. This might arife, he thinks, from the dimensions not having been fufficiently attended to; for if the hopper be not of a due breadth, the chaff might arch above the moveable board, and not come down: the aperture in the manger through which it passes must necessarily, he imagines, be of a certain fize, neither too wide nor too narrow. It certainly feems, in his opinion, to be a practical idea, and very capable, after fome trials and regulations, of being fully applicable to common practice. It well deferves attention, especially as the expence of an experiment for one stall could not be considerable. He has often determined to try it himfelf, but has always been prevented by fome journey or excursion taking him from home, at the moment when he could otherwise have given the requifite attention. He conceives that it would demand a manger from four to fix inches wider than common ones, to render it perfect for this purpofe.

In the use of this substance for sheep, considerable attention is necessary to the troughs in which it is given, to fee that they be so secured by boards that it is not blown out of them. This is effected, according to Mr. Young, in lord Clarendon's sheep-yard in Hertfordshire, by a semicircular boarding of thin materials, which covers the heads of the animals while they are feeding in the troughs.

It has been suggested by the same writer, in the third volume of the Annals of Agriculture, that when chaff is made to undergo the process of fermentation in the houses where it is deposited, by flightly watering it, it is rendered " much more nutritious than when used in the common

CHAFF, in Botany, a name given to the feales or dry membranous fubitances, interpoled between the florets of some aggregate and compound plants, as in Dipsacus, Hypchæris, &c. In that case the receptacle is said to be

CHAFF-Cutter, in Rural Economy, an implement con-flructed for the purpose of cutting hay, straw, and other fubitances into chaff. Instruments of this fort confisted formerly fimply of a box and a cutting blade; but they are at present much improved, being made of different forms and constructions, so as to perform the work with greater economy and dispatch. Mr. Cook has invented one, which, by means of a man and boy, will cut one hundred quarters a week; and when fixed to a large wheel, and turned by an animal, fuch as a poncy or als, will cut half the above quantity per day. Another contrived by Mr. Nailer is capable of cutting three quarters an hour, by the affiftance of two men, and costs about ten guineas. An instrument for this purpose, made by Mr. James Pihe, is likewise both cheap and of the most simple construction. It is fixed on a wooden frame, which is supported with four legs; and on this frame is a box for containing the straw, four feet fix inches long, and about ten inches broad: at one end are

as the faving is unquestionable; and he thinks that it should fixed across the box two rollers, inlaid with iron, in a diagonal line, about an eighth of an inch above the furface; on the ends of these rollers are fixed two throng brais wheels, which take one into the other. On one of these wheels is a contract wheel, whose teeth take in a worm on a large arbour; on the end of the arbour is fixed a wooden wheel, two feet five inches diameter, and three inches thick. On the inner part of this wheel is fixed a knife, and at every revolution of the wheel the knife paffes before the end of the The straw is brought on by the worm taking one tooth of the wheel every round of the knife: the flraw being fo hard pressed between the rollers, the knife cuts off the chaff with To great eafe, that twenty-two bushels can be out within the ing ribs of iron; the whole moving by the revolution of the brafs wheel, on the axis of which it is fixed. Another brass wheel has upon it a face wheel, whose teeth take into the endless fcrew on the arbour, while the teeth on the edge of this wheel enter between those on the edge of the other wheel. On the axis of the latter brass wheel is a roller with iron ribs, fimilar to the above, but hid within the box. The arbour has one of the ends of which it is composed made fquare, and paffing through a mortife in the center of the wooden wheel, which is faltened by a strong screw and nut; the other end of this arbour moves round in a hole within the wooden block; and the knife is made fast by fcrews to the wooden wheel, and kept at the distance of nearly three quarters of an inch from it, by means of a strip of wood of that thickness, of the form of the blade, and reaching to within an inch of the edge. The handle is mortifed into the outfide of the wooden wheel.

An improved machine of this fort has been invented by Mr. Robert Salmon, of Woburn, Bedfordshire, and deferibed in the Transactions of the Society for the Encouragement of Arts, &c. With it the chaff is cut by two knives, fixed on the infide of the fellies to two wheels, which are strongly connected together; the edge of the knives being at an angle of about forty-five degrees from the plane of the wheel's motion. These knives are so fixed as to be forced forward by fprings on the wheel, which fprings are formed to adjust, and act more or less, as occasion may box as may be requifite to cut the firaw. The knives are prevented from coming too forward, and occasioning unneceffary friction, by wedges being put in under the ftaples; which wedges, as the knives wear, must be drawn out so as to admit the knives to come more forward. With the before-mentioned provisions, it will be found very eafy at any time to put on new knives, as the springs, &c. will always adjust them to their work.

On one fide of the wheel is fixed a round block of wood, in which there are four holes and a moveable ferew; to this block is forewed one end of the feeding-arm, running nearly horizontally to the crofs bar at the end of the box; to which cross bar there is a pin, moveable to five different holes, by means of which, and the four holes in the block before deferibed, twenty changes in the length of the chaff may be obtained. The straw is brought forward by the rollers in the box, the form of which has been just described, which rollers are turned from the outfide by the triggers or ratchetwheels on each fide of the box, which move more or lefs, according to the stroke given to the cross-bar by the feedingarm and wheel. By this mode of feeding, the straw is per-

feelly at rest, and does not press forward at the time of the knife cutting; and, by means of the pins being taken out of the cross-bar, the feeding is instantly thrown off, although the wheel and knives may continue their motion. Under the box is suspended the pressing weight, which may be made more or less powerful by shifting the weight on the bearer to which it hangs, and also may be thrown on either fide, more or lefs, as occasion may require; which will be found useful, in order to force the straw towards the knife, and to counterbalance the ratchet-wheel of the upper roller. Near the fulcrum of this bearer is fixed a chain, the upper end of which is suspended from a roller; at each extremity of which is a fmall bar of iron, joined to the end of the upper spiked roller, by which means the straw is always equally preffed in passing the two-spiked rollers. The winch by which the machine is turned is of the common kind, and the frame of the machine is to be made very firm and

In order to apply this implement to the best advantage, the inventor propofes a fecond box, to be placed at the end of the first; which box may be of any length, and fuspended by a line and counter-weight, whereby the end of it is brought down level whilft filling with firaw, and then drawn up, so as to give the box a declivity, to make the

fraw more eafily come forward.

It is supposed that much advantage may be derived in this infrument from its cutting various lengths, refling during the cut, the knives being adjusted to their work by regulating springs, the feeding being readily thrown off, and the pressure moveable to either side. It is also well calculated to be applied to any power which may be occasionally fixed to the opposite fide to that on which it is turned by hand; and, by the additional box, when used by hand, the workman will be enabled to cut for fome continuance, without flopping to feed.

Where threshing machines are in use, these implements may frequently be attached to them with great advantage. There are many other infruments of this fort conflructed in different ways; but those which are the least complex, and can be afforded at the cheapeil rate, are the most adapted to

the purpose of the farmer. See Cutting-Box

The above machine, as confiderably altered and improved by Mr. Rawntree, is seen in Plate VII. on Agriculture, in which fig. 1. is a fide, and fig. 2. an end view of it. The advantages of this implement are, 1st, Its great simplicity; 2d, Its cutting the chaff of various lengths; 3d, The straw being at rest while the knives are making the cut; 4th, The friction being less, more work of course may be done with equal labour.

A, is the handl-.

B, B, the fly-wheels on which the knives are fixed.

C, the ratchet-wheels, and rollers for drawing the straw

D, the rods to work the ratchet-wheels, connected with the lever and crank.

E, the box for containing the straw.

F, the lever and weight for prefling the straw.

G, the knives.

H, the crank for regulating the cut.

I, the frame.

At fig. 3. is represented Mr. M'Dougali's patent chasscutter, which is a very useful instrument of this kind. In this machine the inventor has been particularly careful fo to construct it, that, in case it should be accidentally broken, it might be eafily repaired by any common mechanic. The substance to be cut into chaff may be pressed as hard as the workman shooles, by fimply placing the weight near to the

end of the lever. But the chief excellence of the instrument confits in the inventor having judiciously applied a spiral groove in the room of the endless screw, commonly used by other agricultural instrument-makers, by means of which he has in a great degree got rid of friction; and the lever may rife to any height, without putting the machine out of

It has been remarked by Mr. Young, that the number of machines which have been invented of late years for this purpose, most of which perform their work with fufficient accuracy, leaves no farmer in the kingdom under the necessity of employing the common chaff-box, which is worked by those only who have acquired the art of making use of it, and who commonly make much greater wages per day than the ordinary pay. He observes that there is a very good machine of this fort made at Thetford, which only costs eight guineas. It has been observed by a late practical writer, that as the principal objects aimed at in the construction of these machines are those of expedition and the lessening of manual labour, it is evident that many of those of the improved kind must answer such purposes much morè effectually than fuch as were formerly in use, especially where they are attached to any great power, fuch as that of horses, water, &c. as in the case of threshing machines, or other mills, to which they are in general well fuited, as has been

Mr. Page of Cobham has, according to Mr. Young, at the triffing expence of only five pounds, added a mill-wheel to his chaff-cutter, by which means a boy and a little poney

cut twenty bushels of chaff per hour.

CHAFF-House, a place constructed for the purpose of containing chaff. It should be fituated as near to the barn, threshing machine, and stable, as possible, in order that it may receive it with the least possible labour and trouble. And in order to prevent danger, where the chaff is suffered to undergo the process of fermentation, it should be constructed of brick work. The dimensions must be suitable to the extent of the farm, or the quantity of live flock that are kept and fed with it.

CHAFFER, or COCKCHAFFER, in Entomology, the common English name of the beetle, called by Linnaus, Sca-RABAUS melolontha, and by Fabricius Malolontha vulga-

ris. See SCARABÆUS.

CHAFFERCONNERS, in Commerce, printed linens manuractured in the Great Mogul's dominions. They are imported by the way of Surat; and are of the number of those linens prohibited in France.

CHAFFERS, in our Statutes, feem to fignify wares or

merchandize. 3 Edw. IV. c. 4.

The original French of the statute is chaffares.

CHAFFERY, or CHAFERY, in the Iron-Works, the name of one of the two principal forges. The other is called the finery. When the iron has been wrought at the finery, into what is called an ancony or square mass, hammered into a bar in its middle, but with its two ends rough, the bufiness to be done at the chaffery is the reducing of the whole to the fame shape, by hammering down these rough ends to the shape of the middle part.

CHAFFINCH, in Ornithology. See FRINGILLA Ca-

CHAGAING, in Geography, a city of the Birman empire feated on the north fide of the Irrawaddy, and opposite to the ancient capital Ainga-hung, or Awa, in N. lat. 21° 56'. E. long. 96°. This city, which was once the feat of imperial relidence, is fituated partly at the foot and partly on the fide of a rugged hill that is broken into separate eminences, and on the fummit of each stands a spiral temple.

These temples, rifing irregularly above one another, form a they carry fix or seven hundred quintals. The bongos are beautiful affemblage of objects, the effect of which is increafed by their being carefully white-washed and kept in repair. Chagaing is the principal emporium to which cotter being cleaned, it is embarked for the China market. The operation of clearing it from the buds is performed by females, by means of doub'e cylinders turned by a lathe, which a woman works with her foot, while she applies the cotton with her hands. This city is become a place of religious refort, from the number of praws or temples erected the principal manufactory of images or flatues of the diviare forbidden to purchase the marble of which these images to the remotest corners of the empire. Exportation of these marble divinties out of the kingdom is strictly forbidden.

CHAGNON, a town of France in the department of

the Rhone and Loire, 6 leagues S. of Lyons.

CHAGNY, a town of France, in the department of the Saone and Loire, and chief place of a canton in the diftrict of Châlons-fur-Lâone; 10 miles N.N.W. of it. The place contains 2214, and the canton 10,204 inhabitants; the territory includes 137½ kiliometres, and 13 com-

CHAGRE, a river of North America, in Terra Firma, which opens into the North Sea, in 9° 18' 40" N. lat. and W. long. 81°; 30 miles W.S.W. of Porto Bello; and has its fource in the mountains near Cruces. It was formerly called Lagartos from the number of alligators in it, and was discovered by Lopez de Olano. Diego de Alvites discovered that part of it where Cruces is fituated; but the first Spaniard who failed down it, so as to reconnoitre it to its mouth, was Captain Hernando de la Serna, in the year 1527. Its entrance is defended by a fort, scated on a fleep rock on the east fide near the fea-shore. This fort is called San Lorenzo de Chagres, and has a commandant and a lieutenant; and the garrifon is draughted from Panama. The fort was taken by admiral Vernon in 1740. About eight toifes from the fort is a town of the same name. The houses are principally of reeds, and the inhabitants Negroes, Mulattoes, and Meltizos. They are a brave and active people, and occasionally take up arms to the number of triple the ufual garrison of the fort. Opposite, on a low and level ground, stands the royal custom-house, where an account is taken of all goods conveyed up the Chagre. Here the breadth of the river is about 120 toifes, but it becomes gradually narrower as you approach its fource. At Cruces, the place where it begins to be navigable, it is only 20 toifes broad; and the nearest distance between this town and the mouth is 21 miles, and the bearing N.W. 7° 24' westerly; but the diffance measured along the several windings of the river is no less than 43 miles. It breeds a great number of Caymanes or alligators, creatures often feen on its banks, which are impaffable, both on account of the closeness of the trees, and the bushes, which cover the ground, as it were with in making the canoes or banjas, employed on the river. The passage of the river is obstructed by the trunks of the trees that fall into it; and also by the swift currents over the shallows. The barks employed on this river are the chatas and bongos, called in Peru, bonques. The first are composed of several pieces of timber, like barks, and of a great breadth, that they may draw but little water:

formed out of one piece of wood, fome of them being 11 Paris feet broad, and conveniently carrying four or five hunbe damaged by the rains, which are frequently violent. Each of these requires, besides a pilot, at least 18 or 20 reable, in going up, to make any way against the current. eaten by the Creoles and the Europeans.

CHAHAIGNE, in Geography, a town of France in miles N.E. of Chateau du Loir.

CHA-HO, a town of China in the province of Pe-tche-

li; 7 miles S. of Chun-te. CHA-HO-TCHAN, a town of Chincfe Tartary; 30 miles S.W. of Ning-yuen.

CHAIA, a river of Siberia, which runs into the Oby;

20 miles N.E. of Obdorskoi.

CHAIBAR, or KAIBAR, a strong town of Arabia, taken from the Jews by Mahomet, in the 7th year of the Hegeira, A.D. 628: 152 miles N.E. of Medina.

CHAILARD, LE, a town of France, in the department of the Ardêche, and chief place of a canton, in the district of Tournon; 41 leagues N.W. of Privas. The place contains 1722, and the canton 9693 inhabitants: the

CHAILLAC, a town of France, in the department of the Indre, and district of Chatcauroux; 4 leagues S.S.W.

CHAILLAND, a town of France, in the department of the Mayenne, and chief place of a canton, in the district of Laval; 10 miles N. of it. The place contains 2059, and the canton 15,166 inhabitants: the territory comprehends 237 kiliometres and 9 communes.

CHAILLE'-LES-MARAIS, a town of France in the department of the Vendée, and chief place of a canton in the district of Fontenay-le Comté; 3 leagues W.S.W. of it. The place contains 17.19, and the canton 7547 inhabitants: the territory comprehends 235 kiliome-

CHAILLE'-Sous-Les-Ormeaux, a town of France, in the department of the Sarthe; 10 miles E. of Sablé.

CHAILLEVETTE, a town of France, in the department of the Lower Charente; 5 miles S. of Ma-

CHAILLONE', a town of France in the department of the Orne, and diffrict of Alençon, containing about 1100

CHAIN, in French chaine, an instrument composed, or confitting of links, and commonly made of iron, though it may be made of other metals. There are different chains for different purposes; as draft chains, bending chains, cant-

A port-chain, or chaine de port, is a strong iron chain, reaching across the entrance of the port to prevent vessels from failing or getting into it. Of these there are some-

times feveral at the entrance of one and the fame port; and

A foraging chain, or chaine du fourrage, is the placing, by means of a chain of foldiers, or a military communication and arrangement of troops, those who are charged with foraging in a flate of fecurity against any attack or incursion of the enemy; those forming the chain being commanded to keep a constant and careful look out on all sides.

The Romans, when they went to war, carried with them a great number of chains, dellined for those that might become their prisoners. They had them made of different metals; a great many of iron, others of filver, and fome even of gold. And they were dilhibuted or made use of according to the rank and quality of the prisoners. Before the battle at the Thrafymene lake, between Hannibal and Flaminius, the latter, who, though altogether unfit for the management of military affairs, was vain, arrogant, and prefumptuous; was fingularly formed by nature for the gaining of popularity; was a plaufible prater or declaimer, and fo perfuafive a public speaker, that he filled the people with such confidence of victory and fuccefs, that the multitude of those, who followed his army for the take of booty, as Polybius informs us, exceeded even the number of his troops, and carried with them chains, fetters, and other implements of the same kind in great quantities and abundance.

The arms of the kingdom of Navarre are, chains, or, in a field, gules. The occasion hereof is referred to the kings of Spain leagued against the Moors; who having gained a celebrated victory against them in 1212, in the distribution of the spoils, the magnificent tent of Miralmumin fell to the king of Navarre; as being the first that broke and forced

the chains thereof.

CHAIN, a gold, is one of the ornaments or badges of the dignity of a lord mayor of London; and remains to the person, after his being divelted of that magistrature, as a

mark that he has passed the chair.

Something like this, Chorier observes, obtained among the ancient Gauls: the principal ornament of their people in power and authority was a gold chain, which they wore on all occasions; and even in battle, to distinguish them from the common foldiers. Hift. de Dauph. lib. iii. p. 130.

CHAIN also denotes a kind of string, or twisted wire; ferving to hang watches, tweezer-cases, and other valuable toys upon. The invention of this piece of curious work was owing to the English: whence, in foreign countries, it is denominated the English chain. It was some time before foreigners undertook to imitate them, and at last with no extraordinary fuccess: those of Paris have come nearest. These chains were at first usually either of fiver or gold, fome of gilt copper; the thread or wire of each kind must

be very fine.

For the fabric, or making of these CHAINS; a part of the wire is folded into little links of an oval form; the longest diameter about three lines; the shortest, one. These, after they have been exactly foldered, are again folded into two; and then bound together, or interwoven, by means of feveral other little threads of the fame thickness; some whereof, which pass from one end to the other, resemble the warp of a fluff; and the others which pass transversely, the woof. There are at least 4000 little links in a chain of four pendants; which are, by this means, bound fo equally, and withal fo firmly together, that the eye is deceived, and takes the whole to confitt of one entire piece.

Plate Mechanics, fig. 1, represents the chain used for common purposes with oval links; the ends of which are welded

or foldered together.

Fig. 2, is the chain used for slight purposes, as scales, &c.

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when it is wide they are supported on piles from distance to the links are formed of wire, and the ends are sometimes foldered to the middle.

> Fig. 3, is a chain nearly the same as the last, except that the ends of the links are hooked into one another inflead of

being foldered.

Fig. 4, shews a chain invented by Mr. Hancok, for which he received a premium of 50 guineas from the Society of Arts, and is described in their Transactions. The two ends of the wire of which this link is composed are hooked to the middle of it. This chain is used in Baker's patent mangle, and answers the purpose very well.

Fig. 5, is a double wire chain; the ends of which are foldered together. This is very ancient, being described in a book of Agricola "De Re Metallica," printed in 1624,

Fig. 6, shews a very simple chain formed of bunches of

Fig. 7. is a flat chain; it has a wire link, the ends of which are bent into an eye, ab, to receive the parts. e, d, of another link; this chain may be used to great advantage in turning wheels instead of a strap or rope, as coas may be fixed on the edge of the wheel, which go into the spaces, A, A, A, of the chain, and prevent its flipping. This is also described in Agricola de Re Metallica, pages 133 and

Fig. 8, is another for the same purpose; it has two kinds of links; one, a, is of wire bent into a square, the other, b, is

made of copper or iron plate bent and rivetted.

Fig. 9, is the chain used in watches and spring clocks, also in steam engines: it is composed of two thin pieces of fleel plates, a a, between which is the other, b, of twice the thickness; they are held together by a pin, which makes the

CHAIN is also a kind of measure in France, applied to fewel-wood, sheaves of corn, in estimating the tythes, hay, and horses. These measures are divided variously, according to the uses for which they are intended.

CHAIN, in Geography, an island of the Pacific Ocean, diffeovered by captain Cook in 1769, about 4 leagues long and two wide. S. lat. 17° 23'. W. long. 145° 54'.

CHAIN, or CURB, in the Manage. See Bits.

CHAIN, in Surveying, is a meature, confilling of a certain number of links of iron wire, usually a hundred; serving to take the dimensions of fields, &c. This is what Merseune

takes to be the arvipendium of the ancients.

The chain is of various dimensions, as the length or number of links varies: that commonly used in measuring land, called Gunter's chain, is in length four poles or perches; or 22 yards; or 66 feet, confiding of a hundred equal links; each link being 22 of a yard, or 66 of a foot, or 7.92 inches long; that is nearly, eight inches or 3 of a foot. Whence it is easy to reduce any number of those links to

This chain is entirely adapted to English measures; and its chief convenience is in finding readily the numbers contained in a given field. Where the proportions of square feet and acres differ, the chain, to have the same advantages as Gunter's chain, must also be varied. Thus, in Scotland, the chain ought to be of .74 feet, or 24 Scots ells, if no regard be had to the difference between the Scots and English foot; but if regard be had to this difference, the Scots chain ought to confiit of $7 + \frac{2}{3}$ English feet, or $7 + \frac{1}{3}$ feet four inches, and $\frac{4}{3}$ of an inch. This chain being divided into a hundred links, each of these will be \$3000 inches. See FOOT and ACRE.

That orduarily used for large distances is in length a

hundred feet; each link one foot.

For

fmall chain of one pole, or fixteen feet and a half in length; each link one inch Togo. In measuring towns, a chain of 50 feet in length, confilling of 50 links, is the most commodious,

with an off-fet-staff of 10 feet in length.

feveral irregularities; both from the different degrees of moilture, and of the force which stretches them. Schwenterus, in his Practical Geometry, tells us, he has observed a rope 16 feet long, reduced to 15 in an hour's time, by the mere falling of a hoar frost. To obviate these inconveniences, filts be twilled contrary ways, and the rope dipped in boiling hot oil; and when dry, drawn through melted wax. A rope, thus prepared, will not get or lofe any thing in length, even though kept under water all day.

p. 518.), that the common Gunter's chain of the shops is always subject to spring and stretch considerably. That which he used in his measurement for afcertaining the height of mountains was made of hardened ficel, on purpose to avoid this defect. It, however, still preferved fome degree of elasticity; for when pulled with a force of about 10 pounds, it feemed = 0.12 inch longer than when laid gently on the floor without being stretched at all. He corrected its length by allowing for its expansion by heat

at 1310 .05 inch.

Use of the CHAIN in Surveying .- The manner of applying the chain in measuring lengths, is very obvious. Having provided a chain, with 10 fmall arrows (fee Arrow), two persons take hold of the chain, one at each end of it, and all the 10 arrows are taken by one of them, who is to go foremost, and is called the leader; the other, for distinction's fake, being called the follower. A picket, or station-staff, being fet up in the direction of the line to be meafured, if there appear no natural marks in that direction; the follower stands at the beginning of the line, holding the ring at the end of the chain in his hand, while the leader drags forward the chain by the other end of it, till it is stretched straight, and laid or held level, and the leader directed, by the follower's waving his hand, to the right or left, till the follower to which the measure is to be extended; then both of them fretching the chain fraight, and flooping fo as to hold it level, the leader having the head of one of his arrows in the fame hand by which he holds the end of the chain, let him then flick one of them down with it while he holds the chain firetched. This being done, he leaves the arrow in the ground, as a mark for the follower to come to, and advances another chain forward, being directed in his position by the follower flanding at the arrow, as before; as also by himfelf now, and at every fucceeding chain's length, by moving himself from tide to fide, till he brings the follower chain, and fluck down an arrow, as before, the follower takes up his arrow, and they alvance again in the fame manner another chain-length. And thus they proceed till all the 10 arrows are employed, and are in the hands of the follower; and the leader, without an arrow, is arrived at the end of the 11th chain-length. The follower then fends or brings the 10 arrows to the leader, who puts one of them to the other at every 10 chains' length, till the whole line is finished; when the number of changes of the arrows shews the number of tens, to which the follower adds the arrows he holds in his hand, and the number of links of another

For fmall parcels, as gardens, &cc. is fometimes used a chain over to the mark or end of the line. So that if there have been three changes of the arrows, and the follower holds fix arrows, and the end of the line cut off 45 links more, the whole length of the line is fet down in links, mer being integers, and the latter decimals: thus a line 6;

and a rood into 40 parts called perches, which are square

40 perches = 1 rood. 4 roods

figures towards the right, which is nothing more than divid-



Anf. 3 acres, o rood, 7 perches.

To take an angle, DAE (Plate 1. Surveying, fig. 3.) by de: to lay this down, draw AE at pleasure, and from

are de; and on the point e, as a center, with the meafured diltance of ed, deferibe another are ab. Through

To furvey a triangular field, A B C, (fig. 4.) Having fet up marks at the corners, if no natural marks occur; measure with the chain from A to P, where a perpendicular would fall from the angle C, and fet up a mark at P, noting down the distance A P. Then complete the distance A B by meafuring from P to B. Having fet down this measure, return to P, and measure the perpendicular PC. And thus, having the base and perpendicular, the area is cafily found. Or, having the place P of the perpendicular, the triangle is easily constructed. Or, measure all the three fides with the chain, and note them down; hence the content is eafily found, and the figure constructed. Or again, two fides A B, A C, may be measured, as well as the included angle A; or, one file A B, and the adjacent angles, A and B, may be measured; and then the figures may be easily planned. Then by measuring the perpendicular CP on the plan, and multiplying it by half

For an example of the application of this problem, let AP be 794, AB 1321, and PC 826: Then,

1321 7926 10568 2)10.91146 1.82292 .32.91680

Auf. 5 acres, 1 rood, 33 perches nearly.

To measure a four-fided field, ABCD (fig. 5.) Measure along a diagonal, as AC, and either of the two perpendiculars DE, BF, as in the last problem; or else the sides AB, BC, CD, DA. From either of which the figure may be planned, and its contents computed. Otherwise, measure on the longest side the distances AP, AQ, AB, and the perpendiculars PC, QD. (fig. 6.) Or, measure the diagonal in fig. 5; and the angles CAB, CAD, ACB, ACD. Or, measure the four sides, and any one of the angles, as BAD.

Ex. 1. Let A E be 214, A F 362, A C 592, D E 210, and B F 306. Then,

516 fum of perpendiculars 4644

8.75520

Anf. 3 acres, o rood, Si perches.

the point where this interfects the former are, draw a line A D. So is the angle plotted; and its quantity, if required, may be measured on a line of chords. See Chord.

Or, in fig. 6. Let A P be 110, A Q 745, A B 1110, P C 352, and Q D 595. Then, P C 352 P C 352 Q D 595 QD 595 AP 1110 fum 947 PQ 635 1785 4735 2841 217175 = 2 Q D B 601345 = 2 PCDQ 38720 = 2 A P C 2 PCDQ 601345 2)8.572.40 = double the whole. 4.2862 1.1443

Anf. 4 acres, I rood, 51 perches.

To furvey any field by the CHAIN only. Having fet up marks at the corners, where necessary, of the proposed field A B C D E F G, (f_S, γ) . Form a judgment, by walking over the ground, how it may best be divided into triangles and trapeziums; and measure them separately as in the two last problems. In this way it will be proper to divide it into as few feparate triangles, and as many trapeziums as may be, by drawing diagonals from corner to corner; and so as that all the perpendiculars may fall within the figure. Thus, the figure is divided into the two trapeziums ABCG, GDEF, and the triangle GCD. Then, beginning with the first at A, measure the diagonal A C, and the two perpendiculars Gm, Bn; then the base G C, and the perpendicular Dq; laftly, the diagonal D F, and the two perpendiculars Ep, Go. All which measures write against the corresponding parts of a rough figure drawn to resemble the figure to be surveyed, or set them down in any other form at pleafure.

130 mG Am 135 180 nB An410 AC 550 $\stackrel{C}{C}\stackrel{q}{G}$ 230 g D 152 Fo 206 120 0 G FP So pE. FD

Or thus; measure all the fides AB, BC, CD, DE, EF, FG, and GA; and the diagonals AC, CG, GD,

DF

Otherwise; many pieces of land may be very well surveyed, by measuring any base line, either within or without them, together with the perpendicular let fall upon it from every corner of them. For they are then divided into feveral triangles and trapezoids, all whose parallel fides are perpendicular to the base line; and the sum of these triangles and trapeziums will be equal to the figure proposed, if the baseline fall within it; if not, the fum of the parts which are without being taken from the fum of the whole which are both within and without, will leave the area of the figure proposed. In pieces that are not very large, it will be fufficiently exact to find the points, in the base-line, where the several perpendiculars will fall, by means of the erost, 3 D 2

(fee Cross), and from thence measuring to the corners for the lengths of the perpendiculars. And it will be most convenient to draw the line to as that all the perpendiculars may fall within the figure. Thus, in fig. 8, beginning at A, and measuring along the line AG, the distances and perpendiculars, on the right and left, which will be as follows: viz.

Ab 315 Ac 440 A. 610 Ae 610 Af 990 AG 1020 AG 1020 350 b B 70 c G 3 d P 50 e E 472 f F

AG 1020 See SURVEVING.

By the CHAIN to find the difference between two objects inaccoffile in refrict of each other. From from place, as C (fig.
1.), whence the common diffance to each object, A and B,
is accelible in a right line; measure the diffance C A,
which suppose fifty chains; and continue the line to D,
viz. fifty more: measure also BC, which suppose thirty
chains; and produce the line to E, viz. thirty more.
Thus will be formed the triangle C D E, equal and similar to the triangle A BC; consequently the diffance
D E, being measured, will give the inaccessible distance

required.

By the Chain to find the diffance of an inascefible object, v. g. the breadth of a river. On one fide place a pole, tour or five feet high, perpendicularly, having a flit at top, with a straight piece of wire, or the like, two or three inches long, put through the same. This is to be straight up or down, till, looking along it, you find it point full on the other fide of the river; then turning the pole with the wire in the same direction, observe the point on the dry land to which it points when looked along as before; measure the distance from the pole to this last point; it is the same with that of the first required.

CHAIN bar, in Canals, is a line of metal-cramps, fometimes let into the top-course or coping of locks and walls

to tye them together

CHAIN-beat, a large boat fitted with a davit over its stem, and two windlasses, one forward and the other aft, in the inside. It is used for getting up mooring-chains, anchors. &c.

CHAIN-Plates, in Ship-luilding, thick non plates bolted to the ship's sides, and to which the chains and dead-eyes that support the mass by the shrouds are connected.

CHAIN-Pump. See PUMP. CHAIN-Shot. See SHOT. CHAIN. Top. See Top-chain.

CHAIN-Wales, or CHANNELS, in Ship-building, are thick planks projecting horizontally from the fides of a ship, to which they are bolted, and also confined thereto by chains, or chain-plates, and hence the name. The lower ends of the chain-plates are bolted into the ship's sides, and the upper pass through notches in the chain-wales, and contain the dead-eyes, immediately above. To these dead eyes, those at the lower ends of the shrouds are connected by laniards, each to each; and the chain-wales are of a breadth sufficient to keep the shrouds clear of the gunwale. Two chain-wales belong to each mast, one upon each side of the ship, and they are fo placed that the fore dead-eye in each, and the mast to which they belong, are nearly in the same straight line; and of lingth fufficient to contain as many dead-eyes, at proper intervals, as there are shrouds: by this disposition, the maft is supported laterally, and from abaft, by the shrouds and back-flays; and the other flays support it forward.

CHAINGY, in Geography, a town of France, in the department of the Loiret, 5 miles W. of Orleans.

CHAINS, Catena, in Ecclefiaflical History, denote collections of such theological opinions and scriptural interpretations, as had been received by the ancient doctors of the

Chains, hanging in, a kind of punishment inflicted on murderers. By that, 2,5 Geo, II.c., 37, the judge shall direct fuch to be executed on the next day but one, unless Sunday intervene; and their bodies to be delivered to the largeons to be discreted and anatomized; and he may direct them afterwards to be hung in chains. During the interval between sentence and execution, the prisoner shall be kept along, and sustained only with bread and water. The judge, however, both power to respite the execution, and relaxithe other restraints of the act. Blackst. Com. vol. iv. p. 202.

Chains, in Ship building, are those irons by which the

CHAIR, Cathedra, was anciently used for the pulpit, or fuggethum, whence the priest spoke to the people.

It is still applied to the place whence prolesiors and regents in universities deliver their lectures, and teach the leiences to their pupils: thus, we say, the professor's chair, the doctor's chair, &c.

CHAIR, Curule, was an ivory feat placed on a car, wherein were feated the prime magnificates of Rome, and those to

whom the honour of a triumph had been granted.

CHAIR, Sedan, a covered vehicle for carrying a fingle person supported by two poles, and borne by two men, hence denominated chairmen. They were first introduced in London in 1634, when Sir Sanders Duncomb obtained the fole privilege to use, let, and hire a number of the said covered chairs for 14 years. The first sedan chair, says Hume (Hift. vol. vi. p. 168, 8vo.) feen in England, was in the reign of James I., and was used by the duke of Buckingham; to the great indignation of the people, who exclaimed, that he was employing his fellow-creatures to do the fervice of beatts. In 1604 they were first taxed by act of parliament (5 and 6 W. and M. c. 22.): and by 9 Anne, c. 23. 6 8. 200 hackney-chairs were licensed, at 10s. per annum; and no person was obliged to pay for a hackney-chair more than the rate allowed by the act for a hackney-coach driven two-third parts of the faid diffance. By the faid act every chair shall have a distinct mark on each side, and altering such mark incurs a forfeiture of 51. half to the informer and half to the king. Nor shall any person carry for hire in a hackney. chair, without licence, on pain of 40s.

In the following year, by 10 Ann. c. 19. chairs were increased to 300; and by 12 Geo. I. c. 12 to 400, on account of the great increase of buildings to the westward. By 7 Geo. III. c. 44. §. 13. a chairman may take for any distance not exceeding one mile, 12d.; for any distance above one mile and not exceeding one mile and four furlongs, 18. 6d.; for every further distance not exceeding four furlongs, 6d.; and by the hour 18d. for the first hour, and 6d. for every half hour after. By 9 Ann. c. 23. a chairman, guilty of misbchaviour, by demanding more than his fare, or giving abusive language, or otherwise behaving rudely, shall, on conviction on oath forseit not exceeding 20s. to the poor, or be committed for 7 days to Bridewell or some other house of correction; and by 7 Geo. III. c. 44, the commissioners may revoke his licence, or instict on him a penalty not exceeding 31. to the poor; and on non-payment, he shall be committed to hard labour in some house of correction for 30 days. See Hackey Coaches.

CHAIR is also applied by the Romanists to certain feasts, held anciently in commemoration of the translation of the fee,

or feat of the vicarage of Christ, by St. Peter.

The perforated chair, wherein the new-elected pope is placed, F. Mabillon observes, is to be seen at Rome: but the origin thereof he does not attribute, as is commonly done, to the adventure of pope Joan; but fays there is a mystery in it; and it is intended, forfooth, to explain to the pope those words of Scripture, that God draws the poor from out of the duft and mire

CHAIRMAN, the prefident, or speaker of an affembly, company, &c. We say, the chairman of a committee, &c. CHAISE, a fort of light open chariot, or calash. See

COACHES.

Aurelius Victor relates, that Trajan first introduced the use of post-chaifes: but the invention is generally ascribed to Augustus; and was probably only improved by Trajan, and fucceeding emperors. Goth. in Cod. Theodof. tom. ii.

p.506, &c.

CHAISE, FRANCIS DE LA, in Biography, a distinguished ecclefiaftic of France, in the reign of Lewis XIV. was born in the chateau of Aix in 1624, and entered the fociety of Jefuits at their college of Roanne, where he had been educated. He was employed for several years in teaching the belles-lettres, philosophy, and theology in different colleges of his order, and at length became provincial of the province of Lyons. From hence he was drawn to court, in 1675, by Lewis XIV. to fill the important post of his consessor. for which he possessed many necessary qualifications. As his figure was commanding, his manners polite, and his disposition to luxury and splendour such as suited the talle of Lewis, he acquired a powerful and permanent influence. To him was committed the distribution of benefices; and he maintained an absolute independence of mad. de Maintenon. The jealoufy and diflike with which she regarded him were expressed in her letters; but her unfavourable representations of his temper and character were counteracted by those of the duke of St. Simon, who deferibes him as mild and moderate, humane and modest, possessed of honour and probity, and though much attached to his family, perfectly difinterested. This panegyrist adds, that he valued himself on his birth, and loved to favour nobility; and this circumflance ferved to induce a partiality on the part of this nobleman in his favour. Attached to his own order, he promoted its triumph over Jansenism; nevertheless, his treatment of the Jansenists may be reckoned very moderate compared with that of his successor Le Tessier. In his Seth year, senfible of the decline of his faculties, he wished to retire, and with these wishes the Jesuits concurred; but the king would not allow it. Even when he was broken down by infirmities, and had loft his memory, the king, as M. de St. Simon emphatically expresses it, had the earcoss of his confessor brought to him for the purpose of transacting the usual business. He retained this office till his death, at the age of 85, in 1709. He was one of the first members of the Academy of Inscriptions, to which rank he was entitled by his knowledge of medals and of ancient history. Nouv. Dict. Hift. Gen. Biog.

CHAISE, LA, or LACHEZE, in Geography, a town of France, in the department of the North coasts, and chiefplace of a canton in the diffrict of Loudeac; 5 miles S. E. of Loudeac. The place contains 458, and the canton 11,828 inhabitants; the territory includes 2121 killiometres and 7 communes.

CHAISE-DIEU, LA, a town of France, in the department of the Upper Loire, and chief place of a canton in the diffrict of Brioude, 13 miles from Brioude, and 18 N.N.W. of Le Puy. The place contains 1322, and the canton 9042 inhabitants; the territory comprehends 230 kiliometres and 14 communes.

partment of the Vendée, and diffnict of Montaigu; 5 miles E. of La-Roche-fur-You.

CHAJUK, a town of Afia, in the country of Chara'm, on the frontiers of the Greater Bucharia.

CHAKEN KAN, a town of Afiatic Turkey, in the province of Caramania; 20 miles N.N.E. of Tarfus. CHAKENI KOUZEY, a town of Afia, in the king-

dom of Candahar; 120 miles E.N E. of Candahar.

CHALA, a small sea-port of South America, in the Pacific Ocean, near the river Arequipa.

CHALA, in Ancient Geography, a town of Asia, in Assyria; placed by Isidore de Charux in the Chalonitis.

CHALAAMA, a river of Atia, in Syria.

CHALABRE, in Geography, a town of France, in the department of the Aude, and chief place of a canton, in the diffrict of Limoux; 10 miles S.W. of Limoux. place contains 1820, and the canton 8513 inhabitants: the territory includes 205 kiliometres and 16 communes.

CHALACH, in Ancient Geography, the capital of Chalacene, near the springs of the river Lycus. Strabo places

the Chalacene in the vicinity of Adiabene.

CHALADRA, CHARADRA, or GALADRA, a town and

marsh of Macedonia.

CHALÆON, a port of Greece, in the Locride, 7 miles from Delphi, according to Pliny, who afcribes it to the

CHALAIN, or LA POTHERIE, in Geography, a town of France, in the department of the Mayne and Loire, and dittrict of Segré; 7 leagues N.W. of Angers.

CHALAIS, a town of France, in the department of the Charente, and chief place of a canton, in the diffrict of Barbezieux; 5 miles W. of Aubeterre. The place contains 383, and the canton 7728 inhabitants: the territory comprehends 130 killiometres and 16 communes.

CHALAMONT, a town of France, in the department of the Ain, and chief place of a canton, in the district of Trevoux ; 4 leagues N.N.E. of Montlucl.

CHALAK, a town of Persia, in the province of Gedrofia.

CHALAN, a town of Persia, in the province of Farsistan; 40 miles N.W. of Schiras.

CHALANÇON, a town of France, in the department of the Ardeche; 3 leagues N. of Privas.

CHALAPA, in Botany, and the Materia Medica, is a name given to jalap.

CHALAPU, in Geography, a mountain of the Cordilleras, in South America; which has, in its neighbourhood, the town of Hambato, and its skirts diversified with seats and farms; but its declivity is very steep. On this mountain the French mathematicians erected one of their fignals, in measuring the length of an arc of the meridian.

CHALARONNE, a river of France, which runs into

the Saone, near Toiffey.

CHALASTIC Medicines, are fuch as have the faculty of relaxing the parts; when, on account of their extraordinary tention, or fwelling, they occasion pain.

The word comes from xaxaw, I relax.

Of this kind are butter, and many oils, &c.

CHALASTICUM SAL, in the Materia Medica, a name given by fome writers to the fal gem.

CHALASTRA, in Ancient Geography, a town of Macedonia, placed by Bliny, in the Thermaan gulf. Herodotus and Strabo call it Chaleffra.

CHALAU, or KALAU, in Geography, a town of Lufa-

tia; 46 miles S.W. of Frankfort on the Oder. CHALAUTRE, a town of France, in the department CHAISE-LE-VICOMTE, LA, a town of France, in the de- of the Seine and Marne; 2 1/2 leagues E. of Provins.

CHALAZA.

CHALAZA, among Naturalifls, a white knotty kind of flring at each end of an egg, formed of the plexus of the fibres of the membranes, whereby the yolk and white are

of this microcofm, and the connection of all the membranes twifted and knit together; whereby the liquors are not only conferved, each in its place, but also in its due polition to

which way it will; which is done by the following mechanifm: the chalaze are specifically heavier than the whites wherein they fwim; and being braced to the membrane of the yolk, a little out of the axis, they caufe one fide of the yolk to be heavier than the other. The yolk being thus by the chaluza made buoyant, and kept swimming in the midfl of the two whites, is, by its own heavy fide, kept with the fame fide always uppermoft: which uppermoft fide he

CHALAZA, in Betany, a name given by Gertner to a particular part of the internal membrane which belongs to most feeds. It has the form either of a fmall deep-coloured fpot, or of a fmall, fpongy, callous tubercle, proceeding from the extremities of the internal umbilical veffels, or from the dry remains of the chorion, and appearing on the outer furface of the membrane. It is found in many, but not in all feeds; exhibits a variety of forms. The chalaza is a black fphacelated fpot in eleufine, a thick fungous excrefeence in zecynvatera, and other malvaceous plants. When it is fituated, as it most frequently is, opposite to the umbilious, its form is always round, with a moderate convexity; as in citrus, myrobalanus, bixa, protea, staphylia, alchemilla, and very many others; in all which the deep colour of the chalaza, and its close connection with the internal membrane, are clearly difcernible. See Gærtner de Fructibus, vol. i. Introd.

CHALAZIAS, or CHALAZITES, in Natural History, the name of a fmall thone, deferibed by Pliny and other ancient writers, and faid to have been of the fize and col ur of a was probably no other than the fmall pebble-crystals of the Indies, which are at this time frequent on the fhores of rivers there, from the bigness of a large pin's head to that of a pea:

together with chalcitis, mily, melanteria, and fory, was apdecomposition, and therefore approaching more or less to native vitriol. See Iron. fulphat of.

CHALCANTEUM, in Medicine, the fame with vitriol.

ted with common water.

CHALCE, in Ancient Geography, an ancient town of

Africa, in Libya, according to Steph. Byz .- Alfo, a town placed by this geographer in Phænicia .- Alfo, a town Mediterranean, on the coast of Asia Minor, near Rhodes,

CHALCEDON, or CALCEDON, in Ancient Geography, years before Byzantium. It was anciently known by the ferving that epithet for having built their city on a barren pleafant spot on the opposite shore, which the Byzantines penance of a regular fociety of monks. A numerous and was fummoned to celebrate, at the same time, the dedication fourth general or ocumenical council. At this council Entyches, who had been already banished, and deprived by absent; and the following doctrine was inculcated upon Christians as the object of faith, viz. "that in Christ two diffinct natures were united in one person, and that without after a long fiege, A.D. 616, by Chofroes II. king of

into apple and olive-green; or yellowith-grey, prilling into wax and other-yellow, yellowith and blackith-brown, and

the ground, while the others are distributed over its surface in dots, clouds, or stripes. When white and yellowishbrown stripes alternate with each other, the stone is called an onyx, and is highly esteemed by the lapidaries. The grey varieties, with thick prismatic distinct concretions, when transversely cut, present iridescent colours when held to the light, and have hence been named rainbow chalculony. The transfluent milk-white variety is called cacholong. The green and small-blue varieties are the rarest: the dark coloured ones, when cut thin and held to a strong light, appear blood-red.

It is found massive, or forming veins, or in round balls of various fizes called geodes; also kidney-shaped, botryoidal, stalactitic, mamillated, and impressed by various organized bodies, fuch as turbinitis, &c. Certain cryftalline forms, especially those of quartz, have also been attri-buted to chalcedony; but these appear to be nothing more than crystals of quartz coated over with chalcedony. It peffesselittle or no luttre; its fracture is perfectly even, paffing into fine-splintery and flat-conchoidal; it breaks into indeterminate sharp-edged fragments; it frequently exhibits concentric, lamellar, or angular dillinct concretions; it is commonly femi-transparent, but the darker-coloured varieties are only translucent; it is somewhat harder than flint, and much less brittle. Sp. gr. 2.58 to 2.65. It is infusible per se, before the blow-pipe, but becomes milkwhite and opaque. According to Bergman, the chalcedony from Ferroe confi:ts of

84 Silex.

16 Alumine and a little iron.

100

It occurs in veins and geodes in amygdaloid; also in

veins, accompanied by quartz, pyrites, &c. in porphyry.

It was anciently procured from Chalcedon, in Leffer
Afia (whence its name); but at prefent it is found principally in Saxony, Hungary, Iceland, Scotland, and the
adjacent islands, Comwall, and various parts of Afiatic
Ruffia.

2. Cornelian. The utual colour of this mineral is blo-dred, whence it paffes into fleft-red, reddith-white, milk-white, orange and heney-yellow. Two or more colours often occur in the fame specimen, disposed in zones, stripes, and arborizations. It occurs in veins and rounded pieces, has a conchoidal fracture, and a slight degree of luttre: in other respects it agrees with the common chalcedony. The variety with alternate red and white stripes is called furdames.

Cornelian is found in various parts of Europe; but the most beautiful and valuable pieces are brought from Arabia, and Suat, and Cambay in India. Cornelian, from its beauty and hardnefs, has always been much fought after by lapidaries. Some of the finell antique cameos are made of it.

The coloured chalcedonies pass into AGATE, which fee.

CHALCEMBOLON, in Antiquity, a ship, the rostrum of which was of brass.

The word is compounded of xahzos, braft, and tuloohos, rostrum.

CHALCEPOS, in Botany, Dalech. See Echinops

CHALCETORES, in Ancient Geography, a name given by Strabo to a place of Alia Minor, in Caria.

CHALCETORIUM, a town of the island of Crete. Steph. Byz.

CHALCIDENE, an inland province of Syria, bounded by Antiochene or Scleucis, on the west; Cyrrhestica, on the north; Chalybonitis, on the east; and by Apamene and Calesyria, on the fouth. It took its name from its metropolis Chalcis. This was reckoned one of the most fruitful provinces of Syria, and was seized by Ptolemy, the son of Mennæus, during the troubles of Syria, and by him made a separate kingdom. Ptolemy himself is styled by Josephus and Hegesippus only prince of Chalcis; but his son Lysanias is honoured both by Josephus and Dio with the title of king.

CHALCIDENSES, a people of Afia Minor, placed by Strabo in Ionia.—Alfo, a people fituate, according to Diedorus Siculus, about the river Phafis.—Alfo, a people of Thrace, in the country where were fituated tife towns of Tinda and Milcorus. They are mentioned by Arilbotle and

Thucydides.

CHALCIDIC, CHALCIDICUM, or CHALCEDONIUM, in the Ancient Architecture, a large magnificent hall belong-

ing to a tribunal or court of justice.

Feflus fays, it took its name from the city Chalcis; but he does not give the reason. Philander will have it to be the court, or tribunal, where affairs of money and coinage were regulated; so called from xaxxxx, brafs, and days, fuffice. Others say, the money was struck in it; and derive the word from xaxx3, and cox3, baufe.

In Vitruvius, it is used for the auditory of a BASILICA: in other of the ancient writers, for a hall, or apartment,

where the heathens imagined their gods to eat.

CHALCIDICA LACERTA, in Zoology, a reptile deferibed as a fort of ferpent, and fo called from its refemblance in colour to the chalcedony. Its bite is fucceeded, they tell us, by a pellucid tumour, which has a shining blackness at the margin; and drank in wine, it cures its own bite, according to Paulus Ægineta. This animal is no other than the LACERTA Chalcides of Linnæus, which fee.

CHALCIDICE, or Chalcitis, in Ancient Geography, a country of Macedonia, according to Ptolemy, which comprehended the mountains S. E. of Apollonia, and the two peninfula which lay between the Toronaic, Singitic, and Strymonic gulfs. In this country was the famous mount Athos, which fee. Ptolemy reckoned in this country only five cities; but Suidas fays, that Philip took here 32 towns. Among these we may mention Augea, Singus, Chalcis, and Acanthus, now Eristo.

CHALCIDICUM, in Antiquity, sometimes denoted a

dining-room. See CHALCIDIC.

CHALCIDICUS Mons, in Ancient Geography, a mountain of Scily, according to Polybius and Steph.

CHALCIDIUS, in Biography, a Platonic philosopher, concerning whose time and character writers have enter-tained different opinions. Some have supposed that he was deacon or arch-deacon in the church of Carthage; others think that he was an heathen. According to Hody he was a Genthe, well acquainted with Christian writings. Besusobre calls him a Christian philosopher, and says, that he joined Christianity with Platonism. Cave is doubtful whether he was a Gentile or a Christian. Fabricius represents him as a Christian writer of the fourth century; but Mosheim hesitates. Dr. Lardner suggests some difficulties; such as his seeming to approve of the divinations of Gentillin, and allowing them to be of use for discovering sutuities. He quotes Moses as a wise man, but seems to express a doubt whether he possible divine inspiration, as well as human knowledge. Upon the whole, his manuer of

CHA CHA

witing due not el ". I w whether his religion was Charles on Go . Letter, with his used mode the was a post Pleane place and a second training to be a fitting on a Cityle to, who entry wall be that it ; and he tupposes with Cave, that he flourished about the year 330. Chileidius translated into Latin the former part of the Timeus of Plato, and added a prolix commentary, in which he shews much learning and good skill in the fentiments of the ancient phil fophers. This work is inscribed to Olius, or Hofius, supposed to be the bishop of Corduba in Spain, and a principal member of the council of Nice in 325. He refers to the history of St. Matthew (chap. ii. 1.); and whether he was a Christian or a heathen, this passage is a valuable testimony to St. Matthew's gospel, and to the hiftory which he cites. If the commentary be confidered as the work of a Gentile philosopher, the feveral quotations of the Old Testament and of the New that occur in it afford proof that the Scriptures were then well known in the world. Lardner thinks with Cave, that the flyle of the paragraph which he has cited is that of a Gentile, not of a Christian writer. Lardner's Works, vol. viii. c. 42. Cave, H. L. vol. i. p. 190.

CHALCIS, Egripo, in Ancient Geography, a town of Greece, and reckoned the capital of Eubera, was built in the western part on a fmall peninfula, which feemed to join the island. The name of Chalcis, which was common to the island of Eubœa, and its capital, Stephanus derives from the daughter of Asopus, king of Boeotia; called Combe, and surnamed Chalcis, from her having first invented brazen armour; whence Pliny deduces it from a Greek word χαλκος, fignifying brafs or copper, which he supposes to have been first used here. The Chalcidians, in their better days, were renowned for their skill in navigation; but they were very generally reproached, on account of the diff. luteness of their manners; and their avarice was a topic of ridicule among the ancient Armenians. They fent colonics into Thrace, Macedonia, Sicily, the island of Corcyra, Lemnos, Italy, &c. See EUBŒA. Chalcis was one of the three cities which Philip, fon of Demetrius, called "the fetters of Greece." Strabo fays, that it was joined to the continent of Bootia: and Pliny thought that Eubora was united with the continent by this place, which is not improbable. The fmall strait which separates the island from the continent is called Euripus, and by the modern Greeks Euripo, whence by corruption is derived Egripo, the name given to the island.

CHALCIS, a town of Macedonia in Chalcidice. It was fituated between Olynthus, the Singitic gulf, and Apollonia. Thucydides and Steph. Byz. refer it to Thrace, because the boundaries of this country were sometimes

CHALCIS, a mountain of Greece, in Ætolia, according to Strabo, who fays, that it extended along the eastern bank of the Evenus, from the mouth of this river to the northern extremity of Ætolia.

CHALCIS, a town of Greece, in Ætolia, feated on the fore-mentioned mountain .- Alfo, a town of Greece, in Bœotia, according to Hefychius .- Alfo, a river of Greece, in the Peloponnesus, which, according to Strabo, ran to the confines of Triphylia and the Pisadite territory, near Sarnicum .- Alfo, a river of Afia Minor, in Bithynia, which watered the city of Chalcedon, and discharged itself into the Thracian Bosphorus .- Also, a maritime burgh, with a port, in Afia Minor, upon the fouthern coast of Ionia, N. of the ifle of Samos, and near Teos .- Alfo, one of the islands called Echinades, which were Grecian islands on the

coast of Ætolia .- Also, a town of Asia, in Syria: feated on the northern bank of a lake, whence fprung the river Chalcis, and which gave its name Chalcidene to the country. The Notitia of Hierocles diffinguishes it as an episcopal city of Syria Prima, and the Itinerary of Antonine places it W. of Bercea .- Alfo, a town of Arabia Fel x, which Pliny fays was founded by the Greeks, but destroyed by the war .- Alfo, a town of Scythia, mentioned by Steph.

CHALCIS, in Entemology, a genus of Hymenopterous infeets established by Fabricius, and included by Gmelin in the Linnwan arrangement between the Tiphia and

The genus Chalcis confifts, with the exception of one, or, at most, two species, of infects discovered since the time of Linnærs, and which cannot, with propriety, be reduced to any of the Linnman genera. It approaches both the Sphex and Vefpa tribe; it is to the Vefpa Linnaus refers Chalcis minuta of Fabr., and if the infect described in his Fauna Suecica, n. 1657, be the Chalcis Sifpes, as commonly believed, the latter flands in his genus Sphex. The Fabrician character of the genus Chalcis is Palpi quatuor aquales : Antennæ breves, cylindricæ, fere fufiformes : articulo primo fuberaffiori. Fabr. Ent. Syft. The following generic character after the Linewan method is proposed for Chalcis, in the eleventh volume of the Natural History of British Infects. Mouth with a horny, compressed, and sometimes elongated jaw; feelers four, equal; antennæ cylindrical, fuliform, first joint rather thickest; thorax gibbous, lengthened behind, and obtule; abdomen small, rounded, and subpetiolate; posterior thighs thickish. Donov. v. 11. p. 57.

SPECIES.

CHALCIS sipes. Black; petiole of the abdomen, and pollerior thighs yellow. Fabr. mant. Sphes sipes, Fabr. Sp Inf. Sphen nigrifen, Subz. Vefpa, &c. Geoff. A native of Europe.

Obf. The posterior thighs are clavated, and toothed, of a yellow colour, and marked with a large spot of black; those of the female simple.

CHALCIS clavipes. Black; thighs of the hind-legs thick. and rufous. Donov. Brit. Inf. Fabr. Hybner, &c.

Size of the last; colour black and gloffy, except the pofterior thighs. According to Hybner this infect inhabits Saxony; it has been taken rarely in England. Latreille, who describes it under the name of Chalcis clavifède, mentions it as a scarce insect in France.

CHALCIS minuta. Black: posterior thighs thick, and yellow at the tip. Fabr. Vefpa minuta, atra geniculis pedum luteis, femoribus pofticis ovatis fubtus muricatis,

This species is small, and has the posterior thighs ferrated, and thanks incurvated, yellow, and tipped with black. Fabricius describes this as a German insect. Latreille informs us it is not uncommon in France, in the vicinity of Paris, and it may be confidered, we believe, as a native of this country.

CHALCIS punclata. Yellow, dotted with black : posterior thighs clavated and toothed; abdomen conic. Fabr. Ent.

Syit. Sphen punctata, Sp. Inf.
This kind inhabits the South American islands. The thorax is yellow, with black fpots and dots; abdomen fomewhat petiolate, yellow, tipped with black; potterior thighs with a black dot at the base and tip; wings white, and

CHALCIS apiformis. Cinereous; abdemen black; poste-

rior legs thick, tellaccous, with a tooth at the base of the foot. Fabr.

Native country unknown. Described from the collection of Lund. The antenræ are black, with ferruginous base; head villous and cinereous; lip rounded, yellow, with a black threak; thorax cincreous; abdomen black; wings

CHALCIS podagrica. Black; posterior thighs thick, ferrated, and ferruginous, with a white fpot at the tip. Fabr.

Inhabits Tranquebar. Small; antennæ short and thick; head and thorax black, with a callous dot before the wings; abdomen thort, rather compreffed, black and without fpots; legs white; thighs black; posterior pair, with a large white fpot above; the shanks incurved, white, and in the middle black.

CHALCIS Aenea. Black; abdomen conic, black, and gloffy; pollerior thighs thick, and without fpots. Fabr.

Chalcis Aenea, Roffi. This is a native of Italy. The fize is fmall, and the colour entirely black, except the white wings; posterior

thighs very thick.

CHALCIS pufilla. Gloffy black; posterior thighs thick, with a white dot at the tip. Fabr. Refembles the last, but is only half the fize. Inhabits Saxony. Hybric Natur. Chalcis annulata. Black; pollerior thighs thick and

dentated, with a white dot at the tip; fhanks white, ftinged

with black. Fabr.

Inhabits South America, and appears, from the account of Dr. Pflug, to be of the paralitic kind like the Ichneumon, being found in the pupa of moths. It may be added, that as we are unacquainted with the Chalcis tribe in general, except in the winged state, the whole of them may be of the parafitic kind, depositing their ova, and being nou-rished in the larva state in the bodies of other infects. The fize of Chalcis annulatus is the fame as the preceding; the head and antennæ are black; thorax fomewhat villous, black, with a frowy white dot before the wings; abdomen conic, smooth, and without spots; wings white; thighs of the posterior legs thick; shank incurved.

CHALCIS flavipes. Black; potterior thighs thick, fer-

rated, with a yellow fpot at the tip; legs yellow. Fabr. Described from the cabinet of Dr. Pflug as a native of the South American islands. Resembles the last in size and appearance. The head is black; thorax dotted, with a yellow callous dot before the wings; abdomen conic, black, and gloffy; wings hyaline; legs yellow; thighs black at

CHALCIS maculata. Yellow, spotted with black; segments of the abdomen ferruginous at the base; posterior

thighs clavated and immaculate. Fabr. Rohr.

Inhabits Cayenne. The body is small; antennæ short, black, the first joint testaceous; head yellow, with a central black line, and four vertical black dots; thorax yellow, anterior fpot, dorfal line, and dot on each fide black; legs yellow; thighs black at the base; posterior thighs ferrated.

CHALCIS, in Ichthyology, a name by which fome have called the pilchard; called by others celerinus, and Apua

membras. See CLUPEA pilcardus.

CHALCIS was also the name given by Aristotle, Ælian, Appian, and other Greek authors, to the common herring.

See CLUPEA barengus.

CHALCITARIUM, in the Materia Medica of the Ansients, a name given by the Greeks of the middle ages to the colcothar, or calcanthum. Some have applied it to the CHALCITIS alone, but others make it express the vitrio.s in general. It is derived from the Arabian word colcothar.

Vol. VII.

CHALCITIS. See CHALCANTHUM.

CHALCITIS, in Ancient Geography. See CHALCIDICE. CHALCITIS, an ifland of the Propontis, at the en-

trance of the Thracian Bofphorus, and over against Byzantium. It is faid to have had mines of copper.-Alfo, a country of Alia in Mesopotamia. - Also, a country of India, beyond the Ganges, according to Ptolemy, in which they had mines of copper.-Allo, a country of Alia Minor in Ionia. Paufanias fays that it was in the vicinity of Erythres.

CHALCO, in Geography, a town of North America, in the province of Mexico, near a lake to which it gives name;

CHALCOCONDYLES, LAONICUS, an Athenian, who flourished in the 15th century, about 1470, and wrote in Greek, a "Hillory of the Turks," from 1298 to 1462; which was translated into Latin by Conrad Clauser of Zurich: a Louvre edition of it was given in Gr. and Lat. in 1650, fol.; and a French translation by Vigenere and Mezeray, with comments, was published in 1662. Nouv. Dict.

Hilt. Fabr. Grac. t. vi. p. 474. CHALCODONIUS Mons, in Ancient Geography, a mountain of Greece, in that part of Theffaly, called Pelafgia,

above Phera.

CHALCODONTIDÆ, a name given by Homer (Iliad B.) to the Eubœans, and derived from Chalcodon, who fucceeded his father Abas, the first king who reigned in Eubœa. This Chalcodon made war upon the Thebans, reduced their city, and compelled them to pay an annual tribute; but he was afterwards overcome and killed by Amphitrion, the father of the Theban Hercules; after which the Thebans regained their liberty.

CHALCOGRAPHY, the art of engraving on copper

and brafs. See ENGRAVING.

CHALCOLIBANON, a word mentioned in the Apocalypse of St. John, and very much misunderstood by the interpreters, who generally render it braft; but the word will bear no fuch fignification. When the name of a metal is prefixed to some other word it only denotes the thing mentioned after the metal to be of the colour of that metal. This word is formed of xxxxxx, brafs, and olibanum, frankincense. We have many parallel compounds, and all understood in the same way, the name of the metal only expressing the thing to be of its colour: thus chrysomela are apples of the colour of gold, &c. This, therefore, can only fignify frankincense of the colour of brass, that is, yel-

CHALCONDYLES, DEMETRIUS, in Biography, a learned modern Greek, was a native of Athens, and having arrived in Italy, about the year 1447, refided for some time at Rome, and afterwards settled at Perugia, as teacher of the Greek language. About the year 1471 he was invited to Florence by Lorenzo de Medici, as successor in the Greek professorship to Argyropulus. Angelo Poliziano, who at this time taught Greek and Latin at Florence, succeeded by his rivalry and intrigues in removing Chalcondyles from his station as professor; though he was still respected by Lorenzo for his learning, and also for the worth and simplicity of his character. In 1492, the year of Lorenzo's death, he left Florence, and in consequence of the invitation of Lewis Sforza, fettled at Milan; where he was famous as a teacher, and attended by a great number of scholars for many years. His erudition has been highly commended, and he has been ranked among the principal of the Greeks, who introduced the study of their language into Italy. He died at Milan in 1511, at the advanced age of 87 years. His only publication was a Greek grammar, first printed without date of year or place, but afterwards reprinted at Paris in 1525, g E

CHA authors. Moreri. Fabr. Bib. Græc.

CHALCOPHTHONGUS, in Natural History, a word used by Pliny, and other writers, as the name of a peculiar species of marble, which was very hard, and of a deep black colour, and when struck upon, founded like brafs.

CHALCORYCHIAN MOUNTAINS of Ptolemy, are mountains of Africa, in that part of Mauritania Cæfarienfis, which belonged to the Tingitanians or Western Moors, between Mons Durdus and the river Malva or Mullooiah. They were inhabited by the ancient Herpiditani, and now by a tribe of Kabyles, called Beni-zeneffel, who, fecure in their number and fituation, have not hitherto fubmitted to

the Tingitanians.

CHALCOS, in Coinage, a coin of brafe, eight of which were contained in the filver obolus, and supposed to have been the first kind of Greek coin. At first it was regarded as of fo little moment that it afforded occasion for a proverb; fo that to fay a thing was not worth a chalcos, was the same with faying that it was worth nothing. As the Greeks became poor, however, even this diminutive coin was fubdivided into 2, 4, or even 8 λεπθα or fmall coins. Pollux, and Suidas after him, tell us, that there were feven lepta to one chalcos; but this kind of division, from the unfuitableness of feven for proportional fubdivision, is not likely to have occurred. But both these writers are too late as authorities: Pliny fays: that there were 10 chalci to the obolus, Diodorus that there were fix, and Ifidorus that there were four; and as these writers differ about the larger denomination, it may well be imagined that the smaller equally varied in different flates. Most of the Greek copper coins which are now extant confift of chalci; the lepta being small, and more liable to be loft. All the brafs coins of Athens published by Dr. Coombe are reducible to four fizes, which may be the lepton, dilepton, tetralepton, or demichalcos, and chalcos. first is not above the fize of one of king James I.'s faithing tokens: the last about that of our common farthing. See MONEY

CHALCOSMARAGDUS. Almost every green mineral of a spathose texture was called by the ancient Naturalists fmaragdus. The chalcofmaragdus or copper emerald was found in the copper mines of Cyprus, and therefore was probably some spar tinged green by carbonat of copper.

CHALCUITOS, Los, in Geography, a town of North America, in the country of Mexico, and province of Za-

CHALCUS, in Ichthyc ogy, a name given by the ancient Greeks to the fish we call Lory, John Dorde, or Dorde. It feems to have obtained both thele names from its colour; the one from the word chakes, brafs; and the other from doree, gilded. See Zeus faler.

CHALCUS, among the Ancient Greek Phylicians, a weight of about two grains, the same as arcolus or areo-

CHALDÆA, in Ancient Geography, an appellation at first and generally used as synonymous with Babylonia; which fee. But in process of time, it was restricted to the country, that was fituated to the S.W. of Babylonia towards the Persian gulf, and towards the S. of the Euphrates. In Chaldwa, properly fo called, Ptolemy places the cities Spunda, Batracharta, Shalatha, Altha, and Teridon, all on the Tigris; in the inland country he enumerates Chuduca, Chumana, Bethana, Orchoe, Biramba, and several others, equally unknown.

CHALDÆANS, a name never given by Xenophon in his Retreat of the Ten Thousand, nor in his Cyropaidia, to the people of Babylonia; but it properly belonged to a

and at Bafil in 1556. He also affilled in editing some Greek family or tribe of people who from their infancy devoted themselves to the study of nature, to the observation of the flars, and to the worship of the gods, much after the same manner with the Magi of Persia and the Brachmans of India. The Chaldwans or Chaldees, properly fo called, were the priefts and learned men of Babylonia, whose whole fcience feems to have been subservient to the purposes of superstition. These Chaldmans were, perhaps, more distinguished from the people than the clergy are from the laity with us; and were as much revered in their country, as the Egyptian priefts were in theirs; and they are faid to have enjoyed the fame privileges. See CHALDEAN Philoso-

Xenophon (ubi fupra) gives also the same name of Chaldwans to the people who inhabited that branch of mount Caucasus, where the Tigris, the Euphrates, the Araxes, and the Cyrus had their source. These people are denominated Chalybes in the geography of Herodotus, and he places the Chaldeans in Babylon. Strabo fays (lib. x. and xi.) that the people anciently called Chalybes were, in his time, named Chaldwans; and the emperor Constantine Porphyrogenitus, who calls the provinces by the name of the people who inhabited them, gives that of Chaldia to the country, of which Trebizond was the capital, and which extended very far to the fouth and to the east of this city, comprehending a great part of the two Armenias. He adds that this name was derived from the Persians. Strabo describes the Chaldwans as a people almost favage, who dwelt in the mountains of Co'chide.

The Chaldwans, fays the learned Bryant, (Observ. and Inq. p. 253.) were the most ancient inhabitants of the country called by their name; nor are there any other principals, to whom we may refer their original. feem to have been the most early constituted, and settled, of any people upon earth; and from their fituation, and from every other circumstance, it appears, that Chus was the head of their family, and Nimrod their first king. They feem, he fays, to have been the only people, that did not migrate at the general dispersion; and the centre of their province was at Ur, not far from the conflux of the Tigris and Euphrates. From hence they extended themselves under the names of Cuseans and Arabians, as far as Egypt well, and eastward to the Ganges; occupying to the fouth all the Afiatic fea-coalt, and the whole of the large continent of Arabia; and from thence they paffed the Erythræan gulf, and penetrated into Ethiopia. They were continually incroaching upon those that were nearest to them; and even trespassed upon their own brotherhood. In process of time they got full possession of Egypt, and the whole coast of Africa upon the Mediterranean even to the Atlantic Ocean, as far as Fez and Taffilet; and are to

CHALDÆAN PHILOSOPHY claims attention on account of its very high antiquity. The most ancient people, next to the Hebrews, among the Eallern nations, who appear to have been acquainted with philosophy, in its more general fense, were the Chaldmans; for though the Egyptians have pretended that the Chaldwans were an Egyptian colony, and that they derived their learning from Egypt, there is reason to believe, that the kingdom of Babylon, of which Chaldra was a part, flourished before the Egyptian monarchy; and that the Egyptians were rather indebted to the Chaldwans than the Chaldwans to the Egyptians. Nevertheless, the accounts that have been transmitted to us,

Upon the Gambia is the king of Barfally, of Arabian extraction, as are all the Phooley natives; who retain their

original language, and are of the religion of Mahomet.

CHALDEAN PHILOSOPHY.

by the Chaldwans themselves, of the antiquity of their learning, are blended with fable and involved in confiderable uncertainty. At the time when Callifthenes was requested by Ariftotle to gain information concerning the origin of fcience in Chaldra, he was informed that the ancestors of the Chaldwans had continued their astronomical observations through a period of 470,000 years; but upon examining the grounds of this report, he found that the Chaldwan observations reached no farther backward than 1903 years, or that of course (adding this number to 331 B.C., the year in which Babylon was taken by Alexander) they had com-menced in the year 2234 B. C. Bendes, Ptolemy mentions no Chaldwan observations prior to the æra of Nabonassar, which commenced 747 years B. C. Aristotle, however, on the credit of the most ancient records, speaks of the Chaldaan Magi as prior to the Egyptian priells, who, it is well known, cultivated learning before the time of Mofes. There are other circumstances, independently of the antiquity of the Chaldwan philosophy, which render our knowledge of it imperfect and uncertain. We derive our acquaintance with it from other nations, and principally from the Greeks, whose vanity led them to despile and misrepresent the pretended learning of barbarous nations. The Chaldmans also adopted a fymbolical mode of inftruction, and transmitted their doctrines to pollerity under a veil of oblcurity, which it is not eafy to remove. To all which we may add that, about the commencement of the Christian æra, a race of philosophers fprung up, who, with a view of gaining credit to their own wild and extravagant doctrines, passed them upon the world as the ancient wildom of the Chaldwans and Perfians, in fpurious books, which they ascribed to Zoroaster, or some other eastern philosopher. Thus, the fictions of these impostors were confounded with the genuine dogmas of the ancient eaftern nations. Notwithstanding these causes of uncertainty, which perplex the refearches of modern inquirers into the diffinguishing doctrines and character of the Chaldwan philofophy; it appears probable, that the philofophers of Chaldrea were the priefts of the Babylonian nation, who instructed the people in the principles of religion, interpreted its laws, and conducted its ceremonies. Their character was fimilar to that of the Persian Magi, and they are often confounded with them by the Greek historians. Like the priefts in most other nations, they employed religion in subferviency to the ruling powers, and made use of imposture to ferve the purposes of civil policy. Accordingly Diodorous Siculus relates, (lib. ii. p. 31. compared with Dan. ii. 1, &c. Ecclef. xliv. 3.), that they pretended to predict future events by divination, to explain prodigies, and interpret dreams, and to avert evils, or confer benefits, by means of augury and incantations. For many ages, they retained a principal place among diviners. In the reign of Marcus Antoninus, when the emperor and his army, who were perishing with thirst, were suddenly relieved by a shower, the prodigy was afcribed to the power and skill of the Chaldean soothsayers. Thus accredited for their miraculous powers, they maintained their confequence in the courts of princes. The principal inftrument, which they employed in support of their superstition, was astrology. The Chaldwans were probably the first people who made regular observations upon the heavenly bodies (Cic. de Divin. I. i. Strabo l. xv.), and hence the appellation of Chaldwan became afterwards fynonymous with that of Altronomer. Nevertheless all their observations were applied to the sole purpose of establishing the credit of judicial aftrology; and they employed their pretended skill in this art, in calculating nativities, foretelling the weather, predicting good and bad fortune, and other practices usual with impostors of this class. (Sext. Emp. adv.

Math. I. v. 5, 2, Aul. Gell. I. xiv. S. r. Strabo, I. c.) While they taught the vulgar that all human affairs are influenced by the ftars, and professed to be acquainted with the nature and laws of their influence, and consequently to posses a power of prying into futurity, they encouraged much idle superstition, and many fraudulent practices. Hence other professors of these mischievous arts were afterwards called Chaldwans, and the aits themselves were called Babylonian arts. Among the Romans these imposses were so troublesome, that, during the time of the republic, it became necessary to issue an edict, requiring the Chaldwans, or mathematicians (by which latter appellation they were commonly known) to depart from Rome and Italy within 10 days; and, afterwards, under the emperors, these sooths were put under the most severe interdiction. (Valer, Max. I. i. c. 3, Diod. Sic. I. xvii. p. 622. Sucton. in Tiber.)

We may further add, that the Chaldwan philosophy confifted, not in a free and diligent examination of the nature of things, but merely in the transmission of certain settled opinions from father to fon. To this purpose Diodorus Siculus, (l. ii. p. S1.) deviating widely from the character of a true philosopher, commends the Chaldmans for having taken up their opinions upon the authority of their ancestors, and fays " that, in this respect, they acted much more wifely than the Greeks, who, addicting themselves to disputation, were ever ready to embrace new opinions; and thus obliged their disciples to wander through their whole lives in perpetual uncertainty." Accordingly, the mysteries of Chaldean philosophy were revealed only to a select few, and fludioully concealed from the multitude; and thus a veil of fanctity was cast over their doctrine, so that it might more eafily be employed in the support of civil and religious tyranny. Another circumstance which contributed to produce the fame effect, was the care taken by the Chaldwan priests to prevent the fpreading of religious and philosophical knowledge among the people; and with this view they confined the diffemination of it to a certain tribe and diffrict. They also issued their dogmas under the disguise of symbols; thus referving to themselves the prerogative of varying the popular fyltem according to the exigencies of the times, or the pleafure of the ruling powers, without danger of detection. The implicit credit which the Chaldwan priests obtained among the people by these artifices is particularly noticed by Juvenal: (Sat. vi. 552.)

" Chaldwis fed major erit fiducia, &c.

"More credit, yet, is to Chaldæans given;
What they foretell is deem'd the voice of heaven:
Their aniwers as from Hammon's altar come;
Since now the Delphian oracles are dumb.
And mankind ignorant of future fate,
Believe what fond altrologers relate."

DRYDEN.

From the above account of the Chaldmans, it must appear, that they had but a very slight title to the appellation of wise men; and that, instead of ranking with philosophers, they belonged to the class of impoltors. The knowledge they possessed to the class of impoltors. The knowledge they possessed they possessed they belonged to the class of the the purposes of superflittion; and little regard is due to the encomium passed upon this race of sages by some ancient writers, particularly Philo (De Nomin, Mutat. oper, p. 1046.); and stilless to the general admiration, which, at a very tarly period, they obtained in the east. Among the Chaldmans, however, there was some variety of opinions. We learn, from the authority of Strabo (1, xvi, p. 509) and Pliny (Hist. Nat. 1, vi. c. 26.) which is confirmed by the testimony of the Jewish prophets, that there were in Assyria and Chaldman, different schools or sects, which probably differed from each other chiefly in the mode

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of practifing the arts of divination and astrology; and whose knowledge of nature extended little further than to the discovery of the supposed magical uses of certain natural bodies, particularly minerals and herbs. (Plin. Hist. Nat. I. xxxvii. c. 10.) Moreover, the tenets or institutions of each feet, whatever they might be, were transmitted implicitly from father to son; and the followers of one feet very rarely revolted to another.

Among the ancients it is univerfally acknowledged, that Zoroaster was the founder of the Chaldwan philosophy. But much confusion and contradiction have occurred in the accounts that are given of this celebrated person. See Zo-ROASTER. It is probable, that belides Zoroafter, who was a Perso-Median, and who flourished in the time of Darius Hystaspes, there was another of the same name who lived in a much more remote period among the Babylonians, probably towards the beginning of the Babylonian empire; who taught them altronomy, and who was the father of Chaldwan aftrology and magic. (Piio. H. N. I. vii. c. 16.; xi. 42.; xxx. 1. Juftin. I. i. c. 2. Recognitiones Clementis, L.iv. c. 27.) The Chaldwan magic was, indeed, a very different thing from a knowledge of the real properties of bodies; and, though fome acquaintance with the motions of the heavenly bodies was necessary for astrological calculations, it cannot be inferred, either from their magical or aftrological arts, that the Chaldwans were eminent mafters in any branch of natural science. All the writings, which have been ascribed to the Chaldwan Zoroaster, are unquestionably fpurious.

Among the Chaldran philosophers we may mention Belsy, who promoted the study of astronomy among the Aslsyrians, probably with a design of applying their faith in altrological predictions to political purposes, to whose memory Semiramis is said to have erected a lofty tower used afterwards by the Chaldrans as an altronomical observatory, and elevated after his death to the rank of divinities. (See

BELUS). See also BEROSUS.

The Chaldzan philosophy, notwithstanding the obscurity that has rendered it difficult of refearch, has been highly extolled, not only by the Orientalits and Greeks, but by Tewish and Christian writers: but upon recurring to authorities that are unquestionable, there seems to be little or nothing in this branch of the Barbaric philosophy which deserves notice. The following brief detail will include the most interesting particulars: From the testimony of Diodorus, and also from other ancient authorities, collected by Eusebius (Præp. Evang. l. iv. c. 5.) it appears, that the Chaldwans believed in God, the lord and parent of all, by whose Providence the world is governed. From this principle sprung their religious rites, the immediate object of which was a supposed race of spiritual beings or dæmons, whose existence could not have been imagined, without first conceiving the idea of a Supreme Being, the fource of all intelligence. The belief of a Supreme Deity, the fountain of all the divinities which were supposed to preside over the feveral parts of the material world, was the true origin of all religious worship, however idolatrous, not excepting even that which confifted in paying divine honours to the memory of dead men. Belides the Supreme Being, the Chaldæans supposed spiritual beings to exist, of several orders; gods, dæmons, heroes: thefe they probably diffributed into fubordinate classes, agreeably to their practice of theurgy or magic. The Chaldmans, in common with the eastern nations in general, admitted the existence of certain evil spirits, clothed in a vehicle of groffer matter; and in subduing or counteracting these, they placed a great part of the efficacy of their religious incantations. (Plut. de Defectu Orac.)

These doctrines were the mysteries of the Chaldran religion, imparted only to the initiated. Their popular religion confilted in the worthip of the fun, moon, planets, and stars, as divinities, after the general practice of the cast. (Job, xxxi. 27.; Diod. Sic. ubi fupra; Herod. l. i. c. 181.; Selden de Diis Syriis. Præf. c. 3.) From the religious (yilem of the Chaldwans were derived two arts, for which they have long been celebrated, viz. magic and altrology. Their magic, which should not be confounded with witchcraft, or a supposed intercourse with evil spirits, consisted in the performance of certain religious ceremonies or incantations, which were supposed, by the interposition of good damons, to produce inpernatural effects. Their altrology was founded upon the chimerical principle, that the flars have an influence, either beneficial or malignant, upon the affairs of men, which may be discovered, and made the certain ground of prediction, in particular cases; and the whole art confifted in applying allronomical observations to this fanciful (See Sext. Emp. adv. Math. l. v. p. 339. Diod. Sic. l. ii, p. 83. Manilius, l. ii. v. 456. Jamblich. de Myfter. §. 8. c. 4. Fabr. Bib. Græc. v. ii. p. 494. Veflius de Theolog. Gent. l. ii. c. 47.) Upon this fubject. Horace (lib. i. od. xi. 1.) makes the following fentible reflection:

"Tu ne quæsieris (scire nefas) quem mili, quem tibi Finem Dii dederint, Leuconoë, neu Babylonios Tentaris numeros. At melius, quidquid crit, pati."

"Alk not—'tis impious to inquire—what date The limit of your life is fix'd by fate; Nor vainly Babylonian numbers try; But wifely wait your lot, to live or die."

The Chaldreans, whilft they were occupied in these and other arts of divination, contributed very little to the promotion of true science. We have scarcely any remains of their astronomical observations and opinions. The loss, with respect to the latter, is not much to be regretted, as far as we

may judge by the following specimens.

According to Plutarch and Vittuvius, who quote Berofus, it was their opinion, that an eclipfe of the moon happened, when that part of its body which is defitute of fire is turned towards the earth. (Plut, de Placit, Phil. Lii. c. 29. Comp. Eufeb. Præp. l. 15. c. 51. Vitruv. l. ix. c. 4.) From the fame authority Seneca (Quælt, Nat. l. iii. c. 29.) gives it as a notion of the Chaldeans, that when all the planets shall meet in Cancer, the world will be consumed by fire; and that when they shall meet in Capricorn, it will be destroyed by an inundation. They thought the form of the earth to be that of a boat. (Diod. Sic. loc. cit.)

The fum of the Chaldaic cofmogony, as it is given by Berofus, in his "Babylonica," preferred by Syncellus (Chronic, p. 28.), divelted of allegory, is, that in the beginning all things confifted of darknefs and water; that Belus, or a divine power, dividing this humid nufs, formed the world, and that the human mind is an emanation from the divine nature. Perizon, in Orig, Bab. Voff, de Scient. Math. c. xxx. § 5. Hottinger, Hist. Or. p. 365. Herbelot. Bib. Or. Voc. Zor. Anc. Un. Hist. vol. in. Prid. Conn. b. iv. Shuckford. b. viii. Burnet Archæol. Phil. l. i. c. 4. Brucker's Hist. Phil. by Ensield, vol. i. b. i. c. 3.

CHALDAISMS, in Biblical History, denote certain expressions and modes of expression, derived from the Chaldee language, that occur in the scriptures of the Old Testament. Besides those parts of the Old Testament which are written in Chaldee, viz. the book of Daniel, from the 4th verse of the 2d chapter to the end of the 7th chapter; the book of Ezra, from the 8th verse of the 4th chapter to the 27th verse

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of the 7th chapter; and the 11th verse of the 10th chapter pounds. On ship-board, twenty-one chaldrons of coals of the book of Jeremiah; there occur in the Hebrew text are allowed to the score. By act of parliament a Newcastle schedulen is to weigh 52½ cwt. or 3 waggons of 17½ cwt. or Chaldee word 73, son, which is used instead of the Hebrew ובן; as in Prov. xxxi. 2, Pfal. ii. 12. Such are also תורובות, golden, for the Hebrew ביוויבה, from און, gold, in Ifaiah, siv. 4.; and י, העיך, in Pi. exxxix. 17. translated by the vulgate thy friends, in the Hebrew fenfe of the term, but in Chaldee tyn fignifies thoughts, and therefore most persons render it thy thoughts. Independently of these whole words, there are some Hebrew terms, which nevertheless are formed after the Chaldee manner, and on that account differ from the Hebrew. Thus, the plural masculine nouns in Hebrew terminate in בין, but in Chaldee, and also in Syriae, in ןין, as מָלִים (Job, xii. 11.) for מלים words, וחיון (Job, xxiv. 22.) for 117. life, &c. &c.: nouns also which in Hebrew end in 7, close with & in the Chaldee and Syriac; thus, רהרת (Exod. xxxiii. 32. and xxxix. 23.) for החתת (Exod. xxxiii. 32. and xxxix. 23.) for החתת (Ruth, i. 22.) for החתת, אינוע (Pt. cxxvii. 7.) for אינוע (Ruth, i. 22.) for החתת, אינוע (Pt. cxxvii. 7.) for the Hebrew החתבול (Pt. cxxii. 12.) for the Hebrew החתבול (Pt. cxxii. 12.) for the Hebrew nouns, as אינוע ווארן (Pt. cxxii. 12.) for the conjugations Hiphil and Hithpael, which in the Libera is 7.1 is uffed for 3. which in the Chaldrae and System where in the Chaldrae and System where it are in the Chaldrae and System whe the Hebrew is 73, is in the Chaldee and Syriac 8: hence 17838 (If. lxiii. 2.) for 17837, &c.: and the characteristic of the future in Hebrew destroys the characteristic of the conjugation Hiphil, which is not the case in Chaldee and in Syriac; thus we read יהילילו (If. lii. 5.) for 17, 71, &c. : the middle radical of the verbs Ty in Chaldee and Syriac is often changed into 8; thus ENDY (Hof. x. 14.) for Dipl. &c.: among the Hebrews the preterite participle, or " Paoul," has I for the penultimate; but among the Chaldwans and Syrians, it has 9, and is therefore called " Pehil;" hence 'R'ng (Numb. i. 16.) for 'Nnp: the Chald-e and Syriac j in 5 to the 13 of the gerund, thus מלכוא (Amos, vi. 14.) for אוטים: the Chaldwans and Syrians intert the letter] in small words borrowed from the Hebrews, e.g. of no. thou, they make nos; and read יקנצי (Job, xviii. 2.) foe יבר, &c. See Mafclef's Gram. Heb. vol. i. cap. xxiii.

CHALDEE, or CHALDAIC language, that spoken by the Chaldwans or people of Chaldwa; which was unciently used throughout all Alfyria, Babylonia, Mesopotamia, Syria, and Paleftine, and is full the language of the churches of the Neftorian and Maronite Christians in those eastern parts, in the fame manner as the Latin is the language of the popish churches in the west. The Chaldce is a dialect of the Hebrew, and so nearly allied to it, that the forms, names, pronunciation, and divisions of the letters are the same; and, therefore, this language is easily acquired by those who are ac-

quainted with the Hebrew. See HEBREW.

CHALDEE Paraphrase, in the Rabbinical thyle is called Tar-

There are three Chaldee paraphrases in Walton's Polyglot; viz. that of Onkelos, that of Jonathan fon of Uzziel, and that of Jerusalem. See PARAPHRASE.

CHALDESAYGUES, in Geography, a town of France, in the department of the Cantal; 4 leagues S. of St.

CHALDONE, in Ancient Geography, a promontory of Arabia Felix, near the place where was the ancient mouth

of the Euphrates, according to Pliny.

CHALDRON, CHALDER, or CHAUDRON of coals, a dry English measure, consisting of thirty-six bushels heaped up, according to the fealed bushel kept at Guildhall, Lon-

. The chaldron should weigh about 28 cwt. or 3136

6 carts of 83 cwt. each, making 521 cwt. to the chaldron. The statute London chaldron is to confist of 36 bushels heaped up; each bushel to contain a Winchester bushel and one quart, and to be 191 inches diameter externally. And as it has been found by repeated trials, that 15 London pool chaldrons are equal to 8 Newcestle chaldrons, if we reckon 522 cwt. to the latter, we shall have 28 cwt. to the former, or 3136 pounds to the London chaldron. Dr. Hutton found this ellimate nearly confirmed by experiment. For weighing one peck of coals, he found that it amounted to 213 lbs. and 4 x 213 gives 87 lbs. for the weight of the bushel; and 36 x 87 gives 3132 for the weight of the chaldron; to which if the weight of the odd quart be added, or 3 lb. nearly, we shall have 3135 lbs. for the weight of the chaldron, or only one pound less than that which is given by statute. But the chalder, or chaldron, ultimately delivered to the confumer, is still less than the chaldron in the pool, and hence it appears that the word chaldron conveys very different ideas, and that this confusion in the use of the term must open a door to deception and fraud. The monthly supply of coals for the metropolis is estimated at 300 cargoes, of 220 chaldrons each, or 66,000 chaldrons: and it has been alleged as no improbable supposition, that (with some to depredations in open craft on the river all the year round. See Macnab's Letter to John Whitemore, Efg. on the Coal-

CHALEF, in the Botanical writings of the ancient Arabs, the name of a tree often occurring, and feldom explained. The best account we have of the chalef or chalaf, is in the writings of Prosper Alpinus on the Egyptian plants, who tells us, that it is a kind of willow, growing in Egypt and in Mesopotamia. It is probably a species of elæagnus.

CHALENCEY, in Geography, a town of France, in the department of the Upper Marne, and district of Lan-

gres; 13 miles S.S.W. of Langres.

CHALEOS, in Ancient Geography, a town of Greece, fituated in the guif of Corinth, in the country of the Locrian

CHALES, CLAUDIUS FRANCIS MILLIET DE, in Biography, was born of an ancient and illustrious family at Chambery, in Savoy, in the year 1621, and belonged to the fociety of Jesuits. In early life he applied to the study of the belles lettres, and acquired a confiderable knowledge of the Latin and Greek languages; but his favourite studies, and those in which he eminently excelled, were mathematics, mechanics, and altronomy. He was appointed by Lewis XIV. royal professor of hydrography at Marseilles, and he gained great reputation as a teacher of mathematics at Trinity College in Lyons. It was probably on account of his diftinguished reputation that the superior of his order appointed him teacher of theology in the same college, for which office he was less qualified than for any other. Charles Emanuel II., duke of Savoy, remarked on this appointment, that it was unwifely made, and that the attention of fuch a person as Chales should never have been divert d from the course of study and employment to which he was attached. Accordingly, he was called off from this fituation to Paris, where he was engaged for several years in teaching the mathematics. He died at Turin in 1678, and the following cloge was inscribed on his monument : " Hic jacet Claudius Franciscus Milliet de Chales, genere, sapientia, virtute notus omnibus ; ignotus fibi." His works are " Curfus feu Mundus Mathematicus," first printed in 1674, at Lyons, in 3

vols. fol. and afterwards in 4 vols. in 1650, by Amati Varin, who augmented and improved this edition by feveral valuable treatifes found among his MSS. To this edition is prefixed an historical account of the progress of mathematical feience from the age of Thales the Milesian to the author's own time. De Chales's "Treatife of Navigation," and "Refearches on the Center of Gravity," are much efteemed. See the funeral oration of father Hyacinth Ferrerius prefixed to Varcin's edition.

CHALESTRA. See CHALASTRA.

CHALETTE, in Geography, a town of France, in the department of the Aube, and district of Arcis; 12 miles S.E. of Arcis.

CHALEURS, a deep and broad bay on the W. fide of the gulf of St. Lawrence. From this bay to that of Verte, on the S. in the S.E. corner of the gulf is the N.E. fealine of the British province of New Brunswick; which

CHALI, in Ancient Geography, a people of Germany, placed by Ptolemy on the eathern coast of the Cimbric Cherfenefus.

CHALI, a town of Asia, in Phonicia, placed, in the book of Joshua, in the tribe of Asher.

CHALIA, a town of Greece, in Bootia, near Hyria.

CHALIAT, a town of Asia, in the Corduéne, situate on the bank of the lake Arsissa, at the extremity of the N. and W. parts.

CHALICE, the cup or veffel used to administer the wine in, in the eucharist; and by the Romanists, in the

mais

CHALIDRIS, CHALIDRIS NIGRA, in Ornithology, the name given by Aldrovandus and others to tringa littorea; which fee.

CHALIGE, Canal of, in Geography. See CAIRO.

CHALIGNY, a town of France in the department of the Meurte; 5 miles S.W. of Nancy.

CHALIM, a town of Portugal, in the province of Tras-

los-Montes; 20 miles S. of Bragança. CHALIM-POU, a town of Chinese Tartary. N. lat.

41° 12'. E. long. 121° 54'. CHALIN, a river of Russia, which runs into the Karskoi

fee. N. lat. 73° 5'. E .o. g. 71° 14'.

CHALINAQUES, a town of France, in the department of the Cantal; 12 miles N. of St. Flour.

CHALINDREY, a town of France, in the department of the Upper Marne, and district of Langres; 5 miles S.E. of Langres.

CHÂLINOS, in *Antiquity*, the bit, or that part of a bridle which is put into the mouth of a horfe. But it was, among the ancient physicians, also used to express that part of the cheeks, which, on each side, is contiguous to the an-

gles of the mouth.

CHALISCUTELI HILLS, in Geography, hills of Hindooftan, which lie between the western defert and the Set-

lege

CHALISIA, in Ancient Geography, a maritime town of

Africa, in Libya.

CHALIZÁ, in the Jewish Customs, the ceremony whereby a woman who is left a widow, pulls off her brother-inlaw's shoes, who should espouse her, and by this means is allowed to be at liberty to marry whom she pleases. The word signifies extractio vel exwise.

CHALK. The colour of this mineral is yellowish white, more rarely snow-white, or greyish white: when contaminated with iron it has more or less of an ochery tinge. It occurs generally in mass, sometimes disseminated, or investing other minerals. It is without lustre, is opaque, has a fine

carthy fracture, and breaks into blunt-edged angular fragments. It flains the fingers, gives a white flreak, and, when pure, is very foft, and almost friable. It has a meagre feel, and adheres to the tongue. Sp. gr. 2.3. It effervesces violently with acids. When mixed with iron it is both harder and heavier.

In a state of purity, chalk appears to be composed only of water, lime, and carbonic acid; but Mr. Kirwan obtained from the analysis of a specimen,

53 Lime

42 Carbonic acid 3 Water 2 Alumine

100

Chalk, confidered geologically, is among the most recent in formation of the several varieties of carbonat of lime. It occurs in thick beds nearly horizontal, alternating with thin layers of flint nodules, and with the same irregularly dispersed through its subslance. It contains in abundance the relics of marine organized bodies, such as echinites, glossoptem, pectinites, &c.; and also, not unfrequently, the hard parts of amphibious and land animals, such as the heads and vertebræ of crocodiles, and teeth of elephants.

Beds of chalk are of frequent occurrence in the east and fouth parts of England, also in the north east of France. Chalk is also met with in some of the Danish islands in the

Baltie, and in Poland

The uses of chalk are very great. The more compact varieties are employed as building-stone, and are burnt to quicklime: it is also largely used in polishing metals and glass, in constructing moulds to cast metals in; by carpenters and others as a material to work with, and by starchmakers and chemist to dry precipitates on.

CHALK, in Agriculture, is a calcareous substance, which, when pure, is of a white colour, moderate confiltence, and dufty furface; stains the fingers; adheres slightly to the tongue; does not harden when heated, but, on the contrary, in a strong heat burns to lime, and loses about fourtenths of its weight. It effervesces with acids, and disfolves almost entirely in them. It may also be added, that this folution is not disturbed by caustic volatile alkali, as this is a circumstance that distinguishes it from magnesia. It has the property of promoting putrefaction. In its native state it is useful as a manure, upon the same principle as limeflone; but it is more eafily pulverized, and lighter, or more porous in its nature. Nearly the whole of this material is calcareous earth, whereas none of the marles contain more than a fourth part of that substance. It is in high esteem in the more fouthern counties of England, where it abounds very much. Its best effects are produced upon deep soils which contain no calcareous earth. It is observed to have but very little effect upon lands where the substratum is chalk; and if the foil be thin, it does mischief in such cases. When used upon light thin soils, it is mostly made into composts with earth and dung, or some other fimilar material. When these are well mixed together, and duly proportioned, they produce valuable crops; and their influence is faid to continue many years, in fuch in-

The common method of using this fort of compost is either by laying it upon fallows for wheat, and mixing it intimately with the soil by ploughing and harrowing, or upon grass as a top-dressing: in both cases it has been found to answer well; and in the latter it is sound capable of destroying moss, rushes, and all coarse aquatic plants that grow

in heavy, four, or wet lands; while, in the former, it opens. There is no faying any thing against experience: we should and pulverizes the foil, and never fails to produce good

crops of that grain, or other kinds.

In making use of it, it has been recommended that it should be broken as small as possible. It should be dug from the pit near the end of autumn, and be laid on the land immediately; as at that feafon the air is generally moift, the moisture will of course be absorbed by the chalk. This will occasion it to swell, and break down into pieces; and if frost should come on, it will much accelerate the business: but when it is dug in fummer, it lofes its moisture, and acquires a hardness, which in a great measure prevents it from being of any use. It should in no case be ploughed in till its parts are properly broken down and separated, and then it should be completely harrowed in and mixed well with the foil, or mould of the land.

If the foil be thin and light, a certain proportion of dung will, it is faid, be useful; but if it be heavy, the dung is afferted to lessen the operation of the chalk. It is generally thought that lands which have been completely chalked will not bear a repetition of it for some time. A compost of it, however, may be used to great advantage. In the fouthern counties a field has been, it is observed, chalked, and dreffed with chalk and dung mixed, in portions alternately; and the former has been found to produce very bad crops, but the latter very good ones. It is afferted, that laid on beyond a certain quantity, it will not only cease to operate as a manure, but even prove hurtful to the land. It ought, therefore, to be used with caution, and due pains be taken not only to afcertain the firength of the chalk, but the quality of the foil on which it is to be laid, before the application is made.

But there can be no doubt that chalk is a lasting manure, when applied on fuitable foils; which are those of a cold, four nature, fuch as fliff untractable clavs. Pliny has remarked that it was the cultom of the ancient Britons to chalk their lands, by which they received a great and lalling

improvement in the fertility of them.

In regard to the different kinds of chalk which should be distinguished by the farmer, the hard, dry, and firm fort is much the fittelt for burning into lime; but that of the fat and unctuous kind by far the best to be used in the crude state.

It has been flated that in some parts of Effex they lay from five to eight waggon loads of chalk on an acre, either upon a clover lay while feeding, or on a fummer fallow; and that the effect of a very thin dreffing of it is feen immediately to an inch, like that of rotten dung, and lasts twenty years, fifteen in good heart. The foil is a loam; they have also a little clay, and no fand: on gravels the effect is but flight. They bring the chalk from Malden, whither it is brought by fea from Kent, and a waggon load cofts mostly ten shillings at the quay. It is rather hard; the sharpest frosts leave many lumps unbroken; these they break with pick-axes. The effervescence with vinegar is pretty confiderable, but in water it fearcely falls at all. It is also a general opinion in that county, that land which has been once chalked will not take it again; they acknowledge, however, that when mixed with earth and dung it is then excellent. They observe, that laying a flight dresling of chalk and earth, or dung, on a field never chalked, will take fo much effect, that the same field will not answer to chalk completely. They observe also, that the chalk prefently gives the land a red colour. And they are of opinion, that chalk is a great enemy to good grass; and affirm, that a field which, before chalking, will run of itself to a fine head of white clover, no longer does it after chalking.

not, however, draw general conclusions from partial experiments. Much of the effect of manures depends upon the foil on which they are laid. About Enfield, as observed in a paper in the Annals of Agriculture, the same chalk does wonders, which at North Mims has very little effect : the one is a rich loam, the other a poor gravel. And near Sandwich, in Kent, chalk has been found in a very high degree to improve a fandy foil, giving it tenacity, and totally exterminating that pernicious weed the corn marigold, which is provincially called yellow bottle, buddle, or golds, and so abundant in fandy soils. They lay on forty loads of forty bushels each to an acre. Upon pasture land they think it does nothing. In Hertfordshire it is thought that chalk makes the land plough much better, and renders all manures much more effectual. If a field be divided into parts, one chalked, a fecond chalked and manured with dung or foot, afters, &c. and a third dunged or afted without chalk; although chalk alone has no effect, yet the other manure on the chalked part will have a much greater effect than on the part where no chalk is laid. Facts of this fort are highly interesting, but want to be more correctly made.

It has been remarked by the author of the Synopsis of Husbandry, who has had much experience in a district where it abounds, that this manure, though it falls infinitely short of marl in its fertilizing quality, is nevertheless pof-fessed of virtues which deservedly entitle it to the esteem of the farmer. By a proper application of this fubiliance, the most tenacious clays are, he says, rendered friable and mellow; and thus, their native stubbornness and adhesion being overcome, the feveral particles of the foil are enabled to imbibe the full benefit of the different changes of the atmofphere; and hence they are brought to work kindly under the feveral operations of the plough, harrow, &c. and to produce ample crops of grass or corn, which, before the application of this manure, they were incapable of bringing to perfection. So great are the benefits accruing from this manure, when laid on a stiff clayey foil, that the Essex farmers find their account in freighting barges from the chalk cliffs in Kent, and afterwards carrying it with their teams feveral miles up the country; all which, though attended with a heavy expence, is found to answer the purpose extremely well, as it would, he think, be impossible to reduce these stubborn clays to a proper tilth without the previous application of this manure. Nor is it on clays only where chalk may be laid to advantage: gravels, especially those which lie near the springs, and all wet foils, may, he supposes, be dreffed with this manure, which will never fail to meliorate and fweeten the ground, and enable it to retain longer the virtues of the dung that may be applied, which, on these hungry soils, is liable to disappear in a fhort time: nay, fo partial are fome farmers to the use of this manure, that he has known it carried on foils where the chalk lay within a few inches of the furface.

It has been flated, that the action of chalk on the foil is either chemical or mechanical. It acts chemically as an absorbent, contributing to preserve dry those lands which are poachy and wet; and by its attraction for acids it may hasten the putrefaction of vegetables. It acts mechanically, by entering into the composition, and totally altering the nature of clay, converting it by proper pulverization into a species of marl. By infinuating itself between the particles of clay, it destroys their adhesion; thus preventing it from becoming too hard in fummer, and too wet in the winter

It is observed by Mr. Bannifter that there are two methods of obtaining chalk. The first is by uncallowing a piece of ground, ground, and making it convenient for a pit, where the carts may be drawn into it, and filled : this is on a prefumption that the chalk lies near the furface, and that the pit is within a fmall diffance of the field on which the manure is to be laid. The other method is to fink pits in the field where the chalk is intended to be laid as a manure, and which, in his opinion, is far preferable to that of drawing it in carts as before mentioned. In this cafe, a number of pits are to be funk according to the extent of the field. These pits are to be made in the form and circumference of a well, with an apparatus at the top, and a bucket to draw up the chalk. The people who undertake this bufiness, having been brought up to it from their infancy, perform it, he fays, with great much danger. A person is employed at the top to draw up the contents of the pit, shoot the chalk into the cart, and wheel the fame on the land. When the labourer has arrived at the chalk, which takes up a longer or less interval of time according to the depth at which it lies, and has dug fome little time therein in the perpendicular form wherein he began the pit, he proceeds to form apertures in different horizontal directions; fo that where the chalk is good, and the pit flands firm, large tracts of ground are undermined for this purpole. The price for digging chalk is, he fays, is. per foot till the chalk be found, after which for the chalk is. per load, which is twelve balkets; and a penny per load for wheeling the chalk on the land, the farmer providing a horse and cart for that purpose. The quantity usually laid on an acre is from eighty to a hundred loads.

From this description of chalk-drawing, he says, "it is evident that much care and circumspection are required to prevent any deceit being imposed on the sarver by the workmen, to which their eagerness of acquiring large wages.

will be a powerful inducement."

He adds, that "the best chalk is that which is white and hard; and the deeper it lies beneath the furface, the more efficacious is the dreffing supposed to be, as partaking less of the nature of the soil whereon it is to be applied as a manure; indeed on a clayey foil it is feldom to be met with, but at a confiderable diffance beneath the furface of the field. The most eligible feafon, he fays, for the performance of this work is in the early part of the winter, as the chalk which is laid out at that feafon will, by aid of the succeeding frolls, be, in a great meafure, meliorated and reduced to crumbs at the time of fallowing in April; whereas, should the business be deferred till the spring, no inconsiderable portion of the chalk will remain in lumps till the next winter. From this neglect, a twelvemonth will be loft in point of time, as this manure will lie on the ground without answering any good purpose till the lumps thall have been slacked by moilture and frosts; and that chaik is always most highly esteemed which yields soonest to the effect of the weather in falling into crumbs. This manure may be laid on the ground in the fummer, without any other inconvenience than what has been before mentioned; contrary to the opinion of fome people, who think that fuch chalk, having remained on the furface during the fummer months without runing, will, on that account, be less susceptible of the frosts in the fucceeding winter: but this idea is erroneous; and as it may often fuit the economy of the farmer to lay this chalk out in the fummer, either from a neighbouring draw-pit, having at that time little other employment for two men and horfes, or if he may be inclined to fink a pit is the field at that time; in either of thete contingencies, the business may, he thinks, be fafely ventured upon in that feafon; and it would be far better to fuffer the ground, which is thus fummer chalked, to lie unploughed till the fucceeding fpring, than

to crop it with wheat at the autumn after the manure is applied; for, having enjoyed the benefit of the froits in the following winter, the ground will come in properly for a wheat feafon in the next year; and this may be generally effected, he fays, where a person is inclined to lay on his chalk in the fummer. For initance, suppose a lay ground be intended for a fallow the next year, this may be chalked in the summer time, with very little inconvenience or injury to the fariner, as the grafs which would have been produced from it between midsummer and the following spring could have turned to little account."

It is conceived by the fame writer, "that when land is drefied with chalk, the furface ought to be pretty thickly and though the expence of chalking may appear confiderable to those who are unacquainted with its effects, the good confequences accruing to the future crops will be found in the end amply to compensate the primary charges, and from whatever cause this improvement ariles, whether an immediate fertility be conveyed to the foil by the chaik, or whether this drefling acts on the foil by deflroying its adhefion, and thus disposes it to work more kindly, and to part with its vegetative particles, which were before to closely united as not to be drawn forth by any other means: in whichever of thefe ways the chalk acts upon the land it matters, he thinks, very little to the farmer, fo that the intention be accomplified, namely, the acquifition of a more abundant crop. For his own part, he is inclined to think that the chief virtue of the chalk relides in its power of correcting the adhesion of stiff soils, and in its meliorating quality, and that it is much inferi r to dung, in point of accelerating the growth of the crop; fo that where a field has been well dreffed with this manure, which is faid to be of fo lafting a nature as to flew its good effects at the distance of twenty years, it is by no means to be understood, that this field is not to be dunged, or to have any further addition of manure during this interval: on the contrary, fuch ground ought never to lofe its turn of the dung-cart; and, indeed, on farms of a clayey foil, those fields only can be dunged to advantage which have been previously chalked; for experience hath demonstrated, that, without the application of this manure, dung will be of but small avail on these thisf

It is remarked further by the same practical writer, " that on gravelly foils, where the fprings lie within a fmall diftance of the furface, it often happens that the water flows in before the chalk is found, and thus all further endeavours at that spot are rendered abortive, and another pit must be funk in a different part of the field. Obstacles to this work fometimes, he fays, fall out from the light contexture of the foil, which does not unfrequently give way to the dellruction of the chalk-drawer. To the farmer, it may be of some confequence to confider the nature of his land, ere he embarks in this scheme of husbandry; as, if from circumstances above-mentioned, he may have reason to think that his pit will not fland firm, it would be a matter of prudence to delit from any further thoughts of finking a perpendicular pit, and change the mode of operation, by bringing his chalk from an uncallowed pit: but where it can be obtained at a moderate expence, and with a tolerable certainty of fuccels, the preceding method is, he thinks, certainly the most eligible." See CALCAREOUS Earth, and MANURE.

In the chalking of land, the method purfued in Herefordthire, where the persons employed in it follow it as a trade, is the following, according to Mr. Walker: "a spot is fixed upon, nearly central to about his acres of land,

to be chalked. Here a pit, about four feet in diameter, is funk to the chalk, if found within twenty feet from the furface ; if not, the chalkers confider that they are on an earth pillar, fill up the pit, and fink in fresh places, till their labour is attended with better fuccels. The pit from the furface to the chalk is kept from falling in by a fort of basket-work, made with hazel or willow rods and brushwood, cut green and manufactured with the fmall boughs and leaves remaining thereon, to make the basket-work the closer. The earth and chalk are raifed from the pit by a jack-rowl on a frame, generally of very simple and rude construction. To one end of the rowl is fixed a cart wheel, which answers the double purpole of a fly and a stop. An inch rope of sufficient length is wound round the rowl, to one end of which is fixed a weight, which nearly counterbalances the empty basket fastened to the other end. This apology for an axis in peritrochio, two wheelbarrows, a spade, a shovel, and a piek-axe are all the necessary implements in the trade of a company of chalkers, generally three in number. The pit-man digs the chalk and fills the basket, and his companions alternately wind it up and wheel its contents upon the land; when the basket is wound up to the top of the pit, to slop its descent till emptied, the point of a wooden peg, of fufficient length and strength, is thrult by the perpendicular spoke in the wheel into a hole made in the adjoining upright standard of the frame to receive it. The pit is funk from 20 to 30 feet deep, and then chambered at the bottom; that is, the pit-man digs or ruts out the chalk horizontally, in three separate directions; the horizontal apertures being of sufficient height and width to admit of the pit-man's working in them with ease and safety. One pit will chalk fix acres, laying 60 loads on an acre. If more be laid on, and to the full extent of chalking, viz. 100 loads, then a proportionable less extent of land than fix acres is chalked from one pit. Eighteen barrow-fulls make a load, and the usual price for chalking is 7d. per load, all expences included; therefore the expence of chalking at 60 loads per acre is 11. 12s. 6d.; and at 100 ditto, 2l. 18s. 4d. As the chalk is confidered to be better the deeper it lies, and the top chalk, particularly if it be within three or four feet from the furface, very indifferent, and only fit for lime, or to be laid on roads, gateways, &c. the chalkers must be directed to lay by the chalk for the first three or four feet in depth, to be applied to the above purposes; or, if not wanted, to be again thrown into the pit when filled up; and also to pick out the flints from the chalk before it is carried on the land, for, if they are not narrowly watched, they will chalk with both."

It is added, that " Mr. John Hill of Coddicott farms upwards of 1200 acres in the adjoining parishes of Coddicott and Kimpton, a confiderable part of which is his own estate. He has chalked many acres of land, and approves much of the practice. He chalked a field of strong clay land in the autumn of 1793, laid on fixty loads to an acre, and the chalk where the pits were funk lay about ten feet from the furface. Mr. Walker viewed the field the 7th of August 1794; it had borne a crop of peas fince it was chalked, and was then under the plough, preparatory for a crop of wheat. The chalk was good, and the land appeared to work well, though the chalk was not then thoroughly incorporated with the foil. Mr. Hill never lays more than 60 loads of chalk on an acre; this he finds will not only make the land work much better, with less strength of cattle, but also, with a light coat of dung, or fpring dreffings occasionally laid on to quicken the vegetation, produce abundant crops for ten years;

he then chalks again with equal fuccefs."
This fort of work should proceed with dispatch during the summer months in all cases, and in the autumnal ones in many situations where there is no danger of poaching the Vol. VII.

ground. Mr. Young fuggefts, that much advantage may be derived, in performing this fort of bufnefs, from the ule of fmall three-wheeled carts, as the third wheel affords a fupport for the cart and load while filling, without the fill horle, and of courfe one horfe may be fufficient for two carts, one being difcharged upon the land while the other is loading. See Manure.

CHALK, black. See SLATE.
CHALK, brown. See TRIPOLI.
CHALK, French. See STEATITE.
CHALK, fungous. See AGARIC mineral.
CHALK, red. See Ores of IRON.

CHALK, filver. See AGARIC mineral and ARGENTARIA

CHALK, Spanish. See STEATITE. CHALK, yellow. See TRIPOLI.

CHALK-drawings. See DRAWING and ENGRAVING.

Chair-flore, in Medicine, a white chalky fubstance which is feereted in the inflamed joints and ligaments in inveterate gout. It is one of the peculiarities of gouty inflammation to terminate by the production of this substance (where it does not end in resolution), and not in suppuration, or the preduction of pus, like the common species of inflammation.

The chalk-stone (as its name imports) was formerly confidered as composed of some calcareous matter, and in particular of phosphat of lime; but accurate chemical analysis has now proved that it does not contain lime in any form, but is a neutral infoluble falt, confifting of the lithic or uric acid faturated with foda. Dr. Wollatton has proved this point by the following experiments. If a small quantity of dilute fulphuric acid be added to gouty chalk-stone, part of the alkali is separated from its combination, and crystals of fulphat of foda are produced. Muriatic acid in a fimilar way produces common falt. A greater quantity of either acid totally separates the alkali, and leaves an insoluble matter, which is found to be lithic acid by the following characters; viz. when distilled per se it yields a little ammonia, some pruffic acid, and an acid fublimate fimilar to the fublimed. lithic acid; when diffolved in dilute nitric acid, it tinges the skin of a rose colour, and leaves, on evaporation, a rosecoloured refiduum; when thrown into caustic pot-ash it diffolves therein, but is separable thence by an acid. The chalk-stone, when calcined, gives the usual products of animal matter, and leaves a white falt, which is carbonat of foda. Caustic pot-ash dissolves the chalk-stone entirely. Boiling water dissolves a small portion of the stone, and the folution is lithiat of foda. When a little muriatic acid is added to this folution, as it cools it deposits lithic acid in minute red crystals.

The analysis of this concretion by Foureroy, agrees very closely with that of Dr. Wollaston. M. F. remarks, that a hundred parts of water dislove nine-tenths of the chalkstone by boiling, forming a saponaceous liquor, of a faint animal smell, from which sulphuric acid precipitates brilliant needled crystals of lithic or uric acid.

To the folubility of these arthritic concretions in the alkalies, chemits have attributed the great relief often experienced by gouty persons from a course of alkaline remedies long continued; and it certainly remains an interesting question to determine whether this disease is attended with any defect or excess in the natural quantity of uric acid in the urinary scretions. (For a fuller account of the properties of the lithic or URIC acid, see this article.) See Phil. Transfor 1797, pt. 2. Fourcroy Systemé des Connoss. Chim.

CHALKI, in Geography, an island of the Grecian Archipelago, vilited by Spallanzani, where he made known to the Turks a mine of copper, the existence of which they had never suspected.

CHALKING, in the Arts. See DRAWING.

CHALKING, in our Old Laws, feems to be fome duty laid on merchandize; what it was particularly we do not find: but in the rolls of parliament it is faid the merchants of the staple require to be eased of divers new impositions, as chalking, ironage, wharsage, &c.

CHALKY LAND, in Agriculture, denotes such forts of land as are much impregnated with the chalky material, and which from their white appearance are sometimes deno-

minated white lands.

It has been remarked, by the author of the Synopsis of Husbandry, that "chalky lands or foils differ from each other very effentially in point of fertility: for as there are ' fome of them which, by good husbandry, may be brought to produce large crops, and do with great reason take the lead in point of fertility of every other light foil; fo there are others which, from the superficial depth of mould over the chalk, are of the molt barren species, and scarcely worth the expence of tillage. A chalky foil (fays he) with a due covering of mould, so as to admit the plough to enter a reasonable depth, is perhaps the most kindly one to work upon, except a loam, and capable of the greatest improvement from the feveral operations of husbandry; having neither the tenaciousness of the clay, the burning quality of the gravel, nor the extreme porous texture of the fand: as it possesses a much greater share of humidity than the two latter foils, free from the inconvenience of springs, so will it be less injured by a dry fummer, whilst a moist and dripping season will be most favourable to the crops growing on it, when those on a clayey foil are in that case too frequently destroyed or rendered of little worth." And Lord Dundonald, in his Treatife on the connection of Agriculture with Chemistry, remarks, that a pure unmixed chalky foil, like a pure or lean clayey one, is unfertile; and that the fertility of this fort of land, like all others, depends on its containing a due admixture of other earths, with the requifite quantity of vegetable or animal matter. A chalky loam, or mixture of chalk with clay, is frequently a very fertile foil, and well adapted to the culture of beans and wheat.

Such, fays the writer we have first quoted, " are the advantages attending these foils, where the chalk is not mixed in an undue proportion with the mould: but it rarely happens that a farmer is possessed of any great quantity of land of this description: for, in countries where chalky land abounds, there is on every farm a larger proportion of poor land than of that which he has described; and the management of these thin chalks will demand the highest exertion of industry and skill in the husbandman; for although the crops railed on these soils are less subject to be injured by the feorehing heat of the fun than those on gravels, yet where there is but a fmall proportion of mould, fo that the chalk forms the greatest part of the cultivated foil, with a bed of the same hard substance for its under stratum, intermixed with large flints and chalk flones scarce less solid; on such grounds, the crops (he fays) fuffer greatly in a dry fummer, and for this reason, an early Lent season is always to be preferred on these soils, in order that the surface of the ground may be covered before the dry weather sets in." And he adds that "thefe chalky foils possess another very material advantage over gravels, namely, the power of refilting longer the heat of the fummer; and therefore the crops on this foil often recover after a kindly rain, when those on the gravels, unable to withstand the preceding drought, are burnt up; indeed, on a chalky foil, the crops, when injured by the parching heat of the weather, cannot so properly be faid to burn, as to die away. To the evil propentities, neident to chalks of every

kind, may (he fays) he subjoined their disposition to blast, a misfortune not easily to be guarded against; and in this respect they differ materially from gravels, where the corn generally yields well, if not injured by the dry weather during its growth. To this may be added (he fays) another defect attached to chalky foils, which is their hilly fituation, fince in a tract of land of 200 acres, it is odds but many of the fields are mountainous and uneven." The ingenious nobleman just mentioned further remarks, that chalky lands produce a short sweet herbage, and for the most part are more proper for a sheep pasture than for tillage. There are no foils that receive more benefit from artificial watering, as they are apt at certain feafons to be parched by drought. Chalky foils that produce short sweet herbage, should not (he thinks) in general be broken up, or converted into arable lands; a practice which will be attended with injury to the foil, and lofs to the farmer, unlefs they are cropped with moderation, well-manured, and afterwards properly laid down with paf-

And Mr. Bannister further well observes that " there is one fpecies of grafs which may be raifed to great advantage on a chalk, and this is faintfoin, cinquefoil, or holy grafs. The fmall expence required in the culture of this grafs, its natural relation to a chalky foil, the constant demand for the hay at market, and the fmall charges required in making it, (fays he) all combine to enforce its cultivation on the most barren chalks; which, by any other course of husbandry, could not have been brought to pay the expence of tillage: by these means the farmer will (he thinks) have it in his power to bellow a greater attention on the more fertile part of his land, will require a less number of horses and servants, and will generally infure to himfelf plentiful crops of grain from that part of the farm which is kept in constant tillage; whilst the most barren spots will produce a yearly increase from the faintioin at a trifling expence in the culture."

Chalks are (he thinks) of all other lands least subject to be moleited with couch-grafs; and hence a person who hath not been accultomed to this kind of land is often deceived on a curfory view of the furface, which being totally free from couch-grafs, and not greatly infested with weeds of any denomination, he is led to conceive that the ground is in good heart, and disposed for the reception of any kind of grain; whereas the contrary is often the fact; for a foil of this description, especially the more barren species, which, with a very flight proportion of earth, is made up of a crumbly kind of chalk, and when wet wears the appearance of mortar, will not naturally produce couch; and perhaps on this fort of ground it would be no eafy talk to make this grafs thrive in it though the experiment were attempted; and even on the best and most kindly chalks, couch-grafs is an enemy not to be dreaded. The weeds which feem ind:genous to this fort of land are poppy, bare-bind, crow-foot, charlock, cadlock, or kilk, cammock, and thiftles. Where the last-mentioned weed prevails it is a manifest indication that the ground is not of itself unkindly to the growth of corn; and that when the crops turn defective, this proceeds lefs from any defect in the land, than an improvident management in the cultivation of it."

In what regards the tillage on this fort of land, "though chalk may, he fays, be numbered among the lighter kinds of foil, a much greater flrength of horfes, he fays, is required in the tilling of them, than either on gravels or fands; not only on account of their hilly lituation, the fuperior depth of mould, and of the large flints which are generally to be met with beneath the furface, but from the impenetrable quality of the under flratum, which deadens the draft of the plough, and caufes it to work much heavier; to which may be added, the refiftance from the roots of the cammock.

whiel

which is fo powerful as frequently to obstruct the course of the plough. For these reasons, a fix-horse team, on a chalky foil, is of great utility, nor, indeed, can the business be advantageously prosecuted with sour horses to a plough. Another reason why a more powerful strength of cattle is requifite on this than on any other light foil, is its disposition to hang to the gears; fo that in wet weather the plough is increased to nearly double its own weight, by the additional load of mould adhering to it. These are circumflances which do not immediately strike the attention of a farmer, whose knowledge in husbandry has been acquired by working on a kindly loam. On the first view of a chalky foil, he concludes that little firength of cattle is required; for, having been accustomed to land where the staple is much deeper, he rationally infers, that more work may be done, in a given diltance of time, with a lefs number of horses on a chalk than on a loam; of this truth, he is, in his own mind, fo thoroughly convinced, that nothing less than ocular demonstration can drive him from his opinion."

Having enforced the necessity of maintaining a sufficient frength of cattle for the tillage of this fort of land, he advifes the ploughing it to a good depth, where the staple of the land will admit of the practice; " for on the very light chalky grounds which abound in many places, and of which fome parts of every chalky farm confilt, this caution is unnecessary;" fuch land being ploughed with little strength, the plough must necessarily be fet to go shallow. But on his other grounds, where there is a thick covering of mould, the farmer, he thinks, will always find his account in ploughing it to its utmost depth, so that the ploughman may feel the point of the share grate on the chalk beneath, without bringing up any part of it to mix with the mould. On this foil the blacksmith is, he observes, a perpetual retainer to the farm. The vicinity of the chalk, together with the number of large flints usually met with on this kind of ground, operating very forcibly in his favour, the eye of the farmer is, therefore, on no occasion more necessary, he thinks, than in a strict and daily examination of the ploughirons, fince he may be materially injured either by a too frequent application to the fmith, or too great a neglect of him. The point of the share for ploughing chalks to advantage, especially when infested with thistles or cammocks, ought to be hammered to the breadth of four inches, which will tear the roots up at a considerable depth. As these grounds are feldom injured by wet, there is scarcely any part of the year but the plough may be kept at work, fave only when the land is locked up by frost, or the sturface covered with frow. The breaking up of clover lays in the fummer, in order to fow with wheat in the autumn, is often attended with great inconveniences on chalky foils, as the drought of the feafon frequently causes the ground to be extremely hard, to as to render the operation of the plough a matter of great difficulty, and, in some instances, the foil is totally impervious at this feafon, and must remain to be foftened by the autumnal rains. But, in this case, the farmer has generally other work to attend, and, therefore, need not fuffer his men and horfes to lie unemployed. But although, for these reasons, there is generally more perseverance required in breaking up a clover lay at Midfummer to fow at Michaelmas with wheat, than usually falls to the share of a common ploughman; yet the matter ought not to be difcouraged, fince he will most affuredly reap the good effects of corn fown on a stale furrow, where the land is chalky, and, indeed, on any other land of a light texture."

Where folding is practifed, it is added, that "a very judicious method at the breaking up of a clover lay, is to plough one day's work, which will employ a fold of 300

sheep eight nights; and when that is finished, to plough another day's work, and fold on the fame, which course is to be purfued till towards autumn : by this mode the farmer reserves great part of the feed on the lay, which, though not very confiderable, is, nevertheless, of some consequence, where a large flock is maintained; and, in truth, without a flock of fleep, little profit can be expected to accrue from the cultivation of these foils: besides which, he avoids the ill effects of ploughing up the whole field at autumn, and fowing it immediately with wheat; as he supposes, in this cafe, the greatest part of the field will have been folded on before feed-time, and the remainder may be finished after the corn is fown, or trodden with sheep, both of them instances of excellent husbandry. But though there be no folding flock kept on the farm, this method of ploughing up the clover-lays at Midfummer ought to be purfued for the reason above mentioned : and at this time the farmer is generally at leifure to profecute this work, having completed his faintfoin harvest and turnip season, and not meeting with any hindrance from the stirring of fummer fallows, a piece of husbandry which is rarely practifed on these forts of land."

And "the like method of ploughing should, (he fays,) be purfued, in order to obtain a crop of turnips, on a chalky foil, as is recommended on a gravel; and though the land be of a very light texture, and not much infested with weeds, the feveral operations of the plough, harrow, and roll, ought by no means to be dispensed with, for the reason which is offered in treating of the tillage required on a gravelly foil. On a chalky foil, properly managed for turnips, and where a good crop of this root has been fed off, there need be no fear of a plentiful return of barley or oats, provided fuch corn be fown at an early period, which is particularly to be attended to at the spring season, as the crop of Lent corm on these soils will generally sail, if the seed-time be protracted so late as is usual on loams." And "on this kind of land, as on gravels, (fays he) the farmer possesses the advantage of varying his manure as often as he chooses; having, besides yard dung, which may be styled a general dressing for every foil, the whole tribe of manures, except chalk, to felect from. For wheat, there is no application fo efficacious as the fold, which, when properly conducted, rarely fails of increasing the crop. For turnip ground, dung, mould, rabbitdung, woollen rags, &c. may be laid on to advantage; and to further the growth of clover, faintfoin, and meadow grafs, coal ashes, foot, and malt dust, are very proper applications: of these the two last, if sown over the green wheat in the fpring, or harrowed in with the barley at the time of fowing that grain, are excellent fubflitutes for the more lafting kind of manures, where these cannot be procured in a sufficent abundance."

It has been remarked by lord Dundonald, that clay is the fittest substance to be applied with a view to alter the arrangement of the parts of a chalky foil. Peat is a good application to lands of this nature, which are frequently termed hungry foils, and very deficient in vegetable matter. And as a sufficiency of dung is not to be procured to manure fully every part of a farm, peat may be applied in one or other of the states of preparation mentioned under that head. See PEAT. Unfortunately for the improvement or chalky foils, fays he, neither clay nor peat is to be found but at the extremities or outikirts of the extensive tracts of chalky countries; but wherever they are to be had, the application of them should not be neglected. Calcareous or chalky lands, which have long been under the plough, contain a large proportion of phosphate or oxalate of lime. These insoluble saline matters may, he says, be rendered serviceable to vegetation by alkalies, vitriolic acid, vitiriolic neutral

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falts, (especially if superacidulated), and by pyritous and aluminous substances. Even green vitriol, which has hither to been considered as unfriendly to vegetation, will, when applied in a proper manner to lands like this, considerably improve and promote the growth of pallure-grass. More experiments are, however, wanting fully to ascertain the utility of these chemical substances on grounds of this as well as other kinds. The principal disadvantage, says he, attending chalky lands, is, that of their being too dry and parched at certain feasons; but possibly this defect, when they are under passure, may be counter-balanced by the more early grass they produce in the spring, as well as the luxuriant herbage that succeeds the autumnal rains.

It has been remarked, that the best produce of the grain kind, in chalky lands, is barley and wheat; but oats will likewise do well on them. Their natural produce in weeds is popping, May-weed, &c. For grass-feed, faint-soin, trefoil, and, if rich, clover. The best manure for these lands is rags, dung, folding of sheep, &c. as has been seen above. In these lands, if rain happen to fall on them just after sowing, before the corn gets up, it will frequently cause the earth to bind so hard, that it cannot get through it; but may be much helped by a light harrowing, or other means of a similar nature. In breaking uplands of this nature from grass, too great a depth of surrow should, in most cases, be

avoided.

Under the class of chalky lands, a very large proportion of the grounds of this country may, it is observed, be com-

prehended.

The Hertfordshire farmers manage these lands for grain in the same manner as they do their clay-lands; but in Oxfordshire they commonly manure them with half-rotten dung, which, they say, prevents the binding of it; and some mix it with sand which causes it to work short, especially if in any degree dry. They commonly sowthem with wheat, mislin, and barley; and, after wheat, pease, or vetches: in doing of which they are obliged particularly to take care to have since weather, because of the lands binding so greatly. See Soil.

CHALKY Soil, that fort of land which is principally conflituted of chalky materials. Soils of this nature abound very much in different parts of the kingdom. See

Soil

CHALLANS, in Geography, a town of France, in the department of the Vendée, and chief place of a canton, in the diftrict of Les Sables-d'Olonne; 7 leagues No of it. The place contains 3000, and the canton 16,362 inhabitants; the territory includes 202½ kiliometres and 9 communes

CHALLANT, a town of Piedmont, in the duchy of

Aosta; 11 miles E.S.E. of Aosta.

CHALLENGE, a cartel, or invitation to a duel, or other combat. The word challenge was anciently translated calumnia. It may very properly be called a provocation or funmons to fight, when an affront in derogation of honour has been offered.

Challenges to fight either by word or letter, or bearing such challenges, are punishable by fine and imprisonment, according to the circumstances of the offence; and barely endeavouring to provoke another to send a challenge, or to sight, as by dispersing letters full of reslections, and infinuating a desire to sight, &c. is a high offence. (1 Hawk. P. C. 135, 138.): and if challenges arise from gaming; the offender shall forfeit all his goods to the crown, and be imprisoned two years. 9 Ann. cap. 146

It is now the customary and frequent practice of the court of King's Benchto grant informations against persons sending

challenges to justices of the peace, and in other heinous

CHALLENGE, in Law, is an exception taken either against persons or things: in the sormer instance, against jurors, any one or more of them; and in the latter, as in the ease of felony, by the prisoner against things, as a declaration, &c. Terms de la ley. 109. The sormer is the most frequent

firmification of the term.

Challenge to the jurors, is either made to the array, or to the poll to the array, as when the whole number is excepted against, as partially impanelled, or arrayed in the panel, or little square pane of parchment, on which the jurors' names are written. If the sheriff be of affinity to either of the parties; or if any one or more of the jurors are returned at the nomination, or under the direction of either party, or for any other partiality, the array shall be quashed. To the polls, or in capita, as when particulars are excepted against, as not indifferent. These may be challenged, 1. Propter honoris respectum, as when a lord of parliament is impanelled. 2. Propter defectum, as in the cafe of an alien born, which is defect of birth; or of a flave or bondman, which is defect of liberty; or in cafe of infufficient estate. This latter exception has undergone several alterations by different flatutes: but by 4 and 5 W. and M. cap. 24. the qualification is 10l. per annum, in England, and 6l. in Wales, either of freehold or copyhold lands: and by 3 Geo. II. cap. 25. the holder of a leafe on life or lives, or for the term of five hundred years absolute, of the clear yearly value of 201. fer annum, over and above the rent referved, is qualified to serve on juries. 3. Propter affectum, or on suspicion of partiality: and this kind of challenge is principal or to the favour; in the former case the cause of fuspicion is obvious, as, that a juror is of kin to either party within the ninth degree (Finch, L. 401.); that he has been arbitrator on either fide; that he has an interest in the cause; that an action is depending between him and the party; that he has taken money for his verdict; that he has formerly been a juror in the fame court; that he is the party's matter, fervant, countellor, iteward, or attorney, or of the fame fociety or corporation with him :and in the latter case, when only some probable circumstances of suspicion are pleaded, which are to be determined by triors. 4. Propter delictum, or on account of some crime, which disqualifies the juror, by affecting his credit, as conviction of treason, felony, perjury, or conspiracy: judgment of the pillory; branding or whipping, outlawry or excommunication; attaint of falle verdict, or forgery, &c. Challenge to the jurors, is also divided into challenge

Challenge to the jurors, is also divided into challenge principal, and challenge pur cause: i. e. upon cause or reason

alleged.

Challenge principal, otherwise called challenge peremptory, is what the law allows without cause alleged; or farther examination: thus, a prifoner at the bar, arraigned on felony, may peremptorily challenge twenty, one after another, alleging no cause but his own dislike; and they will be set aside, and new ones chosen in their room. 22 Hen. VIII. cap. 14. and 1 and 2 Ph. and Mar. cap. 10. This privilege of peremptory challenges, diftinguishing the tenderness and humanity of the English laws, though granted to the prifoner, is denied to the king by flat. 33 Edw. I. fl. 4. which enacts, that the king shall challenge no jurors without affigning a cause certain, to be tried and approved by the court. However it is held that the king need not affign his cause of challenge, till all the panel is gone through, and unless there cannot be a full jury, without the persons so challenged. And then, and not fooner, the king's counfel must shew the cause: otherwise the juror shall be sworn. 2 Hawk. 2 Hawk. P. C. 413. 2 Hal. P. C. 271. In case of high- many of which he lost on the occasion. On his return, he by flat. 7 W. III. liberty is given peremptorily to challenge

thirty-five.

Yet there feems to be a difference between challenge principal and challenge peremptory; the latter being only in matters criminal, and without any cause alleged; the former mostly in civil cases, and with affigning some such cause, as being found true, the law allows: v. g. if either party allege, that one of the jurors is the fon, brother, coufin, or tenant, of the other, the exception is good. Also in the plea of the death of a man, or in any action real or personal, where the debt or damages amount to forty shillings, it is a good challenge to a juror, that he cannot difpend forty thillings per annum of freehold.

Challenge is also a term given or applied to an objection made to a member of a court martial on the score of either real or prefumed partiality. The prisoner, however, must in this case assign his reason for or cause of challenge, of the relevancy, propriety, and validity of which the members are themselves the judges. Peremptory challenges, then, though practifed and admitted in civil cases, are not acknowledged by military law, or allowed at courts martial. The privilege of challenging is enjoyed equally by the prisoner and

the profecutor.

Challenge upon reason or cause, is when the party does allege fome fuch exception as is fufficient upon acknowledgment of the truth of it; v. g. if the fon of the juror have married the daughter of the other party, of the like.

Challenges to the polls, or exceptions to particular jurors, feem to answer the "recufatio judicis," in the civil and canon laws; by the constitution of which a judge might be refused upon any suspicion of partiality. By the laws of England, also, in the times of Bracton and Fleta, a judge might be refused for good cause; but now the law is otherwife, and it is held that judges and justices cannot be challenged. (Co. Litt. 204.) For the law will not suppose a possibility of bias or favour in a judge, who is already fworn to administer impartial justice, and whose authority greatly depends upon that prefumption and idea, And should the fact at any time prove flagrantly such as the delicacy of the law will not prefume before-hand, there is no doubt but that fuch milbehaviour would draw down a heavy censure from those to whom the judge is accountable for his conduct. Blackit. Com. vol. iii. p. 361.

CHALLENGE, in Hunting. When hounds, at first finding the fcent of their game, prefently open and cry, the hunti-

men fay, "they challenge."

CHALLIN, in Geography, a town of France, in the department of the Mayne and Loire; 5 leagues W. of An-

CHALLONOIS, the name of a small country of France before the revolution, in the environs of Chalons-tur-

CHALO, a river of Asia, which rifes near Lassa or Baratola, in Tartary, passes through the province of Yunnan in China, the country of Laos and Tonquin, and discharges itself into the gulf of Cochin-China, in the Eastern sea, op-

posite the island of Hainan.

CHALONER, Sir Thomas, in Biography, a learned writer and foreign minister in the reign of queen Elizabeth, was born in London about the year 1515, and educated at Cambridge, where he dillinguished himself by his talent for Latin poetry. Having been fent by Henry VIII. in the train of the ambassador to Charles V. emperor of Germany, he accompanied that prince in his unfortunate expedition against Algiers, where he was shipwrecked and narrowly efcaped drowning, by keeping hold of a cable with his teeth,

treason, no challenge peremptory was formerly allowed; but became a favourite of the regent, duke of Somerset; and in confequence of his diffinguished valour at the battle of Muffelburgh, he received the honour of knighthood. When his patron was difgraced, and during the reign of queen Mary, he lived in retirement; but on the accession of Elizabeth, he was appointed, by the interest of Cecil, ambassador to Ferdinand, emperor of Germany; and having acquired great reputation in this office, he was fent in 1561 in a fimilar capacity to Philip, king of Spain. In this mission he encountered feveral difficulties, which, notwithflanding the relief derived from literary occupations, occasioned a sit of fickness that obliged him to request his recal; and this he is faid to have obtained by addreffing the fusceptible heart of Elizabeth with an elegy written in the ftyle of Ovid. Upon his return towards the close of the year 1564, he published the first part of his principal work "On the right ordering of the English commonwealth." But his constitution was fo much impaired, that he died in October, 1565, at his house in Clerkenwell Close; and as he was equally great in arms, science, and arts, he was much lamented, and his funeral was honoured by an interesting and affectionate attendance to St. Paul's cathedral; Sir William Cecil officiating as chief mourner. He was no less distinguished for his talents and integrity as a statesman, than for his literary endowments. Of his writings the principal are, that already mentioned, which, in its complete form, was printed at London in 1579, 4to. under the title of "De Republica Anglorum initauranda, lib. x.;" and a collection of his poetical pieces entitled "De Illustrium quorumdam Encomiis Miscellanea cum Epigrammatis ac Epitaphiis nonnullis." Biog. Brit.

CHALONER, Sir THOMAS, a philosopher and technical chemift, was the fon of the preceding by his wife Ethelreda, born in 1559, and educated under the care of lord treasurer Burleigh, first at St. Paul's school, and afterwards at Magdalen college, in the university of Oxford. At college, though he took no degree, he established his character for abilities and learning. About the year 1580 he vifited feveral parts of Europe, and particularly Italy, where he prolonged his flay, and profecuted many curious inquiries in natural philosophy and chemistry, together with a variety of experiments. On his return home fome time before the year 1584, he was much noticed at court for his polite behaviour and accomplishments; and about this time married the daughter of fir William Fleetwood, recorder of London, by whom he had feveral children. In 1591 he was knighted; and fome years afterwards discovered the first alum mines which were ever known to be in this kingdom, on his estate near Gisborough in Yorkshire. As during his foreign travels he had paid particular attention to the alum works at Puteoli or Puzzoli, he found means to introduce that profitable manufacture into England, much to the advantage of his country. The discovery of a mine in England was made about the year 1600, and for rendering it practically useful, workmen were brought from foreign parts; and at this period it was adjudged to be a mine-royal, and was taken poffession of by the crown. It was then granted to fir Paul Pindar, at a rent of no less than 14,740 pounds sterling; nevertheless the undertaking proved extremely lucrative. By the long parliament it was voted to be a monopoly, and the alum works were restored to their original proprietors. In the latter end of queen Elizabeth's reign, fir Thomas Chaloner visited Scotland, and was favourably received by king James; fo that in 1603, he was entrufted with the education of prince Henry. He was likewife confidentially employed by prince Henry. He was likewise confidentially employed by queen Anne. By a second wife he had children, to whom he is faid to have left a confiderable effate in Buckinghamthire. He died on the 17th of November, 1615, and was bu-

ried at Chiswick in Middlesex. His eldest fon, William Chaloner, was created a baronet by king James in 1620; but

the title became extinct in 1681. Biog. Brit.

CHALONITIS, in Ancient Geography, a country of Afia, the most foutherly province of Affyria. It extended along the left bank of the Tigris, S.W. of mount Tagros, which separated it from Media. It is said to have derived its name from the town of Chala; and the inhabitants were called Chalonita. This province, from its situation, was at all times the seat of war between potent empires and vations; and it is now become a desert, excepting some few small spots that may be cultivated about the inconsiderable towns which stand within its borders.

CHALONNE, in Geography, a town of France, in the department of the Mayne and Loire, and chief place of a canton in the diffrict of Angers, fituated near coal-mines; 4 leagues S.W. of Angers. The place contains 4922, and the canton 10,888 inhabitants; the territory includes 115

kiliometres and 15 communes.

CHALONNE, an ifland in the Loire, a little below the town of the fame name, about 3 miles in length, with a

village

CHALONS-fur-Marne, or CHAALONS, a city of France, and capital of the department of the Marne; before the revolution, the fee of a bishop, suffragan of Rheims, and chief place of the generality of Champagne; fituated between two fine meadows on the river Marne, containing 13 parifies, and partly subsisting by its manufactures of shallous and coarse woollen cloth. The place contains 11,120, and the canton 15,563, inhabitants; the territory comprehends 260 kiliometres and 16 communes. Chalons, or Duro-Catalaunum, afterwards Catalauni, formerly made a part of the territory of Rheims, from which it is diltant only 27 miles. It is famous for a battle between the Romans and Attila, king of the Huns, in which the former, after an obflinate and fanguinary contest, in which the number of the flain amounted, as fome fay, to 162,000, or, according to other accounts, to 300,000 persons, proved victorious, and Attila was obliged to retreat. At Chalons there is an academy of sciences, arts, and belles-lettres. It is 40 miles S.W. of Verdun, and 95 E. of Paris. N. lat. 48° 57'. E. long. 4° 22'.

CHALONS-fur-Stone, a city of France, in the department of the Saone and Loire, and principal place of a diffrict, feated on the river Saone, and, before the revolution, the fee of a bishop, fusfragan of Lyons. It is surrounded by walls, and defended by a citadel. It is the staple of iron for Lyons and St. Etienne, and of wines for exportation, which, as well as corn and wood, form its principal commerce. The city contains the Old Town, the New Town, and the suburbs of St. Lawrence. In the sirth is the court of justice, a modern structure, the cathedral, and the hotel-de-ville. The great Roman way from Lyons to Boulogne passed by Chalons; and it exhibits various traces of Roman magnificence, particularly the ruins of an amphitheatre. N. lat. 46° 47'.

E. long. 4 57'.

CHALOSSE, a fmall country of France before the revolution, in the environs of St. Sever.

CHALTAPITES, or CHALAPETES, in Ancient Geography, a division of Susiana, according to Ptolemy.

CHALTARON, in Geography, a town of Alia, in the country of Thibet; 10 miles W.N.W. of Coucha.

CHALVANCA, or CHUMBIVILCAS, a town of South America, and principal place of the jurifdiction of Chumbi-Vilcas, in Peru.

CHALUS, a town of France, in the department of the Upper Vienne, and chief place of a canton in the diffrict of

St. Yriuix; 15 miles S.S.W. of Limoges. The place contains 1204, and the canton 6264 inhabitants; the territory includes 227½ killometres and 7 communes. At this place Richard I. of England received a mortal wound, whilit he was reconnoitring it, previously to an assault for the purpose of recovering a treasure withheld from him by the viscount of Limoges.

CHALUS, in Ancient Geography, Kocic, a river of Afia, in Syria. Xenophon reports, that this river was full of large fifthes, which the Syrians regarded as gods, and carefully preferved. It had its fprings in the mountains W. of the town of Zeugma, ran S.W. to Chalybon, and from thence S. till it difcharged itfelf into a lake, on the banks of which was built the town of Chalcis. Xenophon places it at the dittance of 25 leagues from the defile which lay between Syria and Cilicia.

CHALYBEATES, in Medicine. A chalybeate medicine is one in which iron or fleel (chalybs) is a principal in-

gredient. See IRON (in Medicine).

Chalybeate cuaters form a very large and important class of mineral waters, which will be more fully deferibed under the article WATERS, mineral. It will be sufficient here to observe, that there are two principal classes of chalybeate waters; 1st, those in which the iron is held dissolved by the carbonic acid, and, 2d, those in which the sulphuric acid is the folvent. The former class is by much the most frequent. Of these, some waters contain little other foreign, and no other medicinal ingredient than the carbonat of iron, of which kind is the Tunbridge water; but others contain feveral neutral purging falts, of which the Cheltenham spring is an example. In all, the iron is totally precipitated in the form of a yellow light ochre, by boiling for a few minutes. The chalybeate waters holding the fulphat of iron generally can be traced to some pyritical source, and very often also contain fulphat of alumine. They are more altringent to the tafte than the former, and the oxyd of iron is only partially separable by boiling, which therefore forms a ready test to distinguish the two species.

The chalybeate waters are found to be highly valuable medicines, though the actual quantity of iron taken in the usual doses is much smaller than in any other form in which

this metal is given.

CHALYBIANS, in Ancient Geography, a people of Scythia, who are faid to have derived their name from Chalybs, the fon of Mars. Others fay, that they were fo called from their iron manufactures. Strabo is of opinion, that they were the fame with the Alyzonians, mentioned by Homer, and that the poet either wrote Chalybes, or that the inhabitants were originally called Alybians. If fo, Homer leads us to imagine, that they were as famous for their filver, as they were, at that time, for their iron mines. They occupied that part which lay between the Taocticans and Scythinians. Diodorus Siculus calls them Chalcideans; and they were the most valiant people the 10,000 Greeks in Xenophon's retreat had to encounter with. They were herce and warlike; equally able to engage on the plains as on the mountains; they followed the Greeks all the way through their country, and terfibly annoyed them on their march. This powerful nation extended itself to other parts, and occupied part of Pontus, which lay between Armenia Minor, the Macrons, the Mofynecians and Tibarenians. Their country was mountainous and barren; but furnished abundance of iron, which the inhabitants manufactured, and which, befides supplying their own wants, afforded a confiderable article of commerce. In the time of Xenophon, this country was much reduced, and the Chalvbians were fubject to the Molynecians. But in more ancient times it

SPECIES.

extended beyond the boundaries above-mentioned, between Amiffus and Sinope, and comprehended a confiderable territory on this fide of the Halys. The Chalybes were the last people subjugated by Cræsus. See Herodotus, l. i. c. 28. CHALYBIANS, an ancient people placed by Pliny in

Africa, in the Troglodite territory.

CHALYBON, a confiderable town of Asia, in Syria, fituated in the midst of a large plain, on the bank of the river Chalus, N. of Chalcis. See ALEPPO.

CHALYBONITIS, a country of Afia, in Syria, which extended from Coelefyria to the Euphrates, and which was fo called from Chalybon, the only city contained in it worthy of notice. Some supposing Chalep to be an abbreviation of Chalybon, conclude Aleppo, Chalep, and Chalybon to be the fame city; but Chalybon is placed by Ptolemy at the 37th degree of latitude and 71st of longitude, and consequently far fouth of the present Aleppo.

CHALYBS, now Cabe, a river of Spain, the banks of which were occupied by a people called Chalybes, according to Justin. The waters of this river were reputed to give an

excellent temper to feel.

CHAM, or KHAN, the title given to the fovereign princes

of Tartary.

The word, in the Persian, signifies mighty lord; in the Sclavonic, emperor. Sperlingius, in his Differtation on the Danilh term of majelty, koning, king, thinks the Tartarian cham may be well derived from it; adding, that in the north they fay kan, konnen, konge, konning, &c. The term cham is also applied, among the Persians, to the great lords of the court, and the governors of provinces.

M. de Peyssonnel, in his Strictures on Baron de Tott's Memoirs (fee vol. ii. p. 187.) observes, that no such word as cham exists; the true orthography being Khan. It is not, he fays, a title exclusively assumed by the sovereign of the Tartars, fince the Turkish emperors take it likewise. Of this the Ottoman money is a sufficient proof, the legend of which is "Soultan ibn el Soultan Abdulhamid, Khan. dame mulkhow," i. e. Sultan, fon of Sultan Abdulhamid, Khan, whose reign be everlasting. The title of Khan is certainly equivalent in fignification to that of Shah, which means king; and yet the most absolute Persian monarchs, who have never assumed any other title than that of Shah, have permitted the governors of provinces in their empire to take that of Khan. Even in our time the governors of the provinces of Guendja, Guilan, Mazanderan, &c. who have no more authority in Persia than the Pachas in Turkey, take the title of Khan.

CHAM, in Geography, one of the provinces of Cochin-

CHAM, a town or parochial village of Swifferland, in the

Canton of Zug, on the S. fide of the Lake of Zug.

CHAM, or Chamb, a town of Germany, in the circle of Bayaria, feated on the Regen, at its conflux, with a river called Ampl or Kampl; 84 miles N. of Saltzburg.

CHAM de Couca, a town of Portugal, in the province of

Estramadura; 6 leagues N. of Thomar.

CHAMA, in Conchology, a genus of shells. The Chamæ are of the bivalve order, and are distinguished by having the shells rather rude or coarse; the hinge with a callous gibbofity, obliquely inferted in an oblique hollow: anterior flope of the shell closed. Vulva claufa abfque nymphis. Linn.

The animal inhabitant of these shells is of the Tethys genus, having the body furnished with two small apertures on the left fide of the neck: the body rather oblong, fleshy, without peduneles; and the mouth with a terminal cylindrical probofcis under an expanded membrane or lip.

CHAMA cor. Shell roundish and smooth: beaks recurved; anterior flope with a gaping fiffure .- Tefla fubrotunda

lavi ; natibus recurvatis, rima biante, Linn.

This shell when full grown is about the fize of a large orange. It inhabits most of the seas in the S. of Europe, and is rarely discovered as far northwards as the British isles, one or two instances only of its having been found in our feas are on record. Donov. Brit. Shells. The French call it Cour de bouf, in allusion to its general figure, which bears fome refemblance to that of a bullock's heart. The English collectors diltinguished it by the name of heart Cockle. When in high perfection, this shell is of a delicate cream-coloured white, tinged and varied with pale reddiff, and teffaceous; and is covered with an epidermis of a dufky brown

CHAMA gigas. Shell plaited, with arched fcales; posterior flope gaping .- Tefla plicata fornicato-fquamofa; ano biante. Linn. Chama squamata, Rumpf, Imbricata, Argenv.

There is much propriety in the specific name gigas affigned by Linnaus and other naturalists to this shell, for it is very much larger than the rest of the Chamæ, and is indeed of a fize very far superior to any other of the testaceous productions hitherto discovered. Shells of this species weighing from one hundred to one hundred and thirty or forty pounds the pair are not very unufual; fuch occur in most public museums of Natural History in Europe. One individual of the Chama gigas is recorded by Conchological writers that weighed five hundred and thirty two pounds, including both the shells and the animal; and the latter was so large as to furnish one hundred and twenty men with food for a meal, and strong enough by the sudden collapsing or snapping its valves close, to cut asunder a cable rope, and lop men's hands off. This enormous species inhabits the Indian seas. Those of the largest fize we are acquainted with, are from the feas contiguous to the island of Borneo, from whence they are occasionally brought as objects of curiosity, into Europe, and kept as ornaments in gardens. During the early part of the last century they were in much request for the decorations of fountains, grottoes, and refervoirs of water, especially in Italy, the more modern Italians emulating in some manner the classic taste of the ancients. This gigantic shell was perfectly familiar to the poets, and sculptors of antiquity; Venus is fabled to have rifen in one of them from the bottom of the fea, an allegory in itself extremely beautiful, and which has afforded matter for feveral of the most exquifite compositions of ancient, as well as modern artists; the former is obvious in a variety of remains of ancient fculpture, and of the latter we need only instance one, Barry's inimitable picture of "Venus rifing from the fea," the impressive and sublime effect of which is recent in the mind of every admirer of the modern arts. On gems and cameos of antiquity, Venus under various characters, Amphitrite, Doris, and other goddesses and nymphs in the train of Oceanus, frequently appear upborne upon the waves, or driving through the foaming billows in a chariot formed of the chama shell.

CHAMA antiquata. Shell fomewhat heart-shaped, grooved longitudinally and striated transversely. Linn. &c.

A native of the American, Atlantic, and Indian feas. This shell is inequilateral, and is marked with brown or ferruginous spots; the ribs are from nineteen to twenty-two. in number; the margin of the shell toothed; beaks inflected: back; anterior margin with a deep closed fissure.

CHAMA bippepus. Shell plaited, muricated; posterior.

Slope retufe, closed, and toothed .- Chama hippopus, Linn. Chama afpera obiufa, Rumpf. Folium braffica, Argenv.

This is a broad, and towards the beaks gibbous shell, of a white or whitish colour varied with spots of red, or sometimes purple, and very rarely yellow, and at the hinge are yellow callofities. The fize is various, but feldom exceeds fix inches from the beak to the margin, and nine inches in breadth; commonly one fourth less in fize. Inhabits the Indian Ocean.

CHAMA trapezia. Shell trapeziform, gibbous, with longitudinal crenulated grooves. Müll. Zool. Dan. A native of the Norway scas. This is of a gibbous form, about the fize of a pea, of a white colour mixed with brown towards the margins, which last are crenated; the strice nearly twenty in number rugged with unequal obtufe knots; beaks rather recurved; posterior slope ovate, heart-shaped, the anterior flope oblong, flat, and crenated on the outfide. Schroet. Gmel. &c.

CHAMA semiorbiculata. Shell somewhat orbicular, compressed, coarse, with strix crossing each other. Linn. &c. This shell is longitudinally striated and imbricated with scales; posterior slope with a whitish lobe; hind margin crenated.

Country unknown.

CHAMA calyculata. Shell oblong, with imbricated grooves; anterior part retule. Gmel. &c. Jefon, Adanson. Found in the Atlantic, American and Indian feas. The colour is white, or when young, inclining to brownish; hinge with two teeth; exterior margin ferrated, interior fmooth.

CHAMA gryphoides. Shell orbicular, muricated; one valve rather flattened, the other with a fomewhat spiral produced beak. Linn. &c. Concha rugata, Rondel. Jataron, Adanson. Inhabits the Mediterranean, American, and Indian feas, where it occurs affixed to rocks. Authors enumerate fix or more varieties of this shell, the colours of which are variable, as yellow varied with reddish or white; red varied with yellow and white, or white varied with red and yellow. The feales also in some specimens are more foliaccous, and fometimes are arched and muricated.

CHAMA cordata. Shell heart-shaped, and transversely ftriated; one fide elongated and compressed. Linn. Inhabits the Red and Indian feas. Colour ferruginous, or chesnut. Obs. Chama renisormis of Knorr is considered

as a variety of this shell.

CHAMA fatiata. Shell subrotund, with toothed grooves intermixed with dots; posterior slope retuse. Gmel. Native place unknown. Shell white, reddiff on the outfide; grooves elevated, longitudinally toothed, and alternately shorter; margin crenulated; posterior slope heart-shaped.

CHAMA oblonga. Shell oblong, the anterior part angular,

with acute teeth in front. Linn.

Inhabits the shores of Guinea, where it is scarce; it refembles mytilus modiolus; the shell is somewhat diaphanous, white, with very fine strike croffing each other; the colour within citron; margin very entire; hinge with three middle teeth and an oblong acute lateral one locking into a hollow between two teeth on the opposite valve. Figured by

Chemnitz, T. 7. 50.

CHAMA Lazarus. Shell imbricated, with jagged lamellæ; beak a little spiral obliquely. Linn .- Placenta foliacea,

Argenville.

This shell is yellow, or white, with Adheres to rocks. red beaks, and glabrous within; the upper valve is rather less and flatter than the lower, and in the hinge of the latter is an obtule, thick, broad callofity crenated on each fide, with an oblique contiguous hollow. A native of India.

CHAMA bicornis. Shell with conic valves, and horn-shaped oblique tubular beaks longer than the valve. Gmel. This bears a great affinity to Chama gryphoides; colour in general yellow, and red or white on each fide, with imbricated lamellæ. Inhabits the Indian and American Oceans, and alfo the Mediterranean fea.

CHAMA arcinella. Shell grooved, muricated, with exca-

vated dots; hinge with a feffile callofity. Gmel.

Breadth two inches and nearly the same in length; colour white with fometimes rofy fpines, within yellowith; margin crenated; polterior excavation large, heart-shaped, warty, wrinkled, with an appendage commonly on one fide. A native of the American Ocean, but is rare.

CHAMA moltkiana. Shell obtufely triangular, equilateral, plaited; anterior flope elevated, with oblique plaits and thriæ.

Chemnitz, &c.

This species, which is about the fize of a hazel out, resembles Chama Cor. It is milk-white and opake; the beaks rather diltant; hinge with a rounded narrow tooth under the beaks, and an adjoining hollow for the infertion of the tooth hollow between two teeth, and a little further back another round dilated tooth. Country unknown.

CHAMA concamerata. Shell with transverse wrinkles crossing the broad longitudinal firiæ; in the middle of each valve within an additional chamber. Walch, Gmel. &c.

This is a shell of small fize, whitish, and very rare. In-

habits the American Ocean.

CHAMA foliacea. Shell white, with foliaceous ferrated transverse thriæ, the interttices crenated; beak recurved. Gmel. Inhabits the Mediterranean, and American feas; it is faid to be found in a fossil state in Campania in France, but the latter is probably diffinct though nearly allied to Chama foliacea.

CHAMA arata. Shell rounded, white undulated with brown; ribs triangular, perpendicular, and wrinkled; margin unequal. Bonann. Found on the shores of Syracufe. Gmelin supposes it may be of the Cordium instead of Chama genus.

CHAMA fusca. Shell wrinkled, oblong, narrow and brown; lower valve with a projecting, rounded, and fomewhat incurvated beak. Gualt. Country unknown.

CHAMA citrea. Shell roundish, ventricose, inequivalve, and muricated with scattered unequal scaly spines. Regenf. Conch. This is of a citron colour, and inhabits America. CHAMA thaca. Shell roundish, longitudinally striated;

posterior slope retuse. Gmel. &c.

Described in Molina's Natural History of Chili as a native of the Chilese shores, where it buries itself in the fands. The shell is white violet and yellow on the outside, within elegant purple; diameter about four inches. The animal rich and agreeable food.

CHAMA rugofa. Shell fomewhat orbicular, and very deeply fulcated; the wrinkles flightly imbricated; margin

doubly folded. Linn. Mant.

This is about the fize of a man's finger, gibbous, and thick, with thirty grooves; the outer margin with concave prominent projections from the wrinkles, the inner margin obtufe plaited; hinge with two or three oblique grooves declining towards the anterior fide. Native country un-

CHAMA gryphica. Shell oblique, with a lateral oblique depression or hollow: callofity of the hinge dentated. Linn.

Refembles Anomia gryphi. This species inhabits Barbary: the shell is ponderous and thick, about the fize of a fift; beaks obliquely curved backwards; anterior flope longitudinaily grooved and oblique towards the beaks; pofferior flope longitudinally concave.

CHAMA coralliophaga. Shell cylindrical, white, diaphanous, with decuffating firize, the transverse firize arched and imbri-

cated. Chemnitz. Country unknown.

CHAMADE, in Military Language, a conference or parley. Battre la chamade, is to beat a parley, or to make a fignal by beat of drum, for a conference when any thing is to be proposed. This fignal is fometimes made by found of trumpet, as well as by beat of drum. When the befieged are hard preffed or reduced to extremity, they beat the chamade; and when either the befieged or beliegers with for a truce or short cessation of arms, for the purpose of withdrawing their wounded, or burying their dead, or of any reclamation whatfoever, they beat the chamade: the befieged on the part of the rampart nearest to the attack, and the befiegers at the most advanced part of their approaches. CHAMÆBALANUS, in Botany, Rumph.

ARACHIS CHAMÆBUXUS, Bauh. pin. Sce Polygala cha-

mal ar

CHAMÆCERASUS, Bauh. pin. See LONICERA. CHAMÆCISSUS, Fuchs. Bauh. hilt. See GLE-

CHAMÆCISTUS ferpyllifolia, floribus carneis, Bauh. pin. See AZALEA procumbens.

CHAMÆCISTUS luteus, Pet. -- urtica folio, Sloan. See TURNERA pumilea.

CHAMECISTUS caule birfuto, Sloan. See TURNERA sistiodes.

CHAMÆCISTUS birfufutus, Bauh. pin. - 8, Cluf. See RHODODENDRON Chamaciftus.

CHAMÆCISTUS roris folis foliis, Pet. See ANDROMEDA droferoides.

CHAMÆCISTUS frificus, Bauh. pin. See SAXIFRAGA

birculus. CHAMÆCISTUS americana, Herm. See TALINUM trian-

gulare. CHAMECISTUS erica folio bumilior, Bauh. pin. -- 6,

Cluf. See CISTUS fumana.

CHAMÆCISTUS foliis myrti, Bauh.pin. _____3, Cluf. See CISTUS canus.

CHAMÆCISTUS repens, Bauh. pin. See Cistus ferpylli-

CHAMÆCISTUS incanus, Barr. See Cistus glutinofus.

CHAMÆCISTUS luteus thymi folio, Barr. See CISTUS Mynifolius.

CHAMECISTUS foliis thymi incanis, Bauh. pin. --- 4, Cluf. See CISTUS pilofus.

CHAMÆCISTUS montanus, Rai. Syn. See Cistus poli-

CHAMÆCLEMA, Hal. See GLECHOMA.

CHAMÆCRISTA, Comen. See Cassia chamacrifia. CHAMÆCRISTA, Breyn. See Cassia flexuofa.

CHAMÆ-CHRYSOCOME, Barr. See STÆHELINA dubia.

CHAMÆ-CYPARISSUS. See SANTOLINA.

CHAMÆDAPHNE, Mitch. See MITCHELLA.

CHAMÆDAPHNE, Catelb. See KALMIA.
CHAMÆDAPHNE, BUXD. See Andromeda calyculata.
CHAMÆDAPHNE vera Diofroridis. See Ruscus aculcatus. CHAMEDRIFOLIA, Pluck. See FORSKOELIA lena-

CHAMÆDRYS alpina minima, Bauh. pin. See VERO-NICA aphylla.

CHAMÆDRYS alpina faxatilis, Bauh. pin. See PADE-LOTA len weld.

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CHAMEDRYS spina, Bauh. pin. See VERONICA Teu-crium, trostrata, Chamadrys austriaca, latifolia, biloba. CHAMADRYS 3, Clufii. See DRYAS oflopetala.

CHAMÆDRYS major & minor repens, Bouh. pin. See

TFUCRICY Chamadrys.

CHAMZEDRYS Spinofa, Bauli. pin. See TEUCRIUM Spi-

CHAMÆDRYS, n. 289, Hall. - laciniatis foliis, Lob. Tourn. See TEUCRIUM Botrys.

CHAMADRYS annua, Morif. See TEUCRIUM niffolianum. CHAM EDRYS maritima, Tourn. See TEUCRIUM marum. CHAMZDRYS multiflora, Tourn. See TEUCRIUM multi-

CHAMZEDRYS canadenfis, Tourn. See TEUCRIUM cana-

denfe. CHAMEDRYS fruticofa inful. Stoech. Tours. See TEU-

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CHAMELEA foliis angustis, & folio subrotundo, Burm. See PHYLICA Ripularis.

CHAMÆLEA foliis linearis, Burm. See TRAGIA chamælea.

CHAMELEA foliis oblongis, Burm. See CLUTIA alater.

noides & polygonoides.
CHAMALLEAGNUS, Dod. See Myrica gale. CHAMALLEON, in Aftronomy. See CAMELEON.

CHAMELEON exiguus, in Botany, J. Bauh. See CAR-Duus acaulis.

CHAMÆLEON falmanticenfis, Cluf. See CARTHAMUS canescens.

CHAMELEON albus, Cluf. See CARLINA acaulis.

CHAMÆLEON albus Dioscoridis, Colum. See ATRACTY-LIS gummifera. CHAMÆLEON niger, Dalech. Dod. Bauh. pin.

CARTHAMUS corymbofus. CHAMELEON non aculeatus, Lob. See CENTAUREA co-

CHAMELEON, or CAMELEON, in Zoology, a fmall and curious animal of the lizard tribe, celebrated from the remoter days of classical antiquity, for the faculty it was imagined to possess of changing its colours at pleasure, and affimilating to that of any lituation, or object near it. In the Linnwan fystem of animals it stands in that particular tribe of the Lacerta (fee article LACERTA), which have the feet furnished with five toes, some only of which are connected, and the tail short, rounded, and incurved; the Chamaleontes of Gmelin. The French naturalitts, as Brongniard and Lacepede, separate the chammleontes from the lacertm, and constitute a new genus of this natural tribe of animals, under the name of cameleo, caméléon, in which they include fix diffinct varieties or species, as will appear in the sequel.

The only kind of Chammleon with which the ancients fcem to have been acquainted, is the common fort found in India, 3 G "Africa,

Africa, and the hotter parts of Europe; as for instance, Portugal and Spain. This is specifically diffinguished by the cinereous colour of the body, and the head being flat. Of this species there are two, or more, supposed varieties, or, as the French writers believe them, dittinct, though very analogous species. One of these varieties has the body white, which is the Cameleo candidus of Laurenti; and another, Cameleo capite pragrandi, has the head of a remarkably large fize: this last is described by Dr. Parsons in the Philosophical Transactions for 1763. Besides these, the Cameleo mexicanus of Laurenti is confidered only as a variety. Linnæus was induced to admit all the different races of the chamæleon tribe as varieties of this individual species; in the Gmelinian edition of the Systema Naturæ, the two kinds, Africana and Pumila, are very properly removed from the former, and described as distinct.

The general length of the common chamæleon is about ten or twelve inches, measuring from the tip of the nose to the beginning of the tail; and the tail is nearly of a fimilar length. Its figure and proportions are uncouthly fingular. The head is large, flat above, and of a subtriangular form : the posterior part of its body seems crippled, and the legs ill-shapen and long. Its motions are slow, except when in the act of climbing trees in fearch of its prey, which confifts of infects, when it afcends and descends with some facility, by means of its legs, which are well adapted for climbing, while at the fame time it never fails to fecure its hold more firmly by coiling its tail round the fmaller branches. When it walks on the ground, it moves with a ludicrous air of gravity and circumspection, in a regular and even pace, which it will not haiten, even at the approach of danger. The fecundity of this animal is supposed to be very great, being, from the flowness of its motions and mode of life, inceffantly exposed to the attacks of voracious birds, ferpents, and various other animals, without any means of defence, and being yet found in vast numbers in the countries they naturally inhabit. The term of this animal's life is unknown; it thrives best in hot countries. Even in Lower Egypt, and on the coast of Barbary, when the weather is not very hot, the chamæleon feems to lofe its ordinary share of activity, and oftentimes, in the winter feafon, they are found in those parts concealed under heaps of stones, where they lie overpowered by the cold in a perfectly motionless state, without being asleep. The Africans and Indians regard the chamæleon as a most useful animal; they see them enter their habitation with pleafure, and endeavour as much as possible to domesticate them, the chamæleon destroying molquitos, ants, and a hoft of other winged infects, with which they are tormented.

The chamæleon by the power it possesses, like most of the amphibia, of inflating its lungs, and retaining the air for a confiderable time, can alter the appearance of its body at pleasure; sometimes appearing of a plump or sleshy aspect, while at other times, upon expelling the air from the lungs, and keeping them in a collapsed state, the whole animal affumes the most lank and miserable aspect imaginable. At fuch times the skeleton seems scarcely more than covered with a thin fkin, the back-bone and ribs becoming diffinctly vifible on each fide u der the contracted fkin. This inflation affects not only the body, but also the legs and tail, the tendons of which may be clearly traced in its extenuated flate through the ikin. When thus puffed out, the animal can remain to for the space of an hour or two, or even so long as fix hours, the parts being speedily inflated, but the compreffion being effected gradually, and thus by an almost infentible finking of the parts, the dilated animal assumes the meagre condition before related. The fkin in every part of

the animal is of a granulated ftructure, the granules differing in fize on various parts, from that of a small pin's head to the diameter of the tenth of an inch, or more, especially about the projecting parts of the head and jaws, and on each fide of the belly. Down the back is a feries of obtuse denticulations, forming a subacute ridge from the head to the base of the tail, and decreasing in fize towards the latter. The feet confilt of five toes each, the anterior pair have the two outward toes united together by a common skin, and the three inner ones connected in a fimilar manuer; the reverse of which is observed in the feet of the posterior legs, those having the three outer toes, and the two inner ones,

The mouth is wide, and the bones of the jaws denticulated, fo as to represent small teeth. Ælian mentions these offeous denticulations, and fuppofing they could be of no fervice to the creature in eating, fince it fubfilts on flies, which it fwallows whole, infers they must be intended by nature for its defence, and gravely affirms, that by means of these the chamæleon holds a stick crossways in its mouth to prevent its being swallowed by serpents! The tongue is lid flesh, about ten lines long and three broad, round, a little flattened towards the end, hollow, and open, fomewhat like the end of an elephant's probofcis. This tongue is fastened to the os hyoides by means of a fort of trunk, shaped like an intestine, fix inches long, and a line broad, having a membrane without, and a nervous substance within, which is folid and compact, though foft, and not eafily divifible into fibres. This trunk ferves to cast out the tongue, which is fastened to it, by extending it, and to draw it back by contracting it, which motion it is enabled to perform by a kind of cartilaginous flylus, to which its invelling membrane is attached, and over which it is plaited like a filk flocking on the leg: this flylus is an inch long, and takes its origin from the middle of the base of the os hyoides, as in the tongues of several birds, and a number of blood veffels are distributed over it. This tongue is finely adapted for the purpole of feizing its prey, which confilts of infects, forming a miffile body with a dilated and fomewhat tubular tip, by means of which the animal feizes them with the greatest eafe, darting it out in the fame manner as the wryneck, or the woodpecker, and retracting it inflantaneously with the prey fecured at the tip. The flructure, form, and motion of this creature's eyes are very peculiar: they are remarkably large, being nearly half an inch in diameter, of a fpherical form, and projecting in the living animal full half of their diameter: these are covered with only a single eyelid or skin, pierced in the middle with a small hole, through which the bright and vivid pupil appears, surrounded by a golden yellow iris. The eyelid is granulated like the rest of the animal, and the fore part of the eye is attached to it in fuch a manner that the eyelid follows all the motions of the eye. The motions of the eye are not less fingular than its thructure, fince it can turn them fo as to fee whatever paffes either far backward, on either fide, or directly behind it, without at all moving the head. Sometimes one of thefe eyes will move while the other is at reft, or turn forwards while the other is directed backwards; or upwards, while the other is turned downwards. By extending the fkin of the orifice crofs-ways, the chamæleon can close its eyes, the holes then becoming a longitudinal fiffure. The brain is extremely small: the heart is also small, truncated at the tip, and furnished with large anricles, especially the left. The lungs are very large when inflated, and divided into feveral facular fubdivitions.

The Promethean-like faculty of the chammleon, to change

its colour, has excited euriofity in all ages. That it depended in a very confiderable degree on the will of the animal to exert this power was too apparent to be denied; but in what manner this effect was produced and operated on the frame of the champleon was referred for the invelligations of later naturalists to determine with competent accuracy. Senecommintained it was effected by fuffulion; Solinus, by reflection; and others, as the Cartelians, by the different disposition of the parts that compose the fken, which give a different modification to the rays of light. Kircher afcribes the change of colour in the chamæleon to the power of imagination in the animal, because it loses it when dead. Dr. Goddard attributes it to the grains in the fkin; which, in the feveral poftures, he thinks, may show feveral colours, and when the creature is in full vigour, may have, as he terms it, rationem Speculi, or effect of mirrors, and reflect the colours of the bodies adjacent. That the colours are not by any means determined by furrounding objects, has been the aim of late observers to demonstrate; that they change with frequence and rapidity is admitted, but it is not true that they are influenced by the colour of any object in contact with it. The changes of colour which this animal exhibits vary according to the flate of its health, the temperature of the weather, to age or fex, and a variety of other subordinate circumstances, all which tend to operate a change in the variable aspect of this fingular creature. These transitions confid chiefly in the alteration of the shades from the natural green, or bluith-grey of the skin into pale yellowish with irregular spots and variegations of dull red; or dusky inclining to black th. The epidermis of this animal is transparent, the fkin beneath yellow, and the blood of a lively violet blue. The transitory combination of those colours therefore becomes apparent externally when the blood of the heart is impelled to the furface of the skin and the extremities, changing to violet, yellow, blue, and green, in a variety of hues as the blood circulates near the superficies. When the animal is fick it turns to a greyish dirty yellow, or brownish, like a decayed leaf, this being the true colour of the ikin when the blood is withdrawn; but expose him to the rays of the fun, the genial heat revives and invigorates his whole fystem, and fetting the blood, before torpid, in motion towards the fkin, the violet and bluith prevail again, and by their intermixture with the yellowness of the skin the green will also re-appear. Return him again into the cold, the blood is withdrawn from the furface of the skin inwardly, and these colours, which depend on the immediate presence of the blood, will natural y fade away. Thus it happens alfo, that the colours of the chamaleon are paleft in the night time, or in the dark, as Opfonville and Golberry have thewn. The same effect, and depending on the same causes as in the chamæleon, is also observable in the lizard called Lacerta bullaris by Gmelin and Linnæus, with this difference only, that the transitions of colour are not so decidedly evinced as in the chamæleon; but this latter animal which, exposed to the fun-shine is of a clear green, changes to a dusky blackish green, or yellowish, and in the cold to grey blending into brown; this animal, like the chamæleon, possessing the faculty of impelling its blood to the furface of the skin, or withdrawing it, and by that means of varying its tints at pleafure. The same circumstances are to be remarked in a still less degree in several other animals of the lizard tribe.

Chamæleons have been fometimes brought alive into this country. In the year 1780 a specimen of this animal was kept in a living flate for some time in the company of apothecaries' phylic garden at Chelfea, which, though in a comparatively fickly state, exhibited those transitions of colour from bluish-ash to green, or yellowish spotted with brown before

mentioned. Several chamæleons have been preferred alive at different times in Paris. One of these afforded the French Academicians a favourable opportunity of investigating the manners and structure of this curious animal. The refults of their inquiries are interesting, and serve to throw confiderable light upon the hiltory of the champleon. The following paffages in particular feem to merit particular attention. " The colour of all the eminences (fay those writers) of our chamæleon, when it was at rest in the shade, and had continued a long time undiffurbed, was a bluift grey, except under the feet, where it was white inclining to yellow, and the intervals of the granules of the skin were of a pale and yellowish red. This grey, which coloured all the parts exposed to the light, changed when in the fun; and all the places of its body which were illuminated, instead of their bluish colour, became of a brownish grey. The rest of the fkin, which was not illuminated by the fun, changed its grey into feveral brifk and fhining colours, forming spots about half a finger's breadth, reaching from the crest of the fpine to the middle of the back; others appeared on the ribs, fore legs, and tail. All these spots were of an isabella colour, through the mixture of a pale yellow, with which the granules were tinged, and of a bright red, which is the colour of the bottom of the skin, visible between the granules: the rest of the skin not enlightened by the sun, and which was of a paler grey than ordinary, refembled a cloth made of mixed wool; some of the granules being greenish, others of a minime-grey, and others of the usual bluish grey, the ground remaining as before. When the fun did not thine the first grey appeared again by little and little, and spread itself all over the body, except under the feet, which cortinued of the fame colour, but a little browner; and when in this state some of the company handled it, there immediately appeared on its shoulders and fore legs several very black fh spots about the fize of a finger nail, and which did not take place when it was handled by those who usually took care of it. Sometimes it was marked with brown fpots, which inclined towards green. We afterwards wrapt it up in a linen cloth, where having been two or three minutes, we took it out whitish; but not so white as that of which Aldrovandus speaks, which was not to be distinguished from the linen on which it lay. Ours which had only changed its ordinary grey into a very pale one, after having kept this colour some time, loft it infensibly. This experiment made us question the truth of the chamæleon's taking all colours but white, as Theophraftus and Plutarch report; for ours feemed to have such a disposition to retain this colour, that it grew pale every night; and when dead it had more white than any other colour; nor did we find that it changed colour all over the body, as Aristotle reports; for when it takes other colours than grey, and difguiles itself to appear in masquerade, as Ælian pleasantly fays, it covers only certain parts of the body with them. Lattly, to conclude the experiments relative to the colours which the chamæleon can take, it was laid on fubitances of various colours, and wrapped up therein; but did not take them as it had done the white, and it took that only the first time the experiment was made, though it was repeated feveral times on different days. In making these experiments, we observed, that there were a great many places of its fkin which grew brown, but very little at a time; to be certain of which, we marked, with small specks of ink, those granules which to us appeared the whiteft in its pale flate; and we always found that when it grew brownest, and the fkin spotted, those grains which we had marked were always less brown than the reft."

The popular error, of the chamæleon living on air alone,

is-thought to have arisen from the long abstinence which this animal can occasionally support; instances having, it is faid, occurred of its pailing feveral months without any apparent nourishment. This, though afferted by respectable writers, is contradicted by the observations of the ingenious Sonniai, who, during his travels in Egypt, had an opportutunity of afcertaining this circumflance, and actually did beltow fome pains, as appears from his writings, to determine this point to his fatisfaction. "It is now well known (fays Sonnini) that the changing of the colours in the chamæ-Icons is not to be ascribed to the objects presented to them; that their different affections increase or diminish the intenfity of the tints with which the very delicate fkin which covers them, is, as it were, marbled; that they are not fatisfied with nourishment to unsubstantial as air; that they require more foli! aliment, and fwallow flies and other infects; and that, finally, the marvellous stories which have been told respecting this species of lizard, are merely a tiffue of fictions which have difgraced the science of nature down to this day. I have preferred fome chamæleous, not that I was tempted to repeat the experiment of Cornelius le Bruyn, who, after having gravely affured us, that the chamæleons which he kept in his apartment at Smyrna, lived on air, adds that they died one after another in a very fhort fpace of time, but I wished to satisfy myself to what a point they would fubfill without food. I had employed every precaution to prevent entirely their having any without ceasing to be exposed to the open air. They lived thus for 20 days; but what kind of life? From being plump as they were when I caught them, they foon became extremely thin. With their good plight they gradually loft their agility and their colours; the skin became livid and wrinkled; it adhered close to the bone, so that they had the appearance of being dried before they ceafed to exist."

We shall now enumerate those species of the Linnæan lacertæ, which approach so near the common chamæleon as

to have been confounded with its varieties.

African Chamæleon. Lacerta africana. Gmel. Le caméléon d'Afrique, of the French writers, is specifically dilinguished by being of a blackish colour, and having the crown of the head carinated. Chamaleo ex Africa colore nigricante, at pettine albo supra dorsum decoratus, Seba.

This, according to Seba, is from the coast of Barbary, and is the largest chammeleon known: along the back to the end of the tail, runs a pure white stripe bounded by a blackish border or band; the rest of the animal is varied with pale einercous undulations. In manners this resembles the last,

and all the prominent parts are white.

LITTLE CHAMBLEON. Lacerta pumila. Gmel. With the body bluifh on the fides, and marked with two yellow-fil lines. Le Caméléon rain of Bose and others. Chambleo Promontorii Bone Spel, caruleo alboque colore marmoris instar ca-

riegatus of Scha.

This kind inhabits the Cape of Good Hope, and has the head fomewhat flatter than the former, though flill elevated towards the middle part, and has the margin on each fide denticulated. The body is of a blush colour, marbled or

variegated with white.

Befides the common chamæleon, Le Caméléon commun, and the two last-mentioned species, the French admit three others as species of their genus caméléon; Le Caméléon du Esnégal Le Caméléon du Gande Bonne-esperance, and Le Caméléon Fourchu. The first, or Senegal chamæleon, is smaller than the common chamæleon; the helmet or head-piece is ellipfoidal, and flat above; and the denticulations on the back and carina are less prominent. That from the Cape, the tecond species, has the head-piece almost slat above, with a

line of large tubercles behind each eye; and the denticulations of the back and ridge of the collar are more difperfed and are not continued fo far under the belly and the tail. Le caméléon fourehu is certainly a very diffinét fpecies from the reft. This has the muzzle advanced or projecting and terminated in two lengthened compreffed proceffes. The top of the heaf is flat, and is denticulated in its outline. In fize and general afpect it refembles the common chamaleon. This was brought from Java, and was figured by Brongniard in the French Bulletin des Sciences, and is repeated in Latreille's recent Hill. Nat. des Reptiles.

In the year 1669, Claude Perrault published a work entitled "Defeription Anatomique d'un Can éléon." "Prafide, Differtatio de Victu aëreo, feu mirabili potius inedia Chamæleontis," &c. by Hopfero appeared in 1681; and in 1707 "Differtatio de Chamæleonte," by Kaalund. Befides thete, and the works before mentioned, there are none of material interest on the chamæleon. The paper by Dr. Parfons in the 59th volume of the Philosophical Transactions entitled "An Account of a particular Species of Chamæleon," appeared again in French as the "Retation d'une Espece particuliere de Chamæleon," (Yourn. de Physque) but contained nothing new. "Nachricht von einer besondern gattung des Chamæleons," and "Beschreibung eines Chamæleons,"

are tracts upon the same subject.

CHAMELEON, Mineral, in Chemistry, a substance produced by fubjecting one part of black oxyd of manganese to ignition in a crucible with three parts of pure nitrat of pot-ash, until the mass ceases fuling, and assumes a dry earthy appearance. If a portion of this powder be put in a glass containing clear pump-water, the fluid becomes first green, then violet, afterwards reddith, and at last again totally discoloured: the metallic oxyd falling then to the bottom with a black colour. But if it be preserved in a bottle quite filled with boiled, diffilled water, and well stopped, the green colour lasts longer, changes gradually to blue, and a yellow ochreous oxyd of iron precipitates. To explain these changes of colours, it may be observed, that the nitre is decomposed by the calcining heat, and alkalized by the lofs of its acid; that the black manganelian oxyd is brought by ignition to the flate of a mere imperfect oxyd, and that, therefore, its alkaline folution may appear blue. But as the black oxyd of manganese contains fome admixed oxyd of iron, the blue colour of the folution is changed into a green by the yellow tint of the oxyded iron. The oxyd of iron fublides by repole, and then the blue colour re-appears. The manganefian oxyd abforbs again, by degrees, more oxygen from the atmospheric air; it assumes, therefore, a brown red tinge, becomes at last black, and precipitates at this period. Gren's Principles of Modern Chemistry, vol. ii. p. 410.

CHAMELEONTES, one of the families into which late writers separate the lizard or lacerta tribe. The Chamaleoutes are Lacerta chameleon, Africana & pumila. See

LACERTA.

CHAMÆLINUM, in Botany, Barr. See LINUM ca-

CHAMÆMELUM canariense, Moris, in Botany. See Chrysanthemum fruteseens.

CHAMZEMELUM alpinum, Bauh. Pin. - pallidum & montanum, Barr. See C. alpinum.

CHAMEMELUM alpinum abrotani folio, Vail. See An-

CHAMEMELUM inodorum, Morif. Rai. See C. inodo-

CHAMEMILUM inodorum, Bauh. Pin. See Anthemis

CHAMÆMELUM

CHAMEMELUM maritimum, Rai. See MATRICARIA ma-

CHAMEMELUM maritimum, J. Bauh. See Anthemis ma-

CHAMEMELUM maritimum incanum, Boeh. See A. tomen-

CHAMEMELUM vulgare, Bauli. Pin. See MATRICARIA chamomilla.

CHAM. EMELUM inconum, Tourn. See M. argentea. CHAMEMELUM aureum peregrinum, J. Bauh. See Co-

CHAMEMELUM albiopicum, Brevr. See C. turbinata. CHAM.EMELUM lewanthemum, Pink. See C. capenfis. CHAMEMELUM leucanthemum bispanicum, Banh. Pm. See ANTHEMIS altifima.

CHAMEMELUM foliis pinnatis, Tourn. See ANACYCLUS prientalis.

CHAM.EMELUM luteum, Bauh. Pin. See A. aureus.

CHAMEMELUM annuum ramofum, Morif. See ANTHE-MIS cota and mixta

CHAMEMBLUM chium, Tourn. See ANTHEMIS chia. CHAMENELUM nobile, Bauh. Pin. --- odoratum, Dod. - 102, Hall. See A. nobilis.

. CHAMEMELUM fatidum, Bauh. Pin. -- 104, Hal. See A. cotula.

CHAMEMELUM fatidum marinum, Vaill. See A. valentina

CHAMEMELUM Specioso flore, Shaw. See A. pyrethrum.

CHAMEMELUM tanaccti minoris folio, Vaill. See A.

CHAMEMELUM pumilum, Burm. See ARCTOTIS an-

CHAMÆ-MESPILUS, Cluf. Bauh. Pin. See MEs-

CHAMÆ-MOLY, Colum. See ALLIUM chamamoly. CHAMÆ-MORUS, Cluf. See Rubus chamamorus. CHAMÆNERION, Bauh. Pin Schreb. Scheuch. Scop. See EPILOBIUM.

CHAMÆ-ORCHIS, Bauh. Pin. See OPHRYS alpina. CHAMÆPERICLEMUM, Clus. Ger. Park. Rai. See Cornus Suecica.

CHAMÆPEUCE, Alp. See STÆHELINA chama-

CHAMÆPITYS incana, Bauh. Pin. See CRESSA

CHAMEPITYS carulea, Bauh. Pin. See DRACOCEPHA-LUM austriacum.

CHAMEPITYS luten vulgaris, Bauh. Pin. See TEUCRIUM chamapithys. CHAMÆPITYS Spuria, Bauh. Pin. See TEUCRIUM pseudo-

chamapithys. CHAM.EPITYS moschata, Banh. Pin. See TEUCRIUM

CHAMAPITYS athiopica, Pluk. See ERICA plukenetii.

CHAMÆRHODODENDRON exoticum, Breyn. See AZALEA indica.

CHAMÆRHODODENDROS pontica mespili folio, Tourn. See AZALEA pontica.

CHAMERHODODENDROS fupina, Bocc. See AZALEA procumlens.

CHAMERHODODENDROS pontica folio laurocerasi, Tourn. See RHODODENDRON penticum.

CHAMÆRHODOBENDROS folio glabro, Amm. See RHO-DODENDRON dauricum.

CHAMÆRIPHA peregrina, in Zoology, the name given by Clusius to the gorgonia palma of Pallas.

CHAMÆRIPHES, in Botany, Dod. Gart. See CHA.

CHAMÆROPS, (from χαμαι, and εω), implying a low (hrub), Linn. Gen. 1289. Schreb. 1688. Just. 39. Vent. vol. ii. 125. (Chamæriphes, Gært.) Class and order, polygamia diacia. Nat. ord. Palma, Linn. Juff. Vent.

Gen. Ch. Hermaphrodite. Cal. fpathe universal, compressed, bisid; spadix branching; perianth proper, small, three-cleft, Linn. (fix-leaved, Gari.) Cor. petals three, or one, longer than the calyx, egg-shaped, coriaceous, erect, acute, infexed at the tip. Stam. filaments fix, (from fix to nine, Gært.), awl fraped, compreffed, fearcely cohering at the bale, didymous, adhering to the interior fide of the filaments. Pift. germs three, roundish; ftyles three, dithect, permanent; fligmas acute. Peric. drupes three, globular, onecelled. Seeds folitary, globular. Male on a diffinet plan. Calyx and corolla as in the hermaphrodite. Stamens fix, not diffinctly perforated, flanding on a gibbous recepta le.

Sp. 1. C. humilis, dwarf fan-palm, or palmetto, Linn Sp. Pl. Savigny in Encyc. Mart. Lam. Illust. Pl. 905. fig. 1. (Palma minor, Bauh. Pin. 500. Chamærip e-, Dod. Pempt. 820. Pont. Anth. 147. tab. S. C. major, Gært. tab. 9. fig. 4.) " Fronds palmated, plaited, thip's thorny." In its wild state generally without a trunk; but in Valentia wild plants are found with trunks from twenty to thirty feet high, their usual height in the Paris gard-us. In its trunkless state, as the lower leaves of the plant decay. their velliges remain, and form a short stump above ground, similar to that of polypodium filix mas, our common male fern, from which the spadix is produced. Trunk, when present, cylindrical, five or fix inches in diameter, upright, quite fimple; naked at its base, but marked with circular scars; befet upwards with triangular scales, which are the bases of the petioles of fallen leaves. Leaves from thirty to forty, on the crown of the root, or the top of the trunk, from nine to eighteen inches long, near a foot broad, digitated, or deeply palmated; outer ones horizontal, or reflexed, inner ones lefs expanding as they approach the center; divisions or leastets from twelve to fifteen, narrow, and fword-shaped, keeled, acute, finely ferrated, longitudinally nerved, smooth, or flightly pubescent, quite entire, of a rather glaucous green colour; at first closed together like a fan when thut, and fastened to each other by strong fibres, which run along their borders; afterwards, spread open, the broken fibres hanging from the fides and ends; stipes or petioles thick, smooth, flat, with two sharp edges; armed with frong, thort, acute, oblique, lateral spines. Spathes from fix to eight inches long, much compressed, ciliated, opening at one of their edges. Spaths panicled, thick, stat. Flowers small, yellow. Fruit, drupes nearly globular, obscurely trigonous at their base, dark brown; with pale, callous, elevated dots; rind thin, fomewhat coriaceous; flesh thickish, fibrous, separate from the feed; when old, cork-like, hard, inodorous. Seed fmooth, ellipticfpheroidal, with a small lateral papilla below the middle, which covers the embryo. A native of Italy, Sicily, and Spain, covering the ground in the same manner as fern does in the more northern part of Europe. The leaves are tied up into befoms for fweeping. They are also used for making baskets and thatching buildings. The pith near the root is sweetish and tender, and is sometimes eaten in deferts. B. C. glabra Miller. " Leaves fan-shaped, very large; slipes In ooth." A native of the West Indies, where it never rifes with a stem; the stipes are rounder than those of the European fan palm, and have no spines on their sides. It seems to be a dillinet species. y. C. minor, Gært. Drupes cylindricallindrical-ovate, fleshy, smooth; rind very thin; flesh soft, eafily yielding to the pressure of the finger even when old, fibrous within, adhering on all fides to the feed. Seed shorter and rounder than that of C. major, furnished with two papillæ; one fuperior, entirely folid; the other inferior, fmaller, covering the embryo. 2. C. excelfa, creeping-rooted fan-palm, or ground-ratan, Murray Syst. 984. Mill. Thunb. Jap. 130. (Rhapis flabelliformis, Mart. Hort. Kew. vol. iii. 473. MSS. of Linn. jun. Salifb. Prod. 264. L'Herit. Stirp. Nov. tab. 100.) "Fronds palmated, plaited; plaits and edges ferrated or prickly, with fmall teeth; flipes unarmed." A lofty tree. Leaves smooth, pale underneath; leaflets cohering at the bafe, linear, cloven at the end, ferrated, with rugged veins; petioles three-cornered, entire, the length of the leaves. Flowers in a decompound spreading panicle, sessile on the outmost pedicels. A native of China and Japan. Introduced about 1774 by Mr. James Gordon. Befoms are made of the thin netted bark of the trunk. 3. C. arundinacea, timple-leaved fanpalm. (Rhapis arundinacea, Mart. Mill. Hort. Kew. vol. iii. p. 474.) " Fronds two-parted; lobes acute, plaited; plaits somewhat rugged." A native of Carolina. Introduced in 1765. 4. C. eochinchinensis, Mart. Lour. Cochin. 657. "Fronds palmated, plaited; stipes thorny; fpathes partial; corollas monopetalous." Trunk eight feet high, an inch in diameter, firaight, equal. Stipes long, flender, with short, straight, scattered spines. Fronds turbinate; fegments small, oblong, blunt, many-plaited. Spadix short, upright. Spathe univerfal none; partial lanceolate, shorter than the spadix; calyx three-leaved; leaslets short, upright, acute, curved; corolla monopetalous, cup-shaped, three-cornered; border very small, trifid, inflexed; filaments very short, placed on the border of the corolla; anthers roundish; minute. Drupes egg-shaped, small, juiceless, not eatable. A native of the woods of Cochin-China. The fronds are used for covering houses and making umbrellas.

Obf. Although a new genus has been formed for the fecond and third species, and adopted by very high authorities; yet, as nothing is known of their fru tification, be fides a one-leafed trifid perianth, a one-petalled trifid corolla, and fix filaments, there feems no sufficient reason for

separating them from chamærops.

CHAMEROPS, in Gardening, compriles a plant of the perennial exotic kind; of which the species cultivated is the dwarf fan palm or palmetto, (C. humilis), which never rifes with an upright stem, but the foot-stalks of the leaves proceed immediately from the head of the root, and are armed on each fide with strong spines; are flat on their upper furface, and convex on their under fide : the centers of the leaves are faltened to the foot-stalk, and spread open like a fan, having many foldings, and at the top are deeply divided like the fingers of a hand: when they first come out they are closed together, like a fan, when shut, and are fastened together by strong fibres, which run along the borders of the leaves; and when the leaves spread open thefe fibres or ftrings hang from the fides and ends: the borders of the leaves are finely fawed, and have white narrow edgings: they are from nine to eighteen inches long, and near a foot broad in their widelt part : from between the leaves comes out the spadix or club, which sustains the flowers. This is covered with a thin spathe or hood, which falls off when the bunches open and divide. It grows naturally in Italy, &c.

Method of Culture. These plants may be raised by seeds,

and fide flips from the head of the roots. In the first method, the feeds procured from abroad should be sown in pots of light sandy earth, and plunged in a hot-bed of tan-

ner's bark, occasional waterings being given. In the autumn or spring following, the plants will be in a proper state to be pricked out in separate pots. In this culture much depends on having good feeds, as when these are not well prepared they often sail.

In the fecond mode, the flips of the crown of the roots or fide off-ets, must be feparated with the root fibres, and planted out in pots filled with fandy earth, and plunged in a hot-bed. But the plants are thronger from feeds than when raifed in this way. Mostly in ten or twelve months the plants will be fit to be removed into other pots, which should be done in fuch a manner as not to injure their roots, as when that is the cafe they are liable to be defroyed or

become feeble in their growth.

Thefe plants moilly require the protection of a flove while in their young growth; but when become tardy by gradual exposure to the air, they are capable of succeeding

in a full exposure in summer, and in a green-house in winter; but must always be kept in pots of light sandy earth, and be frequently watered in summer, but more moderately when the weather is cold than in the summer season. In store-collections they have a good effect by their curious

Th nove-confections they have a good effect by their curious

CHAMÆRUBUS, in Botany, Bruh. Pin. See Rubus

CHAMÆSYCE, Bach. Pin. Cluf. See EUPHORBIA

CHAMESYCE, Sloan. See EUPHORBIA maculata. CHA-MA-HI, in Geography, a town of Afia, in the ifland of Formofa. N. lat. 22° 10'. E. loeg. 122° 14'.

CHAMAILLER is to fight against an enemy armed

CHAMAILLE'RE, in Geography, a town of France, in the department of the Puy-dr-Dome, and diltrict of Clermont; I mile S.W. of Clermont.

CHAMANA, in Ancient Geography, a country of Afia,

in Cappadocia, according to Ptolemy.

CHAMANIM, in the Jewish Antiquities, is the Hebrew name for that which the Greeks cail pyrain, or pyrateria; and St. Jerom in Leviticus (ch. xxvi. 30.) has translated simulathra, in Isaiah (ch. xxvii. 9.) delubra.

These chamanim were, according to rabbi Solomon, idols exposed to the sun upon the tops of houses. Abenezra says, they were portable chapels or temples, made in the

form of chariots in honour of the fun.

What the Greeks call pyreia, were temples confecrated to the fun and fire, wherein a perpetual fire was kept up. They were built upon eminences, and were large enclofures, without covering, where the fun was worthipped. Herodotus (lib. i. p. 87.) and Strabo (lib. xv.) fpcak of them; and the guebres, or worthippers of fire, in Perfia and the Indies, have full these pyraia. Strabo fays, that in his time there were many of these temples to be seen in Cappadocia, confecrated to the goddes Anaita, and the god Homanns. Anaita is, in all probability, the moon, and Homanns the sun.

The word chamanim is derived from chaman, which fignifies to warm. Calmet.

CHAMARANDE, in Geography, a town of France, in the department of the Seine and Oife, and district of Estampes; 5 miles N.N.E. of it.

Ettampes; 5 miles N.N.E. of it. CHAMARIM, a word mentioned in feveral places of the Hebrew Bible, and generally translated the priests of the idos, or priests cleathed in black, because chamar signifies black or blackness.

Camar, in Arabic, fignifies the [moon; Ifis is the fame deity. Grotius thinks the Roman priests called samilli,

Cam

CHA

same from the Hebrew chamarin. They, among the heathens, who facrificed to the infernal gods, were dreffed in black.

" Vidi egomet nigra succinctam vadere palla Canidiam pedibus nudis, passeque capillo." Hor. l.b. i. fat. 8. v. 23.

CHAMAVI, in Ancient Geography, a people of Lower Germany, placed by Ptolemy to the fouth of the Bruserii. M. d'Anville places them N.E. of the Teucherii. They occupied the parts adjacent to the Rhine.

CHAMAZE, in Geography, a town of France, in the department of the Mayenne, and diffrict of Château-Gou-

thier; 4 miles S.W. of it.

CHAMBE, a town of Armenia; 120 miles S.E. of Erivan.

CHAMBER, in ArchiteEure, a member of a lodging, or piece of an apartment, ordinarily intended for fleeping in; and called by the Latins enbiculum.

The word comes from the Latin camera; and that, according to Nicod, from the Greek xauaga, vault or curve; the term chamber being originally confined to places arched

A complete apartment is to confift of a hall, antechamber,

chamber, and cabinet.

As to the proportions of chambers, their length should be to the breadth as 11 to 1, or fome small matter less, but ought never to exceed that proportion; and, as for the height, it should be three-fourths of the breadth. height of the chambers of the second story, should be a twelfth part less than the height of those below: thus, if the height of the first story be fixteen feet, that of the second will be fourteen feet eight inches. As to the height of the third flory, it should be only three-fourths of

In building bed-chambers, regard should be had as well to the fituation of the bed, as to that of the chimney. For which reason, the chimney ought to be placed just in the middle, but distant from it about two feet, or two and an half, in order to make room for the bed, which prevents this inequality from being discerned. See BED-Chamber.

CHAMBER Music, compositions for a small concert-room, a small band, and a small audience; opposed to music for the church, the theatre, or a public concert-room. See

Musica di CAMERA.

CHAMBER, privy. Gentlemen of the Privy-CHAMBER are fervants of the king, who are to wait and attend on him and the queen at court, and in their diversions, progreffes, &c.

Six of these are appointed by the lord-chamberlain, together with a peer, and the master of the ceremonies, to attend all ambassadors from crowned heads in their public en-

. tries. Their number is fifty.

Their institution is owing to king Henry VII. As a fingular mark of favour, they are empowered to execute the king's verbal command, and without producing any written order; their person and character being deemed sufficient

authority.

Mr. Pegge (in his "Curialia," 4to. 1782) has a differtation on the original nature, duty, &c. of the king's most honourable privy chamber. From this we learn, that the most ancient mention of "gentlemen" of the privy-chamber, is faid to be in the "Liber Niger domus Regis Angliæ," in the time of Edward IV. They are called "efquires of household," in number 40.; "20 of them to be continually at court, in riding and going, at all times,

and to help to ferve his table, &c." A falary was appointed of 71d. daily, while in waiting, and clothing winter and fummer, or elfe 40s. The falary, afterwards enlarged, was taken off, early in the reign of James I., from which time the office appears to have been merely a post of honour. It is conjectured their title was changed from " esquires of the household" to that of "gentlemen of the privy-chamber" in the reign of Henry VII., or early in that of Henry VIII. " From being anciently near, and almost," fays Mr. Pegge, " companionable officers to the royal person, they are now become the most remote, and feldom visible in their proper sphere, and scarcely dittinguishable as such, above thrice in a reign." As no falary or emolument whatfoever attends the post at present, it may be asked, why it is so much fought after? The answer, as Mr. Pegge, observes, is very eafy, and almost in omnium ore. " It is an exemption from ferving the office of theriff, and also from an arrest, without leave first obtained, together with other like immunities belonging to the royal fervants."

CHAMBER, in policy, is used for the place where certain affemblies are held; also for the affemblies themselves.

Of these there are various kinds; some established for the administration of justice; others for matters of commerce, &c. Of the first kind among us was the

Star-CHAMBER. See COURT of Star-Chamber.

CHAMBER. Imperial, is a court or jurifaiction held anciently at Spires, but fince transferred to Wetzlar; in which are determined the differences arising among the princes and

cities of the empire.

It was at first ambulatory : in 1473, it was fixed to Augfburg, then removed to Frankfort on the Maine, and thence to Worms, in 1495, where a diet was held by Maximilian I. to which p-riod some have referred the institution of the Imperial Chamber, possessing supreme jurisdiction to judge without appeal in every queltion brought before it, and effablished with these powers, in order to terminate the right of private war: afterwards it was removed to Nuremberg and Ratifbon; again to Worms and Nuremberg; and from this last to Eslingen; thence, in 1527, to Spires; where Charles V. rendered it fedentary, in 1530: and here it continued above a ce-tury and a half. It is now fixed at Wetzlar.

At its first institution by Maximilian, it consisted of a prefident, who was always a nobleman of the first order, one of 16 affellors, or judges. The prefident was appointed by the emperor, and the judges partly by him, and partly by the states, according to forms which it is here unnecessary to defcribe. A fum was imposed, with their own confent, on the states of the empire, for paying the salaries of the judges and officers in this court. In confequence of the reformation, the number of affelfors was increased. By the treaties of Westphalia, particularly that of Osnabrug, in 1648, it was decreed, that the Imperial Chamber should be composed of a Catholic judge, and four presidents, named by the emperor, two of each religion, and 50 counfellors, 26 of whom are Catholics, and the rest Protestants. But this chamber has been fince reduced to a much smaller number of officers, being composed of the Elector of Triers, who is judge as bishop of Spire, of one Catholic and one Protestant president, and eight Catholic and seven Protestant counsellors. This court takes cognizance of all queltions concerning civil right between the states of the empire, and passes judgment in the last refort, and without appeal. To it belongs likewife the privilege of judging in criminal causes, which may be confidered as connected with the prefervation of the public peace. Although the fentences of this, and also of the Aulic council, are final, there are, nevertheless, fome cases in which the parties may appeal to the emperor,

and demand a revision of the process, particularly in those causes which regard to duchies, principalities, counties, and other immediate fiels of the empire. In both these tribunals the emperor prelides as fovereign judge, and when he is prefent, pronounces fentence; and in his abfence, he, who reprefents his person as judge, has a right to wear an imperial (ceptre as a badge of his dignity. Processes in the Imperial Chamber are almost endless, on account of the infinite number of ceremonies and formalities with which they are · embarraffed. This court is frequently afraid to pronounce the princes fometimes not permitting fuch to be executed as difpicafe them.

the revolution, where accounts were rendered of all the king's revenues; inventories and avowals thereof registered; oaths of fidelity taken, and other things relating to the

finances transacted. The French had also Chambers, eeelestaglical, which judged, by appeal, of difchambers there were nine; viz. at Paris, Bourdeaux, Rouen, Lyons, Tours, Tholoufe, Bourges, Pau, and Aix: they usually confilted of the archbishop of the place, as prefident; other archbishops and bishops, a deputy of each of thought proper; as also a promoter.

CHAMBER, spoflolical, at Rome, is that wherein affairs relating to the revenues and domains of the church and the pope

are transacted.

CHAMBER of audiences, or grand CHAMBER, a jurifdiction that sublisted in each parliament of France. At the first institution of their parliaments, there were two chambers, and two kinds of counfellors; the one the grand chamber for audiences, the counsellors whereof were called jugeurs, who only judged; the other the chamber of inquests, the counfellors whereof were called rapporteurs, who only reported higher. When loaded, they are almost filled with corned processes by writing.

CHAMBER, direction, is a court instituted in Old Spain, for the regulation of divers affairs relating to their commerce

to the Spanish West Indies.

CHAMBER of the edia, or My-parti, was a court established by virtue of the edicts of pacification, in favour of those of the reformed religion: wherein the number of judges of either religion was the fame; and to which recourfe was had in all affairs wherein any of the protestants were concerned. This chamber is now suppressed.

CHAMBER of London. See CHAMBERLAIN.

CHAMBER of affurance, in France, denoted a fociety of merchants and others, established by a decree of the council of flate in 1008, for conducting the business of infuring: but in Holland, it fignifies a court of juitice, where cautes

relating to infurances are tried.

CHAMBER of Lookfellers, in Paris, denoted a fociety confrom the printers, and twelve from the bookfellers, whose bufiness it was to superintend and regulate the trade of printing and felling books, prints, &c. In the vifitation of books, performed by at half three perfons of the fociety,

CHAMBLES of commerce, are affemblies of merchants and dealers, where they treat about matters relating to commerce. Of these there were several, established in most of the chief cities of France, by virtue of an arret of the 30th of August, 1701. Indeed there were some before this

general establishment, particularly one at Marfeilles, and another at Dunkirk

CHAMBERS of the king, regie camere, in our old records, are used for the havens or ports of the kingdom.

CHAMBER, in French, chambre, of a battery, in Fortification, is a dry place funk under ground, and fecured against rain or moisture, for holding and preferving powder, loaded shells,

CHAMBER of a mine, is, strictly speaking, the place where the powder is lodged for springing it with. There one end of the faucission, by means of which the powder in the mine is fired, terminates. There are mines, that have only one chamber; and there are others that have feveral. chamber of a mine has a platform (ceiling or top) of flrong which planks are also fixed, for shutting up the sides and preventing the earth from tumbling down. A mine is sometimes excavated into the form of a parallelepipedon, but generally into one resembling that of a cube; and it is not, perhaps, improper to observe, that there should not be any with it, for thefe would occasion a great diminution of the

port, which is the most retired, and of the least depth, and

CHAMBER of a cannon, in Military Language.

CHAMBER of a mortar, is the place which contains the charge of powder. The chambers of mortars are of various and very different forms as well as dimensions, for an ac-

count of which fee the article CANNON.

CHAMBERS, iron, in a FIRE /kip, are ten inches long, and 3.5 in diameter. They are breeched against a piece of wood fixed across the ports, and let into another a little powder, and have a wooden tompion well driven into their muzzles. They are primed with a quick match thrust through their vents into the powder, with a part of it hanging out. When the ship is fired, they blow open the ports ; and the port-lids either fall downward, or are carried away, and thus give vent to the fire out of the fides of the ship.

CHAMBER of a lock, in Inland Navigation, is the spawithin the gates, through which a boat rifes or find . from one level to another of a canal or river. See Plate .

Canals, V. fig. 36 and 37.

CHAMBERS of the eye, in Anatomy, are those spaces in

The anterior chamber is the interval between the potterier

The posterior chamber is the interval between the uvez a ! the front of the crystalline lens. For a further description

of thefe, fee EYE. anatomy of.

CHAMBERDEKINS, in our Old Statutes, a denornation for certain Irith beggars, which by tlatute I Hen. V. cap. 7 and 8. were to leave England within a certain ties. They were called in the flatute chamberdeakynz, and faid :be clerks mendicants. Blount fays they are called cham ... deacons in the parliament-roll.

CHAMBERET, in Geography, a town of France, ... the department of the Correze, 15 miles N. of Tulie.

CHAMBERLAIN, an officer who has the management

The word chamberlain, according to Ragueau, origin in fignified a gentleman who was to fleep in the king's -1chamber, at his bed's feet, in the absence of the q There are almost as many kinds of chamberlains as chambers:

the principal are as follow

CHAMBERLAIN of England, Lord Great, an officer of great antiquity and honour; being ranked the fixth great officer of the crown: a confiderable part of his function is at the coronation of a king; when he dreffes him, carries the coif, fword, and gloves, to be used on that occasion; the gold fword and feabbard to be offered by the king; and the robe royal and crown; he also undresses him, and waits on him at dinner; having for his fee the king's bed, and all the furniture of his chamber, the night-apparel, and the filver bason wherein the king washes, with the towels.

To him likewife belongs the provition of every thing in the house of lords, in the time of parliament; to which end he has an apartment near the lords house. He has the government of the palace of Wellminster, and issues out warrants for preparing, fitting out, and furnishing Westminster-hall, against coronations, trials of peers, &c.

He disposes of the sword of state, to be carried by whom he pleases; and when he goes to parliament, is on the right hand of the sword, the lord marshal being on the left. On all folemn occasions, the keys of Westminster-half, of the Court of Wards, and Court of Requests, are delivered

To him belong livery and lodging in the king's court; and he has certain fees from every bishop at his doing homage to the king, and from every peer at his creation. Under his command are, the gentleman-usher of the black

rod, the yeoman-usher, and door-keepers.

The office of lord great chamberlain of England is hereditary; and where a person dies seised in see of this office, leaving two filters, the office belongs to both fifters, and they may execute it by deputy; but fuch deputy must be approved of by the king, and must not be of a degree inferior to a knight. 4 Bro. P. C. 146, 8vo.

This honour was long held by the earls of Oxford; viz. from the time of Henry I. by an estate-tail, or inheritance; but in later coronations by the marquis Lindsey, afterward duke of Ancaster, by an estate or inheritance from a daugh-

ter and heir general: and fettled in that family.

CHAMBERLAIN of the household, Lord, an officer who has the overfight and direction of all officers belonging to the king's chamber, except the precinct of the BED-chamber,

which is absolutely under the groom of the stole.

He has the overlight and direction of the officers of the wardrobe, of the removing wardrobes, beds, tents, revels, music, comedians, hunting, messengers, trumpeters, drummers, handicrafts, and other tradefinen retained in the king's fervice: as also of all ferjeants at arms, physicians, apothecaries, furgeons, barbers, the king's chaplains, &c. and administers the oath to all officers above stairs. Under him is a vice-chamberlain; and both are always privy-counfellors. There is also a Lord Chamberlain of her majetty's house-

There were formerly CHAMBERLAINS of the king's courts, 7 Edw. vi. c. 1.; and there are chamberlains of the Exchequer, who keep a controlment of the pells, of receipts and exitus: they also have in their custody the leagues and treaties with foreign princes, many ancient records, and the two famous books of antiquity, ca'led Domefday Book, and the Black-Book of the Exchequer; and also the standards of money, and weights and measures are kept by them. There are also Under-chamberlains of the Exchequer, who make fearches for all records in the treasury; and are concerned in making out the tallies, &c. The office of chamberlain of the Exchequer is mentioned in the flat. 34 and 35 Hen. VIII. c. 14. Besides these, we read of a chamberlain VOL. VII.

of North Wales, Stowe, p. 641. There is also a chamberlain of Chefter, to whom it belongs to receive the rents and revenues of that city; and when there is no prince of Wales, and earl of Chelter, he hath the receiving and returning of all writs coming thither out of any of the king's courts. See COUNTY-paletine.

CHAMBERLAIN of London. This officer keeps the citymoney, which is laid up in the chamber of London, an apartment in Guildhall: he also presides over the affairs of masters and apprentices; and makes free of the city, &c.

His office lasts but for a year, being chosen annually on Midfummer-day : but the custom usually obtains to re-choose the fame person; unless he has been chargeable with any misdemeanor in his office.

CHAMBERLAIN, vice. See VICE-Chamberlain.

CHAMBERLAYNE, EDWARD, in Biography, the descendant of a good family at Odington, in Gloucesterthire, was born in 1616, and educated in St. Edmund's Hall, Oxford, where he was graduated M. A. in 16.41. During the civil wars, he travelled through most of the countries of Europe; and after the restoration was made one of the fellows of the Royal Society, then founded. In 1669 he was secretary to the earl of Carlisle, and sent to Stockholm with the order of the garter to the king of Sweden: in the following year he was graduated LL.D. at Cambridge; and in 1679 he was appointed to instruct George prince of Denmark in the English language. He died at Chelsea in 1703. Dr. Chamberlayne was the author of several pieces, political and historical, relating to the circumstances and events of his time; but he has been principally known by his " Angliæ Notitia, or the Prefent State of England, with divers reflections upon the ancient state thereof;" Lond. 1668, Svo.; of which a fecond part was published in 1671, 8vo. This was a popular work, and often reprinted during the author's life. It was enlarged by his fon, and has been occasionally reprinted, so as to have arrived feveral years ago, at the 36th edition. A harmless instance of the author's vanity was recorded on his monument, viz. " That he caused some of his own books wrapped in cere-cloth to be buried with him, as they might poftibly be of use to a remote age." The son of the former, John Chamberlayne, was educated at Trinity-college, Oxford, and became an industrious translator of works from foreign languages, of which he is faid to have understood fixteen. His principal translations were "Oftervald's Arguments of the Books and Chapters of the Old and New Teftament;" " Fontenelle's Lives of the French Philosophers;" Nieuwentyt's Religious Philosopher;" Brandt's History of the Reformation;" " The Lord's Prayer in 100 Languages;" "Differtations, historical, critical, theological, and moral, on the most memorable events of the Old and New Testament." To the Royal Society, of which he was a member, he communicated those pieces, which are inserted in the Philosophical Transactions. After an useful and wellfpent life he died in 1724.

CHAMBERLEN, Hugh, a celebrated accoucheur, was a native of London, and born about the middle of the 17th century. His father, Paul Chamberlen, and two of his brothers, were also practitioners in midwifery. They invented among them an inflrument, the obfletric forceps, with which they were enabled to deliver women with fafety, in cases where, before this discovery the life of the child was usually loft. Of thi . Hugh Chamberlen gives the following account father, brothers, and myfelf, (though none elfe in Europe that I know) have, by God's bleffing, and our industry, at-

tained to, and long practifed a way to deliver women,

when the head, on account of some difficulty, or disproportion, cannot pass, without any prejudice to them or their infants; though all others (being obliged, for want of such an expedient, to use the common way) do and must endanger, if not destroy, one or both with hooks. By this manual operation, a labour may be dispatched, on the least difficulty, with sewer pains, and soner, to the great advantage, and without danger, both of woman and child." Pref. to Chamberlen's Transl. of Mauriceau.

But though he attributes the merit of the discovery to his father and brothers conjointly with himfelf, yet as the father did not appear to have been acquainted with the instrument in the year 1665, when he published his "Midwives" Guide," a very ind fferent performance; and the brothers noticed. After ellablishing the reputation of the instrument here, Dr. Hugh went, in the year 1672, to Paris, expecting to gain equal eclat there, and intending, it is supposed, to fell the invention; but undertaking to deliver a woman whose pelvis was too narrow to admit the head of the child to pals, without mutilating it, and the woman dying, as Mauriceau, who had feen her before, had predicted, he found himself so degraded, that he thought it advisable to quit Paris, and go to Holland. Mauriceau was not a little pleafed at his difcomfiture, of which he gives an account in the 2d vol. of his "Obf. fur la Groffeste," Obf. 26. Addressing himself to Dr. Chamberlen, he tells him, " he must not think the Parifian women were to be delivered with the fame ease as the English." "Lui faisant entendre qu'il s'etoit bien trompé, en croyant trouver autant de facilité à accoucher les femmes à Paris, comme il avoit pu trouver à Londres." In Holland he is supposed to have been more fuccefsful, and to have imparted the fecret to Ruysh and Roonhuysen, then in high reputation at Amsterdam, and to have received for his invention a confiderable reward. He now returned to London, where he foon acquired a confiderable fortune. " Not fo much, Mauriceau fays, from the use of his forceps, as from the information he had obtained by reading, and translating his "Observations fur la Grossesse." We have no doubt but Chamberlen obtained much information from Mauriceau's book, which was the best treatife then extant on the subject of midwifery; but his forceps had its share in raising him to the high rank he attained in his profession, and which he continued to enjoy to the end of his days. In 1683, he published his translation of Mauriceau's observations, which was received with great avidity, and has fince been frequently reprinted. We have not been able to learn at what time Dr. Chamberlendied. His forceps, simplified, and improved by Smellie, and further varied and altered by other teachers, continues to be effeemed as one of the most valuable instruments used in the practice of midwifery, and defervedly gives the inventor a diffinguished rank among the improvers of the art. Haller Bib. Chir. Sur Esfais fur l'art des accouchmens.

CHAMBERRY, or Chamber, in Geography, formerly the chief city of Savoy, now the capital of the department of Mont Blane, and principal place of a difrict, is fituated in a pleafant valley on the river Leife. It has a caltle feated on an eminence, and is furrounded with mountains, but not fortifed. Under molt of the houses are piazzas, where people may walk without being incommoded in the worlt weather. Its suburbs are large and handsome, and in the center of the town is the ducal palace. It contains two parochial churches, and 10,300 inhabitants: the north canton contains 14,965, and the south 14,989; the former contains 14,7½ killometres and 17 communes, and the latter 195 killometres and 17 communes. This town was taken by

when the head, on account of some difficulty, or disproportion, cannot pass, without any prejudice to them or Jean Baptille is 352 feet below the lake of Geneva, or 878 their infants; though all others (being obliged, for want of such an expedient, to use the common way) do and Grenoble, and 85 N.W. of Turin. N.lat. 45° 35'. E.

long. 50 co'.

CHAMBERS, EPHRAIM, in Biography, a person whose name deserves to be particularly recorded in a work of this kind, as he was the first, who, in this country, formed the plan, and undertook the execution of a scientific dictionary, that might be faid to comprehend the whole circle of the arts and fciences; and in this respect it differed from Harris's Lexicon Technicum which preceded it, and which furnished many of the mathematical articles. The few particulars that are known concerning him are collected and arranged by Dr. Kippis, in the last edition of the Biographia Britannica. The place of his nativity was Kendal, in the county of Westmoreland; but the time of his birth and the duration of his life, cannot, from any documents that remain, be precifely afcertained. His parents were Quakers; but when he came into the world, he does not feem to have manifested any attachment to their profession. In his education he probably enjoyed no advantages befides thefe that were necessary to qualify him for trade. At a proper age he was bound apprentice to Mr. Senex, the globe-maker; and during his refidence with this skilful mechanic he acquired that taste for literature and science, which marked the progress and directed the occupation of his future years. At this early period he formed the defign of his grand work, the "Cyclopædia;" and it is faid, that fome of the first articles of it were written behind the counter of Mr. Senex. Apprifed that the execution of the plan which he had conceived was incompatible with the avocations of trade, he quitted business; and having made fuch arrangements as were necessary to procure for him a subsistence in the prosecution of it, he took chambers at Gray's-inn, where he chiefly refided during the remainder of his life. The first edition of the Cyclopadia, which must have been the result of many years' intense application, appeared in 1728, in two volumes, folio. It was published by subscription, at the price of four guineas, and the lift of subferibers was very respectable. The dedication to the king is dated Oct. 15th, 1727. The reputation which Mr. Chambers acquired by the execution of this undertaking, procured him the honour of being elected into the Royal Society, Nov. 6, 1729.

In less than 10 years, a second edition became necessary, which was accordingly printed, with corrections and additions, in 1738. Instead of a new edition, the proprietors had proposed to give a new work. Mr. Chambers had actually prepared a considerable part of the copy with that view; and more than 20 sheets were printed off. In purfuance of this plan, it was their intention to have published a volume in 1737, and to have proceeded annually in supplying an additional volume, till the whole was completed. But they were diverted from executing their purpole, by a bill which passed in the House of Commons, though it was rejected in the House of Lords, and which obliged the publishers of all improved editions of books, to print the improvements feparately. Whilft this edition was in agitation, Mr. Bowyer, the learned printer, had formed fome extensive ideas of improving the dictionary; but the plan, whatever it was, did not appear to have been reduced to practice. About this time Mr. Bowyer had a dispute with Mr. Chambers concerning the title of the work, proposing to substitute " Encyclopædia" for "Cyclopædia." Mr. Chambers vindicated the title he had adopted, and persevered in retaining it. See the article Cyclopædia. The second edition of Mr. Chambers's dictionary was so favourably received by the pub-

10,

lie, that a third was called for in the very next year, 1730; a fourth, in 1741; and a lifth, in 1746. This rapid fale of a work, fo large and expensive, must be considered, not only as a striking testimony of the general estimation in which it was held, but likewise, as a strong proof of its real utility and ment.

Although the Cyclopadia, denominated by Mr. Bowyer, "the pride of bookfellers, and the honour of the English nation," was the grand butinefs of Mr. Chambers's life, and may be regarded as almost the fole foundation of his fame, his attention was not wholly confined to this undertaking. He was concerned in a periodical publication, entitled "the Literary Magazine," which was begun in 1735; and he also engaged, in conjunction with Mr. John Martyn, F.R.S. and professor of botany at Cambridge, in preparing a translation and abridgment of the " Philosophical History and Memoirs of the Royal Academy of Sciences at Paris." This work, which was comprised in 5 volumes, 8vo., did not appear till the year 1742, fome time after our author's deceafe. Mr. Martyn, in a fublequent publication, has feverely cenfured Mr. Chambers's part in this abridgment. The only other work afcribed to Mr. Chambers, is a translation of the "Jefuit's Perspective," from the French, in 4to., which has been several times reprinted. The indefatigable industry which Mr. Chambers employed in his literary and scientific collections, may be inferred from the account given by Mr. Airey, his amanuenfis, who afferts that, between the years 1728 and 1733, he copied nearly 20 folio volumes, fo large as to comprehend materials, which, if they had been printed, would have formed 30 volumes of the same fize. Mr. Chambers, however, acknowledged, that, if they had been printed, they would neither have been fold nor read. Mr. Chambers, by his inceffant application, so far impaired his health, that he was obliged to retire, occasionally, to a lodging at Canonbury-house, near Islington; and to make an excursion to the fouth of France. At his return to England, he died at Canonbury-house, and was buried in Westminster Abbey, where the following infeription, written by himfelf, is placed on the north fide of the cloifters of the abbey :

Paucis notus ; · Qui vitam, inter lucem & umbram, Nec eruditus, nec idiota, Literis deditus, transegit; sed ut homo Qui humani nihil à fe alienum putat. Vita fimul; & laboribus functus, Hic requiescere voluit, EPHRAIM CHAMBERS, R.S.S. Obiit XV. Maii, M.DCC.XL." " Heard of by many, Known to few; Who being neither very celebrated nor yet obscure, Neither very learned nor yet ignorant, Paffed a life devoted to fludy ; And passed it as a man Who was not inattentive To any of the offices of humanity; Having ended his days and his labours together, Here wished to repose, EPHRAIM CHAMBERS, F.R.S. He died on the XVth of May, M.DCC.XL.

" Multis pervulgatus,

The above narrative supplies us with no facts by which may fix the age of Mr. Chambers. Supposing him to have been apprenticed at the age of 14, and to have quitted his fervice at 21; and conjecturing that he might be 60

years old when he died, there will remain a chafm of ay years, from the termination of his apprenticeship to the year 1728, of which we have no account; but we may infer, from the extent of his work, which occupied his attention during this period, that he was fully employed. The intellectual character of Mr. Chambers feems to have been fagacity and attention. Indefatigable as a man of bufinefs, he had no leifure to purfue discoveries with the ardour of a philosopher. The whole occupation of his life feems to have confifted in collecting and communicating knowledge; and, he undoubtedly possessed distinguished talents for the arraugement and illustration of the materials which he collected. His temper was chearful, but impetuous; his mode of life referved, folitary, economical, and regular. His literary labours unqueltionably entitled him to more than he received; but the compensations which authors received from bookfellers, were, at that period, far inferior to what, in

certain instances, they have lately rifen. It may not be improper, for gratifying the curiofity of the readers of this article, to terminate it with a brief account of the "Cyclopædia," or the effects which it has produced in the literary world. Whilst a fixth edition was preparing, the proprietors thought that the work might admit of a supplement in two additional folio volumes. This business was committed to the late George Lewis Scott, efq.; but he was prevented from proceeding far in it, by being appointed sub-preceptor to his present majetty, when Prince of Wales. The chief management was then committed to Dr. John Hill, fo well known by his voluminous and halty publica. tions. In his name, together with that of Mr. Scott, the supplement was published; and though it contained a number of valuable articles, it was far from being uniformly conspicuous for judgment and due selection. The proprietors afterwards determined to combine the whole into one work; and after feveral ineffectual efforts for accomplishing, their plan, the buliness devolved on the editor of this Cyclopædia, who derived from the favour of the public, and the fingularly rapid and extensive fale of the work, a recompence, which, independently of every other confideration, he reckoned amply adequate to his labour. This edition began to be published in weekly numbers, in 1778, and the publication was continued without a fingle interruption, till it was completed in the year 1785. The work was dedicated and presented to his majesty. The popularity of the "Cyclopædia," gave rife to a variety of fimilar publications; of many of which it may be truly faid, that most of the articles which compose them, are extracted verbatim, or at least with very few alterations and additions, from this dictionary; and that they manifest very little labour of research, or of compilation. One defect feems to have been common to them all, with hardly any exception; and that is, that they do not furnish the reader with references to the fources from which their materials are derived, and the authorities upon which they depend. This charge was alleged by the editors of the French Encyclopédie, with some justice, but at the fame time with unwarrantable acrimony against Mr. Chambers. The editors of that work (fee ENCYCLOPÆDIA) while they pass high encomiums on Mr. Chambers's Cyclopædia, blend with them censures that are unfounded. They fay, e. g. that the "merited honours it hath received would, perhaps, never have been produced at all, if, before it appeared in English, we had not had in our own tongue those works, from which Chambers has drawn without meafure, and without felection, the greatest part of the articles of which his dictionary is composed. This being the case, what must Frenchmen think of a mere translation of that work? It must excite the indignation of the learned, and

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give just offence to the public, to whom, under a new and pompous title, nothing is presented but riches of which they have a long time been in possession?" They add, however, after appropriate and juilly deferved commendation; " We agree with him, that the plan and the defign of his dictionary are excellent, and that, if it were executed to a certain degree of perfection, it would alone contribute more to the progress of true science, than one half of the books that are known." However, what their vanity has led them to affert, viz. that the greatest part of Chambers's Cyclopædia is compiled from French authors, is not true. When Mr. Chambers engaged in his great undertaking, he extended his refearches for materials to a variety of publications, foreign and domestic, and in the mathematical articles he was peculiarly indebted to Wolfius: and it cannot be questioned, that he availed himself no less of the excellent writers of his native land than those of France. As to the imperfections of which they complain, they were, in a great measure removed, as science advanced, by subsequent improvements; nor could the work, in its last state, be confidered as the production of a fingle person. Nevertheless it cannot be conceived, that any scientific dictionary, comprifed in four volumes, should attain to the full standard of ment of the Correze, and district of Tulles; 5 miles E. of human wishes, and human imagination. The proprietors, duly fensible of this circumstance, and of the rapid progress of literature and science in the period that has elapsed fince the publication of Chambers's Cyclopædia, have undertaken a work on a much larger scale, which, with the encouragement already received and further reasonably expected, will, it is hoped, preclude most of the objections urged against the former dictionary. We shall here only add, that the compilers and editors of the French Encyclopédia, in their relative capacity, have produced a work, which, though entitled to the highest praise, is very far from being exempt from the imperfections of every human production. Of this the French themselves have not been unapprized: for notwithstanding the improvements successively made in the Paris Encyclopédia fince its first appearance, it has been thought necessary to adopt a new plan, and to form upon it a work of immense bulk, which is gradually proceeding, and is not likely to be foon completed. See ENCYCLOP #-DIA and CYCLOPÆDIA. Biog. Brit.

CHAMBERSBURG, in Geography, a port-town of America, and the capital of Franklin county, in Pennfylvania. It is fituated on the eastern branch of Conogocheague creek, through which might be opened an cafy communication with the Potowmae river; and principally confifts of two large fireets, interfecting each other at right ongles, and leaving a public fquare in the center. It contains about 250 houses, handlomely constructed of brick or flone, two Preibyterian churches, a brick court-house, and a flone gaol. There is a printing-office in the town, and a paper-mill in its vicinity. The fituation is favourable to trade and manufactures, and it has a lively and thriving appearance. The adjacent land is rich and fertile, and is highly cultivated. It is 157 miles W. of Philadelphia. N. lar. 30° 53'. W. long. 77° 30'.

CHAMBLEE, or CHAMBLY, a handfome and wellbuilt fort on a river of the same name in Canada, about 12 or 15 miles S.W. from Montreal, and N. of St. John's fort. This castle, built by the French, stands close to the rapids on the river, and at a little diffance has a grand appearance; the adjacent country being very beautiful, and the whole together forming a molt interesting scene. It is in tolerably good repair, and a garrifon is constantly kept in it. It was taken by the Americans in 1775, and retaken by the British in 1776.

CHAMBLEE, or Sorelle River, a river of Canada, iffuing from lake Champlain, and running to the river St. Lawrence near the island of St. Peter; 300 yards wide when lowest, shoal in dry feafons, and yet of sufficient breadth for rafting timber, &c. at the spring and fall.

CHAMBLIS, or CHAMBLY, a town of France, in the department of the Oife, and district of Senlis; 13 miles

W.S. W. of Senlis.

CHAMBOIS, a town of France, in the department of the Orne, and district of Argentan; 2 leagues N.E. of Argentan.

CHAMBON, a town of France, in the department of the Creufe, chief place of a canton in the district of Bouffac ; 8 miles E. of Gueret. The place contains 1482, and the canton 7143 inhabitants; the territory includes 255 kiliometres and 16 communes.

CHAMBON, LE, a town of France, in the department of the Loire, and chief place of a canton, in the didrict of St. Etienne; I league S.W. of St. Etienne. The place contains 1245, and the canton 9805 inhabitants; the territory comprehends 137½ kiliometres, and 12 communes.
CHAMBONLIVE, a town of France, in the depart-

Uzerche.

CHAMBOSE, a town of France, in the department of the Rhone and Loire; 7 miles W. of Villefranche en Beau-

CHAMBRANLE, in Architecture and Joinery, the border, frame, or ornament of itone, or wood, furrounding the three fides of doors, windows, and chimneys.

The chambranle is different in the different orders : when it is plain, and without mouldings, it is called, fimply and properly, band, cafe, or frame.

The chambranle confilts of three parts; the two fides, called afcendants; and the top, called the traverse, or super-

The chambranle of an ordinary door is frequently called

door-case; of a window, window-frame.

CHAMBRE, LA, in Geography, a town of Savoy, or of the department of Mont Blanc, and chief place of a canton, in the diffrict of St. Jean-de-Maurienne, feated on the Ifere; 23 miles N. E. of Chamberry. The place contains 430, and the canton 4308 inhabitants, who are very subject to the goitre, or fwelling of the neck; the territory includes 110 kiliometres, and 9 communes.

CHAMBRE, in Military Language, a defective concavity fometimes found in the thickness of the metal in pieces of ordnance. Un canon chambré is a cannon badly calt, and liable

to burit when fired.

CHAMBRER, ou faire chambrée, is to put or collect together feveral foldiers or military people in one and the fame chamber, in the fame tent, or in one and the fame barrack, for the purpole of eating, fleeping, and repoling themselves there.

CHAMBROIS, in Geography, a town of France, in the department of the Eure, and chief place of a canton, in the district of Berney; 5 miles W. of Berney. The place contains 1000, and the canton 11,262 inhabitants; the territory includes 225 kiliometres, and 26 communes. CHAMBRON, a town of the Netherlands, in the

county of Hainaut, on the Dendre; S miles S.E. of

CHAM-CHOU-POU, a town of Chinese Tartary; 8 miles N. N. E. of Ning-yuen.

CHAMCHOZ, a town of Armenia; 145 miles E. of Erivan

CHAMEAU, in Zoology. The Bactrian camel is de-

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feribed under this name by Buffon. See CAMELUS Bacterianus.

CHAMEAU-Léopard, the French name of the camelleopard, CAMELOPARDALIS Giraffe, which fee; called also by some late French writers Chameau moucheté. CHAMEAU-Marin, in Ichthyology, the French name of

OSTRACION Turritus, Linn. which fee.

CHAMEIASME, in Botany, Pluk. See Houstonia

cornlea.

CHAMEIRAT, in Geography, a town of France, in

the department of the Correze, and diffrict of Tulles; 3 miles S.W. of Tulles.

CHAMELET, a town of France, in the department of the Rhône, and diffrict of Villefranche; 3 leagues W. of Villefranche.

CHAMELOT, in Commerce. See Camblet.

CHAMFER, or CHAMFERET, in Architedure, an ornament confiding of half a feotia; being a kind of framefurrow, or gutter, on a column; called alfo firix, and firia. CHAMFERING, or CHAMFRAINING, is ufed for cut-

ting the edge, or end of any thing aslope, or BEVEL.

CHAMFRAIN, in Military Language, a fort of armour, that ferved as a defence for a horfe in combats. It was made of metal or boiled leather. It covered the fore part of the head, in the form of an adjusted mask. The chamfrain had on the middle of it an adjusted piece of iron, round, and sufficiently large, terminating in a point, for piercing every thing opposed to it. The chamfrain of the count de St. Pol, at the siege of Harsteur in 1449, under Charles VII. was valued at fifty thousand crowns of the money of that time; and that of the count de Foix, at the taking of Bayonne, was valued at sisteen thousand crowns of gold.

CHAMIER, DANIEL, in Biography, a French protellant divine, was a native of Dauphine, and, after having been long minister of Montelimart, went, in 1612, to occupy the post of professor of theology at Montauban. He was much employed by his party in political negotiation with the court, and on all occasions manifested inflexible resolution. He is faid to have drawn up the famous edict of Nantes, and he prefided in feveral fynods, having an excellent talent for the conduct of public business. Nor was he less distinguished for learning. Among his works we may enumerate a treatife, "De Occumenico Pontifice," commended by Scaliger; and his "Jefuits' Letters," or epiftles addressed to him by fathers Coton and Armand, with his observations. But his greatest work was entitled, "Catholica Paustratia, or the Wars of the Lord," in 4 vols. 4to., left incomplete, and containing a detailed view of the controversies between the Papists and Protestants, and a refutation of cardinal Bellarmine. It was printed at Geneva, with a preface by Turretin; and an abridgment of it was published by Spanheim in 1643, in one vol. fol. He also wrote a "Corpus Theologicum," printed at Geneva in 1653. He united the functions of the divine and of the foldier, and was killed by a cannon ball at the fiege of Montauban, in 1621. Gen. Dict.

CHAMIL, in Geography. See HAMI.

CHAMILLARD, Stephen, in Biography, an eminent antiquarian, was born at Bourges in 1656, entered among the Jefuits at Paris in 1673, and took the vows in 1690. He was for fome years a teacher of the belles lettres and philosophy in the schools of the society, and a diffinguished preacher for 20 years. His crudition in the science of medals is certified by two judges of unquestionable authority, viz. Vaillant and Ezechiel Spanheim. He wrote several differtations on particular medals preserved in his own

and other cabinets, fome of which were inferted in the Memoires de Trevoux, and fome collected in a volume, entitled "Differtations fur pluficurs Medailles, Pierres gravées, & autres Monuments d'Antiquités," Paris, 4to, 1711. He is faid, however, to have been imposed upon with respect to two medals, a Pacatianus and an Anna Faustina, which, after exerciling his crudition and talent at conjecture in two elaborate differtations, were proved to be sections. Father Chamillard published a learned edition of "Prudentius, in Usum Delphini," Paris, 1687, 4to. Moreri.

CHAMIR, in Geography, a fortified town of Arabia, in the country of Yemen; 50 miles N.E. of Loheia. It is fituated in the middle of the territories of the confederates of Haschid-u-Bakil, and it has cost the Imam no small trouble to retain possession of it. N. lat. 17° 15'. E. long. 43° 5'.

CHAMIRA, in Botany, Thunb. See HELIOPHILA

circaoides.

CHAMITIS, Gært. from the MSS. of Solander, in the possession of Sir Joseph Banks. Class and order, pentandria digynia. Nat. ord. Umbellatæ, Linn. Umbelliferæ, Inff.

Gen. Char. Umbel none, or fimple. Invol. none, or about eight-leaved. Cal. fuperior, five-toothed, permanent. Cor. petals five, ovate-oblong, obtufe, quite entire. Stam. filaments five. Pift. flyles two, filiform; fligmas thickift; Peric. none. Fruit inferior, crowned with the calyx, divifible into two. Seeds two, egg-shaped, with three elevated lines

on one fide, flat on the other.

Sp. 1. C. integrifolia, Gært. tab. 22. frg. 4. Herb. of Sir Joseph Banks. "Leaves entire." Stems very short, branched, forming dense tufts. Leaves crowded, sheathing, linear-lanceolate; upper ones ovate-acuminate; sheaths eggfhaped, open, two-awned. Flowers white, folitary, terminat. ing the little branches; peduncles capillary. Fruit small. Gærtner observes that this genuine umbelliserous plant is fingular, not only on account of its folitary flowers, but also of its fruit, which is frequently divifible into three; as if the author of nature had compensated the defect of its umbel: by the unufual number of its feeds. 2. C. trifurcata, Gært. tab. 22. fig. 4. Banks's Herb. "Leaves three-forked." Leaves crowded about the root, broad-linear, three-forked at the fummit; fegments divaricated, mucronate; sheaths broad, embracing the base of the Item. Scapus quite simple, about two inches high, naked, or furnished with one feffile tricuspidate leastet. Invol. shorter than the umbel; leastets fix or eight, linear, acuminate, permanent. Umb. simple, equal; rays from eight to ten. Fruit four times larger than that of the preceding species, narrowed above, somewhat compressed. Both species are natives of Terra del Fuego.

CHAMITSCHE, in Geography, a town of Ruffia, in the government of Mogiley, on the borders of Poland; 40

miles S.S.W. of Mogilev.

CHAMKA, or TCHAMKA, a town of Afia, in the country of Thibet; 229 miles S. E. of Laffa.

CHAMMANENA, or CAMMANENA, in Ancient Geography, a district: of Cappadocia Minor, which lay towards

the west, and was watered by the river Halys.

CHAMNEISKOI, in Geography, a fortress of Russia, on the confines of China; 168 miles S.W. of Versch-Udinskoi.

CHAMOIS, in Zoology, afpecies of antelope, Antilope rupicapra of Pallas, Schrebers, Ersleben, and Gmelin; Caprarupicapra of Linneus; Rupicapra of Pliny; Le Chamois of Buffon; Gems of Gefner; Gems Aeliani et Hevodici Bochart; and Chamois Antelope, Pennant. This animal is specifically known by having the horns ewel, round, smooth, with the tips hooked backwards,

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The chamois is about the fize of the common goat. The head is of a whitish fawn colour, with a black, or brownish band, on each fide. The hair of the body is short, like that of the stag, except in winter, when it becomes longer and thicker. It varies in colour according to the feafons of the year; in fpring it is of a greyish ash-colour, in summer of a reddish fawn colour, in autumn of a fallow-brown mixed with black, and in winter of a blackish brown: the cheeks, chin, throat, outer parts of the ears, and the belly, whitish in general; and along the back is a narrow line of a blackish colour. The horns are about fix inches long, or rather more, of a slender form, and placed nearly upright, with the tips uncinated, or bent backwards; these horns are slightly wrinkled towards the bale, but have no appearance of annulations as in the rest of the anteiope tribe. At the base of each horn, at the back part, is a longitudinal orifice in the Ikin, or lachrymal pit fimilar to that observed under the eyes of the common antelope. The tail is short, like that of the goat, and of a blackith colour.

Buffon's opinion of the chamois is well known. He believed the chamois, the wild, and the domettic goat to be only constant varieties of a fingle species, but all the later writers concur in separating the chamois from the goat; they have not only separated them as species, but divided them into two distinct genera, and not without sufficient reason. The chamois differs from the goat in having the horns fmall, almost smooth, and resembling that of the antelope in being deflitute of the longitudinal ridge, fo confpicuous in the horns of the goat tribe. The horns of the female goat are fometimes fmaller than those of the chamois, but still possess the same longitudinal ridge or angle as those of the male. The lachrymal openings in the skin behind the horns diftinguish it also from the goat. The goat, in a state of nature, inhabits the very fummits of the highest mountains; the chamois is an inhabitant of alpine regions, but only those of the second stage, and is rarely found in the lostier elevations. The chamois is also rather fmaller, and less active than the goat; it is destitute of the beard, which in the goat is very long; and the hair of the goat is always long and thick, or bufhy, while the chamois is very bare of hair, like the antelope during the fummer feafon.

The chamois is the only species of antelope, except the faiga, that is found in Europe. It inhabits the mountains of Dauphiny, Picdmont. and Germany, the alps of Switzerland and Italy, the Pyrenean mountains, feveral parts of Greece, and the mountains Caucafus and Taurus. It is an animal of a focial nature, as four, five, or fix are usually found in company together. Sometimes it appears in troops of fifteen or twenty together. There are certain times when they affemble in still greater numbers, and then again disperse in small parties over the mountains. The full-grown males have a strong and unpleasant odour, which is yet more powerful than that of the male goat during the coupling feafon, which is in September and October: the female brings forth its young in April and May. A young female chamois is in maturity at the age of eighteen months: they bring forth two or rarely three at a birth. The fmall ones follow the mother till September, or fometimes longer, if the hunters or the wolves do not disperse them. They are supposed to live 20 or 30 years.

During the fummer the chamois prefers the fides of the more inaccessible mountains that are thickly cloathed with forests, and which, by that means, are protected from the heat of the fun; it goes to pasture early in the morning, or in the evening only. It is also said to be an extremely timid animal, for when several of the chamois are at-

fembled together, one is placed as a centinel to warn the herd of the approach of any danger. Those who have obferved the manners of the chamois attentively, affirm that it is only while they eat, that one of the herd is on the watch for this purpole, and in that case they agree with the moungives the alarm of danger with a fharp hifs, upon which the whole herd flies off with the utmost rapidity. The fight of the chamois is very penetrating, and his fcent remarkably acute. When it fees a man, it fixes its eyes upon him for an inftant, and then flies off immediately. If the fituation will admit, the animal retreats to the rocks, or fome elevated point from which it can observe the objects of its apprehension, and again pursues its course, pausing at intervals, again to look back and notice the route of its purfuers, till it effects its escape, or is either overtaken or shot. In the chase it evinces every mark of extreme agitation and timidity. It feeds on herbs, making choice of the moth buds, especially those of an aromatic nature.

when in feafon: but is faid, by its great heat, to engender fevers. The blood is extremely hot: they pretend that it possesses the same medicinal virtues as the blood of the ibex; the hunters fometimes mix the blood of the two animals together, and fell it for that of the ibex, which is in much request; or often fell that of the chamois alone for the blood of the latter. The skin of the chamois, when dressed, forms a kind of throng and supple leather of confiderable utility for wearing apparel, as it takes a good die either of yellow,

brown, or black, and is remarkably durable.

The chase of the chamois is yet more dangerous than that of the ibex; even the mountaineers, who are accustomed from their infancy to climb the Alps, puriue them over the most desperate precipices at the peril of their lives, and accidents often happen to them, either in faling from the crags, or flipping on the ice in the pursuit. The hunters fometimes follow them with dogs; but the chamois often retreats to the rocky eminences sheltered with woods, where it would be impeffible for the dogs, and difficult for the men, to approach them. The hunters occasionally affemble together, and divide gith motive into in detain a betthemselves to different stations; one party ascending the rocks by means of fealing ladders in the most convenient places near the theeper eminences, while another party is waiting in the route it is supposed the chamois will take when diffurbed from its more inaccessible position; and other parties are again stationed in different avenues to intercept the animals, should they attempt to deviate from their usual track. In this manner many of the chamois are taken. They likewife kill them in the night time, or early in the morning when they quit the shelter of the woods to go out to graze. Most commonly, however, in the Alps, waen the hunters discover a troop of the chamcis, they fally out armed with their carbines, which they handle with much more facility than the fufil of the common huntiman, and purfuing the most fecret ways over the rocks in different directions towards one rallying point, they come upon the

CHAMOMILE, in Botany. See MATRICARIA and

CHAMOMILE, in Gerdening. See ANTHEMIS.

CHAMOND, ST., in Geography, a town of France, in the department of the Loire, and chief place of a canton, in the diffrict of St. Etienae. The place contains 4907, and the canton 14,930 inhabitants. The territory includes 187 kiliometres, and 8 communes.

CHAMONIX, a town of the department of Leman, and chief place of a canton, in the diltrict of Bonneville. The place contains 1511, and the canton 3426 inhabitants; the territory includes 385 kiliometres, and 4 communes.

CHAMOS, or CHEMOSH, the idol or god of the Moa-

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The name of *Chamos* comes from a root, which, in Arabic, fignifies to make hafte; for which reason many believe *Chamos* to be the fun, whose precipitate course might well procure it the name of swift or speedy.

. Farther particulars may be feen in Calmet's Differtation on Baal Peor and Chamos, prefixed to his comment on the

Book of Numbers.

CHAMO-TAO, in Geography, a fmall island, near the coast of China, in the Eastern Sea. N. lat. 37° 58'. E.

long. 120° 50'.

CHAMOUNY, or CHAMOUNI, a valley, and also a town or village, that lie at the foot of Mont BLANC, which fee. The inhabitants of this valley still retain a considerable share of that peculiarity in their manners, for which they have long been noted. The men are folely employed in hunting the wild-goat, in fearching for crystals, and in acting as guides to strangers, whose curiosity leads them to ascend and explore the eminences of Mont Blanc and its adjacent fummits; while all other work, domestic and agricultural, is left to the women. Since this valley has attracted fo many travellers, the inhabitants of "Prieuse" affect genteel expressions in conversation, which form a glaring contrast with their natural rusticity. They load the stranger with civilities; and it is surprising to hear these rough mountaineers make use of the politest language. Almost a century has elapsed since the famous Pocock first visited the valley of Chamouny. The inhabitants were then wild and rough as the mountains furrounding them; but purity of manners and innocence graced their unfrequented huts: now, it is faid, gold and vice have found their way to them. The ground-floor of the inn at Chamouny, near the foot of Mont Blanc, is elevated 3367 feet above the Mediterranean. For an account of the glaciers of Chamouny, fee Mont BLANC and GLACIERS

CHAMOUX, a town of Savoy, or department of Mont Blanc, in the county of Maurienne; $4\frac{1}{2}$ miles N.W. of

Argentina.

CHAMP DE BATAILLE, Field of Battle, in Military Language, is the ground on which an action is fought. The enemy, who obliges his adversary to quit this ground and

abandon it to him, obtains the victory.

A good general must be sensible that the victory depends, in a great measure, on the nature of the field of battle; he is, therefore, always studious to derive primary advantages from the ground. The army that enjoys a superiority of position can act with so much the greater impetuolity against the enemy, who has to contend both with it and the advantages of ground.

A general who reckons chiefly on his infantry, againft treops fuperior in cavalry, should choose positions that are broken, uneven, mountainous, steep, above all, enclosed; but if, on the other hand, he wishes to oppose his cavalry with advantage to infantry, he should endeavour to find ground a little elevated, but smooth, open, and not embarrassed interrupted with woods, morasses, ditches, or en-

closures.

CHAMP Clos. This was, from the commencement of modern history, and long afterwards, a place authorised by the laws made by sovereigns for the purpose, and confectated to particular combats between those who wished to determine, in that manner, either a law-suit or dispute of

honour. This name was also given to the place destined or fet apart for tournaments.

CHAMP de Mars, the Field of Mars, an open place or field in the neighbourhood of Paris, where the kings of France used frequently to review their troops, and where the French held their festivals after the revolution.

CHAMPS de Mars et de Mai, Les, in Antiquity, denoted those annual affemblies, which were held in the early period of the French monarchy, and in which whatever related to the general welfare of the nation was submitted to public deliberation, and determined by the fuffrage of the people. These assemblies were called "Champs," because, according to the custom of all the barbarous nations, they were held in the open air, in some plain capable of containing the valt number of persons who had a right to be present : and they were denominated "Champs de Mars and de Mai" from the months in which they were held. Every freeman feems to have had a right to be prefent in these assemblies. In them every thing that concerned the happiness of their country, every thing that could be of benefit to the Franks, was confidered and enjoined. Clotharius II. describes the business and acknowledges the authority of these affemblies; " they are called," fays he, "that whatever relates to the common fafety may be confidered and resolved by common deliberation; and whatever they determine, to that I will conform." The statutory clauses, or words of legislative authority in the decrees iffued in these assemblies, run not in the name of the king alone. "We have treated," fays Childebert, in a decree A. D. 532, "in the affembly of March, together with our nobles, concerning fome affairs, and we now publish the conclusion, that it may come to the knowledge of all." "We have agreed," fays he elfewhere, "together with our vassals." Again, "it is agreed in the assembly in which we were all united." The Salic laws, the most venerable monument of French jurisprudence, were enacted in the fame manner. In their charters, the kings of the first race are careful to specify that they were granted with the confent of their vaffals. The historians likewife describe the functions of the king in these national assemblies in fuch terms, as imply that his authority there was extremely small, and that every thing depended on the court These general assemblies also exercised supreme jurifdiction over all persons, and with respect to all causes. Moreover when any extraordinary aid was granted by freemen to their fovereign, it was purely voluntary. In the annual affembly of March or May, it was the custom to make the king a prefent of money, of horses or arms, or of fome other thing of value. This custom was ancient, and derived from their ancestors the Germans. These gifts were confiderable, and feem to have made no fmall part of the royal revenue. See on this subject the authorities cited by Dr. Robertson in his Hift. of Ch. V. vol. i. p. 431. &c.

CHAMPA, in Geography. See CIAMPA.

CHAMPACAM, in Bolany, Rumph. See MICHELIA. CHAMPADA, in Natural History, the name of a tree common in the woods of Malacca, and bearing a fruit much valued by the natives. It is a large tree, very full of branches, and these are very knotty, and, when cut, throw forth a thick and acrid juice like that of the tithymal. The fruit grows on the trunk and thick branches of the tree: the first appearance toward this is a large button or bad; this by degrees opens into a slower consisting of a great number of leaves, among which, when open, are seen the rudiments of the fruit; this appeara very small at first, but it soon grows to a very considerable bigness, being, when ripe, twelve or fourteen inches long, and as much in circumference; it is shaped much like a melon. The rind is green, and is all

over divided into small pentagons, in the center of each of which is a fmall black foot. The pedicle is thick and woody, and entering into the fubitance of the fruit, it divides itself into feveral branched fibres, which run through the whole fubstance of it, and meet in a point at the end. Within this large fruit there are contained a large number of kernels of the fize of our common chefnuts, all hanging together in bunches, fo as to refemble a cluster of grapes; these are confined in a narrow compass, being pressed firmly upon one another while the fruit is whole, but as foon as this is cut or burst open, they fly farther afunder, and hang to the stalks like grapes that are placed at a distance on the bunch, as fome of our oblong kinds are. The people of Malacca are very fond of this fruit; they fuck the pulpy matter which furrounds the kernels, and which is of a fweet and luscious talle, but of a difagreeable raw smell. The Indians are very fond of this fruit, as well for its qualities as its talte, for it is very heating, and when taken in large quantities, will inebriate people in the same manner as strong liquors. The kernels are much of the nature of our cheinuts, but of a less agreeable tafte; they are eaten by way of food rather than as a delicacy, and the common way of eating them is boiled in water. Mem. Acad. Scienc. Par. 1699. p. 640

CHAMPAGNAC-DE-BELAIR, in Geography, a town of France in the department of the Dordogne, and, chief place of a canton in the district of Nontron; 12 miles N. of Perigueux. The place contains 784 and the canton 6117 inhabitants; the territory includes 107½ kiliometers,

and 12 communes.

CHAMPAGNE, PHILIP DE, in Biography, an eminent painter of history, portrait, and landscape, was born at Bruffels in 1602, and received his earliest instructions from Bouillon and Michael Bourdeaux, two ordinary painters, and afterwards became a disciple of Fouquieres, under whose tuition he studied landscape. At the age of nineteen he vifited Paris in his proposed journey to Rome, and by the practice of portrait painting with one L'Alleman, he made great progress in that branch of his art, as well as in history and landscape. During his residence at Paris, he formed an acquaintance and friendship with Nicolo Poussin, which were of great importance to him; and these artists were conjointly employed in painting the ornaments of the Luxembourg palace. On the death of Duchesne, whose daughter he married, he was appointed director of the queen's paintings, with a pention of 1200 livres a year, and apartments in the palace. At and near Paris he painted feveral historical pieces for churches and palaces, and feveral times took the portraits of the royal family, and of cardinal Richelieu. At the establishment of the Academy of Painting in Paris in 1648, he was one of the original members, and afterwards became professor and president. His assiduity in the exercise of his profession was such, that he arose at 4 in the morning, and in the course of the day allowed himfelf very little time for recreation. He painted with great facility, and paid particular attention to the subsequent correction of his pieces. Upon the arrival of Le Brun from Italy, though he had previously entertained the expectation of being first painter to the king, he manifested no distatisfac-tion; but retiring from public business, included himself in the practice of his favourite art for his own amutement. He died in 1674. Champagne was correct in his deligns, agreeable in his colouring, though it wants brilliancy, and well acquainted with the principles of perspective and architecture: nevertheless he partook of the coldness of his country, which had not been animated with the fire of Italy. De Piles obferves, that all his knowledge confilted in a fervile imitation,

in the performance of which he neither followed his gerfus, nor obtained the rules of art. His moral and fober character prevented his painting naked figures, indulging freely in fable, and painting even the portraits of the first nobility in France on a Sunday, though at other times he was very fond of getting money. His works, several of which have been engraved by the best masters, are very numerous in France; but a most capital picture of Champagne is Lewis XIII. kneeling before the Virgin and offering his crown. Pilkington. D'Argenville.

The nephew of the former, John Baptifl Champagne, was born at Bruffels in 1645, or, as fome fay, in 1643, and died in 1688. Having received intruction from his uncle, he vifited Italy for the advantage of fludying the carts of the great artifls. He adopted the flyle and manner of his uncle without deviating from them; but was inferior to him in defign and execution. While he possessed many of his excellencies, he had also many of his defects. Pilkington.

CHAMPAGNE, in Geography, a town of France, in the department of the Ain, and chief place of a canton, in the district of Belley, 10 miles N. of Belley. The place contains 375, and the canton 6629 inhabitants: the territory includes 155 kiliometres and 19 communes.

CHAMPAGNE, a town of France in the department of the Dordogne, and district of Riberac; 10 miles N. of

Riberac.

CHAMPAGNE, before the revolution, a province of France, bordered on the E. by Lorraine and Franche Comte, on the S. by Burgundy and Nivernois, on the W. by the Isle of France and Picardy, and on the N. by Flanders; about 65 leagues long, and 45 broad: the land is fertile, and produces the celebrated wine called after its name, with much grain and pasturage. It contained two archbishoprics, Reims and Sens, and four bishoprics, Langres, Chalons, Troyes, and Meaux. The principal rivers are the Seine, the Marne, the Aube, the Meuse, and the Asserbed Readers and the Asserbed Readers and Sens, and four bishoprics, Langres, Chalons, Troyes, and Meaux. The principal rivers are the Seine, the Marne, the Champagne now comprehends the departments of Marne, Ardennes, Aube, and Flaute Marne.

CHAMPAGNE, in *Heraldry*, a name given by Ferne, and fome other writers, to the line differing from the common lines, and called alfo *urde*, and by Upton *vere*, from its refemblance to the ends of the figures of that fort of fur

which is called vair by heralds.

CHAMPAGNE-Moulon, in Geography, a town of France, in the department of the Charente, and chief place of a canton, in the district of Confolens; 10 miles W. of Confolens. The place contains 1155, and the canton 6584 inhabitants: the territory includes 300 kiliometres and 8 communes.

CHAMPAGNEY, a town of France, in the department of the Upper Saone, and chief place of a cunton, in the diffrict of Lure. The place contains 1968, and the canton 7691 inhabitants: the territory comprehends 180 killometres

and 9 communes.

CHAMPAGNOLE, a town of France, in the department of the Jura, and chief place of a canton, in the diltrict of Poligny; 3 leagues S. E. of Poligny. The place contains 1474, and the canton 9906 inhabitants: the territory includes 300 kiliometres, and 31 communes.

CHAMPAIN. See CAMPAIGN, and CHAMPION.

A Point CHAMPAIN, in Heraldry, is a mark of dishonour in the coat of arms of him who kills a prisoner of war after he

has cried quarter.

CHAMPANS, in Navigation, are final flat-bottom veffels, afed by the Chinefe and Japanefe. They have one mast rigged in the same manner as the main-mast of a junk, with a single sail made of caue; they seldom exceed 80 tons burthen; are constructed without iron or nail, and are

unfi

unfit for rough weather. See Sumpans under the article ceived the profits thereof for one whole year before fuch

CHAMPART, in our Old Cufloms, a duty, or tenure by which the tenant was to pay part of the fruits of the ground to the lord. It is also written chaumpert, and in the middle

age Latin is called campipars, camparcium.
CHAMPARTORS, or CHAMPERTORS, are those who move pleas, or fuits, or cause them to be moved, either by their own procurement or others; and fue them at their proper costs, to have part of the land, or other matter in ·variance: against whom lies a writ of champarty.

CHAMPARTY, or CHAMPERTY, campipartitio, in Law. a maintenance of any man in his fuit, upon condition of having part of the thing in question, be it lands or goods;

in case it be recovered.

The word comes from the French, champ, field, and parti, divided; the field, or thing contested for, being supposed to be divided between the champartor or maintainer, who carries on the party's fuit at his own expence, and the person in whose right he sues. 1 Hawk. P. C. 257

Thus, champart, in the French law, fignifies a fimilar divifion of profits, being a part of the crop annually due to the landlord by bargain or custom. In our fense of the word, It fignifies the purchasing of a suit, or right of suing :- a practice fo much abhorred by our law, that it is one main reason why a chose in action, or thing of which one has the right but not the possession, is not affiguable at common law; because no man should purchase any pretence to sue in another's right. These petts of civil society, says judge Blackstone, that are perpetually endeavouring to disturb the repole of their neighbours, and officiously interfering in other men's quarrels, even at the hazard of their own fortunes, were feverely animadverted on by the Roman law: " qui improbe coeunt in alienam litem, ut quicquid ex condemnatione in rem ipfius redactam fuerit inter eos communicaretur, lege Julia de vi privata tenentur;" (Ff. 48. 7. 6.) and they were punished by the forfeiture of a third part of their dotes. Moreri. goods and perpetual infamy.

This feems to have been an ancient grievance; for notwithstanding several statutes against it, and a form of writ accommodated to them in the time of Edward I. yet in that of Edward III, and also of Hen. VIII, it was enacted, that whereas redrefs on the former statute was only to be had in the King's Bench, which then followed the court : for the future it should likewife be cognizable by the juftices of the Common Pleas, justices of affize, and justices of peace in their quarter-fessions: and this offence is punishable by common law and statute: the stat. 33 Edw. I. It. 3. makes the offenders liable to three years imprisonment, and a fine at the king's pleafure. By stat. 28 Edw. I. c. 11. it is ordained, that no officer, nor any other, shall take upon him any business in fuit, to have part of the thing in plea; nor shall any upon covenant give up his right to another; and if any do, and be convicted thereof, the taker . Chall forfeit to the king fo much of his lands and goods as amounts to the value of the part purchased. The giving part of the lands in fuit, after the end of it, to ? counfellor for his reward, is not champarty, if there be no preceding bargain relating to fuch gift; but if it had been agreed between the counsellor and his client before the action brought, that he should have part for his reward, then it would be champarty. Bro. Champert. 3. And it is dangerous to meddle with any fuch gift, fince it carries with it a strong prefumption of champarty. 2 Inst. 564.

To this head may be referred the provision of the statute 32 Hen. VIII. c. 9. that no one shall fell or purchase any pretended right or title to land, unless the vendor hath re-

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grant, or bath been in actual possession of the land, or of the reversion or remainder; on pain that both purchaser and vendor shall each forfeit the value of such land to the king and the profecutor. Bl. Com. vol. iv. See MAINTE-

CHAMPCON, in Geography, a town of France, in the department of the Mayenne; 2 leagues N.E. of Ma-

CHAMPDENIERS, a town of France, in the department of the Two Sévres, and chief place of a canton, in the diffrict of Niort; 10 miles N. of Niort. The place con-

CHAMPDIEU, a town of France, in the department of the Rhone and Loire; one league N. of Montbrison.

CHAMPEAUX, WILLIAM DE, Lat. Campellenfis, in Biography, a famous scholastic philosopher and divine, was born in the 17th century, at Champeaux, a village of Bril near Melun, and fludied under Antelm of Laon at Paris, in the church of which metropolis he was made archdezeon and scholastic. His reputation in teaching philosophy attracted many scholars, and particularly the celebrated Abelard., For an account of the jealoufy excited by the merit of Abelard, fee the article ABELARD. When the contentions occasioned by this jealousy terminated, De Champeaux retired, in 1113, to his bithopric of Chalons fur-Marne. Soon after his removal to this fee, he was called upon to give his benediction as abbot to St. Bernard, with whom he contracted an intimate friendship. He was present at many councils, and diffinguished himself by his religion, zeal, and knowledge of the feriptures. He died in 1121. He wrote feveral treatifes on logical and theological subjects, and also a book of fentences; but the only work which has been printed was a small tract on the " Origin of the Soul," published in the 5th volume of D. Marten's Treasure of Anec-

CHAMPEAUX, in Geography, a town of France, in the department of the Seine and Marne; 7 miles N.E. of

Alelun.

CHAMPEIX, a town of France, in the department of the Puy-de-Dome, and chief place of a canton, in the diffrict of Issoire; $2\frac{1}{2}$ leagues N.W. of Issoire. The place contains 1924, and the canton 10.762 inhabitants: the territory comprehends 155 kiliometres, and 17 communes. CHAMPIER, SYMPHORIEN, called also Camperius, and

Campegius, in Biography, was born, as he informs us in one of his numerous productions, at St. Saphorine, a castle in the Lyonnois, in the year 1472. Of the course of his studies we have no information, but that he early attached himself to books, and that he was versed in the works of Plato, Ariflotle, and the most abiliruse of the writers then in vogue, the titles of many of his works shew. Such as " Symphonia Platonis cum Aristotele, Galeni cum Hippocrate," &c. "Cribratio, Lima, et Annotamenta in Galeni, Avicennæ et conciliatoris Opera," aud many fimilar trifles, which ferve to shew the bad taste of the writer. and that he fell in with the humour of the times in which he lived. Champier took his degree of doctor in medicine at Pavia in the year 1515, and in 1520, he was made conful at Lyons, an honour he again enjoyed in the year 1533, on returning from Italy, where he had been attending on Anthony duke of Lorrain. That he was in great credit at this time, is shewn by his having for his correspondents the principal physicians and philosophers of the age, and by his having sufficient interest to found a college of physicians at Lyons, which was exilling at the time of the revolution

n France. He died in 1535. For the titles of his works, and little more than the titles are now known, fee Haller Bib. and Eloy. Dict. Histor. His fon Claudes was author of a work " Sur les Singularités des Gaules."

CHAMPIGNELLE, in Geography, a town of France, in the department of the Yonne, and district of Joigny; o

miles N. of St. Fargeau.

CHAMPIGNON, in Gardening. See AGARICUS.

CHAMPIGNY sur Veude, in Geography, a town of France, in the department of the Indre and Loire; 21/2 leagues S. of Chinon.

CHAMPION, properly fignifies a person who undertakes a COMBAT, in the place or quarrel of another: though the word is also sometimes used for him who fights in his

own cause.

Hottoman defines champion, certator, pro alio datus in duello à campo dictus, qui circus erat decertantibus definitus :

hence also the word camp-fight.

Du-Cange observes, that champions, in the strict and proper fense of the word, were persons who fought in lieu of those who, being obliged by custom to accept the duel, had yet a just excuse for dispensing with it, as being too old, or infirm, being ecclefiaftics, or the like. He adds, that the champions were usually retained or hired for sums of money, and were held infamous. There were also some vaffals, who, by the faith and homage fworn to their lord, were obliged to fight for them in case of necessity.

Some authors maintain, that any person was allowed the benefit of a champion, excepting parricides, and those ac-

culed of very heinous offences.

This cultom of deciding differences by combat, was derived from the northern parts of Europe; whence it paffed into Germany, and, with the Saxons, into England, and infentibly through the rest of Europe. See DUEL.

When two champions were chosen, the one on the part of the accuser, and another on that of the accused, it was always required there should be a decree of the judge to authorize the combat. When the judge had pronounced fentence, the accufed threw a gage, or pledge, ordinarily a glove, or gauntlet; which being taken up by the accuser, they were both taken into fafe custody till the day of battle appointed by the judge. If either of them fled after this, he was declared infamous, and deemed to have committed the crime in question. Nor were the accuser and accused now allowed to make up the matter; at least, not without the confent of the judge; which was never granted, without making the lord fatisfaction for the right of inheritance to the effects of the vanquished.

Before the champions took the field, their heads were fhaved, and they made oath, that " they believed the of person who retained them was in the right; and that st they would defend his cause to the utmost of their or power." Each of them also fwore with his hand on the crucifix " on his faith in baptism, on his life, on his foul, and on his honour, that he verily believed he had good and just cause of quarrel, and that he had not besides either on himself, or on his horse, or in his arms, any herbs, charms, paroles, supplications, conjurations, pacts, or incantations, of which he wished to avail himself." The weapons they generally used in a combat were a fword and buckler; some fay, in England, only a club and buckler: when on horfeback, they were armed at all points. In a civil combat, on a writ of right, the only weapons allowed them were batons, or Raves, of an ell long, and a four-cornered leather target. Their weapons were bleffed in the field by the prielt, with great ceremony.

On the morning of the day appointed for the combat,

the two combatants fet out on horseback with the visier taken off, and made their arms, both offenfive and defenfive, be carried before them. They proceeded foftly and flowly, having each of them in his hand the image of the faint, to whom he addressed his devotion, and in whom he placed confidence. Philippe-le-Bel, in authorizing combats, ordered the lifts to be eighty paces long and forty broad. But in civil combats it was cultomary to make them only about fixty feet square. On one fide of the lift, a court was erected for the judges of the court of common pleas, who attended in their fearlet robes. That court was to fit by fun-rifing; and proclamation being made, the champions were introduced by two knights, and were dreffed in a fuit of armour, with red fandals, bare-legged from the knee downwards, bare-headed, and with bare arms to the elbows.

The action then began; at the found of a trumpet they were to go to blows; after the number of blows or rencounters expressed in the cartel, the judges of the combat threw a rod into the air, to advertise the champions that the combat was ended. If it lasted till night, or ended with equal advantage on either fide, the accufed was reputed

The punishment of the vanquished was that which the crime merited, whereof he was accused: if it were a capital crime, the vanquished was disarmed, led out of the field, and immediately executed, together with the party whose cause he maintained. If the conquered champion fought in the cause of a woman, she was burnt.

In civil combat, the combatants were bound to fight till the stars appeared in the evening; and if the champion of the tenant was able to defend himfelf till the stars appeared, the tenant prevailed in his cause; or if victory declared itself for either party, by the death of the other, which feldom happened, or by his proving recreant, and pronouncing the word CRAVEN, judgment was finally given in his favour. Black. Com. book iii. p. 339, &c.

Combats, from the very commencement of the French monarchy, and for a number of centuries afterwards, were lawful acts, ordered by their kings, demanded and folicited by bishops, or prescribed by the same bishops, who had courts ad hoe within the interior of their cloithers, ornamented and prepared for each combat at the expence of the champions, whilft the fame prelates excommunicated kings and whole families for marriages contracted in even the feventh degree of confanguinity. Pope Eugenius III. when confulted respecting these combats, answered by a bull, that ancient ulage must be complied with and submitted to. It can therefore hardly be supposed, that such pontiffs, though the fuccessors of St. Peter, were much guided or directed by the Holy Spirit.

CHAMPION of the king, is an officer, whose business is, at the coronation of the king of England, to ride into Westminster-hall, armed cap-a-pié, when the king is at dinner, and throw down his gauntlet by way of challenge; pronouncing by a herald, "That if any man shall deny, or " gainfay the king's title to the crown, he is there ready " to defend it in fingle combat, &c." Which done, the king drinks to him, fending him a gilt cup with a cover, full of wine; which the champion drinks, and has the cup

This office, ever fince the coronation of Richard II. has been continued in the family of Dymocke, who held the manor of Scrivellby in Lincolnshire, hereditary from the family of the Marmions, who had it before, by grand ferjeanty; on condition that the lord thereof should be the king's champion. Accordingly, Sir Edward Dymecke

performed

performed this office at the coronation of king Charles II. And a person of the name of Dymocke persormed it at the

coronation of his present majetly George III.

CHAMPION de Justice, a military order called Angeliques Dorés de Saint Georges. This order owed its institution to Constantine the Great, converted to the Catholic faith after a great victory, which he gained over the enemies of the Christian religion near Maxence. Wishing to confide the care of the labarum, which he had adopted for a banner, in place of the eagle of the former Romans, to intrepid defenders, he chose from amongst those of his officers, who had diftinguished themselves most in that celebrated battle, fifty gentlemen, who were to constitute the number of knights or chevaliers, that were by his regulation to be charged with the care of the labarum, when he took the field. The mark of the order was a golden cross with eight points hemmed and enamelled with gules, marked with flower-de-luces, and carrying on one fide of it these four letters, I. H. S. V. in hoc figno vinces, and on the reverse the image of Saint George piercing the dragon. The knights were subject to the same rules and restrictions as those of the order of Malta, except in the article of celibacy. This order rendered itself so celebrated by its exploits, and particularly at the battle of Lepanto in 1571, that it had thirty grand masters of the imperial house of Comnenus. A good many kings and fovereign princes requested to become knights, among whom were John Sobiesky, king of Poland; Ferdinand Marie, elector of Bavaria, the Emperor Leopold First, and the Emperor Charles the Fifth, who declared himself chief of that body, and chose that his son should carry the banner at the battle of Lepanto, in which the Mahometans loft thirty thousand men, and had 400 galleys funk.

CHAMPION, or rather CHAMPAIN-lands, are lands not inclosed; or large fields, downs, or places without woods or hedges.

CHAMPL, in Geography, a river of Germany, in the circle of Bavaria, which runs into the Regen at Cham.

CHAMPLAIN, SAMUEL DE, in Biography, the principal founder of the province of Canada, was a native of Saintonge, and made his first voyages in the reign of Henry IV., as lieutenant to the Sieur de Monte. He visited all the harbours of Acadia, ran up the river St. Lawrence, gave a beginning to Quebec and Montreal, advanced to the lake still called by his name, and assisted the neighbouring favage tribes against the Iroquois. In another voyage he proceeded further up the river, and defeated the Iroquois in their own country. After his return to France in 1611 for the purpose of obtaining succours, he was sent back with the commission of king's licutenant in 1613, and with proper requisites for fortifying Quebec. Here he remained, and was continued in his office under the affociated company of Canada formed in 1628. But, in 1631, he was expelled with his other countrymen by the English; but, upon its being restored at the peace, he returned thither as governorgeneral in 1634, in which year he died. He maintained the character of an upright, courageous, active, and zealous officer in promoting the interest of his country, and of the fettlement. He wrote, "Voyages and Travels in New France, called Canada," 4to. 1632, in which are many curious observations intermixed with instances of credulity. Nouv. Did. Hift.

CHAMPLAIN, in Geography, a lake of North America, fo called from the name of the subject of the preceding article, who first discovered it in 1608, whereas it was before his time called Corlaer's lake. This lake is next in fize to lake On-

divides the flates of New York and Vermont. The length from N. to S., fays Morfe, is 80 miles; its breadth, where it is wideft, 14; but according to Mr. Weld, (Travels through North America, vol. i. p. 299.) it is about 120 miles long, and of various breadths: for the first 30 miles, that is from South River to Crown Point, it is nowhere more than two miles wide ; beyond this, for the distance of 12 miles, it is five or fix miles acrofs; then again it narrows, and at the termination of a few miles, again expands. That part called the "Broad Lake," because it is broader than any other, commences about 25 miles N. of Crown Point, and is 18 miles across in the widest part. Here the lake, which is faid to occupy about 500,000 acres, is intersperfed with a great number of islands, the largest of which, formerly called "Grand Isle, now "South Hero," says Weld, "North Hero," according to Morse, is 15 miles long, and at a mean about four in breadth. The soil of this island is fertile, and it is faid that 500 people are fettled upon it. The other principal islands are North Hero, and Merte island. They reckon in the whole not less than 60. The Broad lake is nearly 50 miles in length, and gradually contracts till it ends in a large river called Chambly, Richelieu, or South Sea Chamblee. The foundings of lake Champlain, except at the narrow parts which terminate its extremities, are generally very deep; in many places 60, and 70, and in some 100 fathoms. In proportion to its breadth and depth, the water is more or less clear; in the broad part it is as pure and transparent as possible. On the west side as far as Cumberland Bay, the lake is, for the greatest part, bounded by steep mountains, close to the edge of the water; at Cumberland Bay the ridge of mountains runs off to the N. W., and the shore becomes low and swampy. The east, or Vermont shore, is not, in general, much elevated: at the distance, however, of 12 miles from the lake, is a considerable mountain; the shores on both sides are very rocky; the islands are almost encompassed with rocks, fo that it is dangerous to approach them within one or two miles in particular parts. In failing along the shore when a breeze is blowing, a hollow murmuring noise is heard from the waters splashing into the crannies of the rocks. There are many streams which fall into the lake; the mouths of these on the western side are obstructed by falls, so that none of them are navigable; some few of these on the eastern or Vermont side, are navigable by small boats to a short distance. The scenery along various parts of this lake is extremely grand and picturefque, particularly beyond Crown Point; the shores are there beautifully ornamented with hanging woods and rocks; and the mountains on the western side rise up in ranges one behind the other in a very magnificent manner. This lake is well ftored with fish, particularly falmon, falmon-trout, iturgeon, and pickerel; and the land on its borders, and on the banks of its rivers, is fertile and productive. At Ticonderago, which lies near the fouthern part of the lake, it receives the waters of lake George from the S.S.W., which is faid to be 100 feet higher than this lake. The waters in lake Chainplain generally rife from about the 20th of April to the 20th of June, from four to fix feet, the greatest variation being not more than eight feet. It is seldom shut up with ice, until the middle of January, and the ice generally goes off very rapidly between the 6th and 15th of

CHAMPLAIN, the most northerly township of Clintoncounty, in the state of New York, takes its name from the lake to which it is adjacent. It was granted to some Canadian and Nova Scotia refugees, who were either in the tario, and lies nearly east from it, forming part of the line that fervice of the United States during the war, or fled to them

for protection. The indigence or ill habits of these people occasioned the breaking up of the fettlement; and it is now occupied by a better class of inhabitants. The lands are fertile; and through it run two rivers, well flored with fish. It has 575 inhabitants, and three flaves. By the flate cenfus of 1706, 76 of the inhabitants are electors. CHAMPLEMY, a town of France, in the department

of Nievre, and diffrict of Clamecy; four leagues S.S.W. of

CHAMPLITTE, a town of France, in the department of the Upper Saone, and chief place of a canton in the diftrict of Gray; 12 miles N. of Gray. The place contains 2654, and the canton 9558 inhabitants: the territory includes 230 kiliometres and 20 communes.

CHAMPROND, a town of France, in the department of the Eure and Loire, and diffrict of Nogent-le-Rotrou;

15 miles W. of Chartres.

CHAMPROUENT, a town of Savoy; nine miles N.

of Chambery.

CHAMPS, a town of France, in the department of the Cantal, and chief place of a conton, in the diffrict of Mauriac; the canton contains 5219 inhabitants; the territury comprehends 130 killometres, and five communes. CHAMPTERCIER, a town of France, in the depart-

ment of the Lower Alps, and diffrict of Digne; three miles

W. of it.

CHAMPTOCE', a town of France, in the department of the Mayne and Loire, and chief place of a canton in the district of Angers; four leagues W.S.W. of Augers.

CHAMTOCEAUX, a town of France, in the department of the Mayne and Loire, and chief place of a canton in the district of Beaupreau; the place contains 1113, and the canton 8397 inhabitants; the territory includes 220 kiliometres and 8 communes.

CHAMPVANS, a town of France, in the department of the Jura, and chief place of a canton in the diffrict of

Dole; one léague S.W. of it.

CHAMPVANT, a town of France, in the department of the Upper Saône, and chief place of a canton in the diftrict of Gray; one league fouth of it.

CHAMTA, or TCHAMTA, a town of Asia, in the

country of Thibet; 107 miles E. of Laffa.

CHAMTOA, a town of Asia, in the country of Thibet; 75 miles N.N.W. of Cont-choudfong.

CHAMUNY, a town, mountain, and valley of Savoy,

in the lordship of Faucigny. See CHAMOUNY.

CHAMUSCA, a town of Portugal, in the province of

Estramadura; three leagues N.E. or Santaren.

CHAMUTI, a river of Naples, which runs into the fea, fix miles S.S.E. of Girace.—Also, a town of Naples, in the province of Calabria Ultra; five miles S.S.W. of Girace. CHANA, or CHANE, in Ancient Geography, a navigable

river of Afia, which discharged itself into the Cyrus, ac-

cording to Strabo.

CHANAC, in Geography, a town of France, in the department of the Lozére, and chief place of a canton in the diffrict of Marvejols, 21 leagues S.W. of Mende. The place contains 1900, and the canton 5024 inhabitants: the territory includes 1473 kiliometres and fix communes.

CHANAID, a small island of Scotland, near the S.W.

extremity of the island of Ila.

CHANAS, a town of France, in the department of the Here, and chief place of a canton in the district of Vienne; four miles S.S.W. of Vienne.

CHANCAILLO, a sea-port of South America, in the Pacific Ocean, on the coast of Peru; N.W. of Lima. S. lat. 12° 5'.

CHANCAY, a town of South America in Peru, and principal place of a jurifdiction belonging to that of Guaura, in the archbishopric of Lima; situate about 10 leagues S. of Lima, in S. lat. 11° 33' 47". The town confils of about 300 houses and Indian huts: is very populous, and among other inhabitants, can boast of many Spanish families, and fome of diftinguished rank. Besides a parish church, it has a convent of the order of St. Francis, and an hospital chiefly supported by the benevolence of the inhabitants. The corregidor usually resides at Chancay, and appoints a deputy for Guanra. The adjacent country is naturally very fertile, and every where well watered by canals, cut from the river Passamayo, which runs about a league and a half to the fouthward of the town. These parts are every where fown with maize, for the purpose of fattening hogs, in which article is carried on a very confiderable trade; the city of Lima being furnished from hence.

CHAN-CBAN, a town of Asia, in the kingdom of

Corea; 12 miles S.W. of Long-Konang.

CHANCE, a term we apply to events, to denote that they happen without any necessary foreknown or intending cause: or it is used to denote the bare possibility of an event, when nothing is known either to prevent or hinder it.

Our aim is, to ascribe those things to chance, which are not necessarily produced as the natural effects of any proper cause, which we can discover; but our ignorance and precipitancy lead us to attribute effects to chance, which have ne-

When we fav a thing happens by chance, we really mean no more, than that its cause is unknown to us: not, as some vainly imagine, that chance itself can be the cause of any thing. Although Ariflotle in his Ethics (I. iii. c. 3.), enumerating the active, efficient causes of events, mentions chance as one of them; these several causes, he says, are nature, necessity, and chance; and besides these, mind or intellect, and whatever operates by or through man. However, from the confideration that chance itself cannot be the cause of any thing, Dr. Bentley takes occasion to expose the folly of that old tenet, " the world was made by chance."

The case of the painter, mentioned by Plutarch, (Tees Tuxns) who, unable to express the foam at the mouth of a horse he had painted, threw his sponge in despair at the piece, and, by chance, did that which he could not before do by defign, is an eminent instance of the force of chance: yet, it is obvious, all we here mean by chance is, that the painter was not aware of the effect; or that he did not throw the fponge with fuch a view; fo that with respect to him it was fortuitous, because he did not design or foresee fuch an effect: not but that he actually did every thing neceffary to produce it; infomuch that, confidering the direction wherein he threw his fponge, together with its form, specific gravity, the colours wherewith it was smeared, and the distance of the hand from the piece, it was impossible, on the prefent fystem of things, that the effect should not

Chance, fays Dr. Bentley (fee Boyle's Lecture Sermons, vol. i. p. 44.), is but a mere name, and really nothing in itself; a conception of our own minds, and only a conpendicas way of speaking, by which we would express, that such effects as are commonly attributed to chance, were really produced by their true and proper causes, but without their deligning to produce them. And in any event called cafual, if you take away the real and physical causes, there remains nothing but a fimple negation of the agent's intending fuch an event; which negative being no real entity, but a conception only of man's intellect wholly extrinsical to the action, can have no title to a share in the production. The adequate meaning of chance, as this ingenious writer obferves, is a bare negation, fignifying no more than this, that any effect among inanimate bodies, aferibed to chance, is really produced by phytical agents, according to the effablished laws of motion, but without their confciousness of concurring to the production, and without their intention of such an effect. So that chance, in its true sense, is the same with nature, and both words are used promiscuously by some ancient writers (see Plato X. de Legibus) to express the same thing.

Chance is frequently perfonified, and erected into a chimerical being, whom we conceive as acting arbitrarily, and producing all the effects, whose real causes do not appear to us: in which sense the word coincides with the T_{NN} , and

Fortuna, of the ancients. See FORTUNE.

Chance is confounded with Fate and Defliny; and the word is also used for the manner of deciding things, the condust or direction of which is left at large, and not reducible to any determinate rules or measures; or where there is no ground for preference; as at cards, dice, lot-

terres, occ.

The ancient fors, or chance, M. Placette observes, was infitted by God hinsself; and in the Old Testament we find several standing laws, and express commands, which prescribed its use on certain occasions: hence the Scripture says, the lot, or chance, fell on St. Matthias; when it was in question who should fill Judas's place in the apostolate.

Hence also arose the fortes similarum, or method of determining things among the ancient Christians, by opening some of the facred books, and pitching on the first verse, they call their eye on, as a sure prognostic of what was to befall them. The fortes Homerice, Virgiliane, Pranesline, &c. used by the heathens, were with the same view, and in the same manner. See SORTES.

St. Augustine seems to approve of this method of determining things future, and owns that he had practifed it himfelf; grounded on this supposition, that God presides over

chance, and on Proverbs xvi. ver. 33.

Many among the modern divines hold chance to be conducted in a particular manner by Providence, and effecm it an extraordinary way which Ged uses to declare his will, and

a kind of immediate revelation.

CHANCES, dollrine of. This subject, no less useful than it is curious, does not appear to have engaged the attention of mathematicians in former times so much as its importance required. Until the beginning of the last, or, at least, the middle of the preceding century, little is to be found in any of their writings concerning it. Of the few problems which they had been accustomed to investigate, they withheld the folutions both from the public and from each other, and they feem to have confidered the doctrine of chances rather as an exercise for their ingenuity, than as capable of being applied to any useful purpose. Before Mr. Huygens published his book "De Ratiociniis in Ludo Alex," no perfon had treated the subject methodically, and, with the exception of Messrs. Pascall and Fermat, who had solved a few problems of no great importance or difficulty, he appears to have been the first who attempted either to give rules for the foliation of any question, or to lay down the principles from which those folutions might be deduced. To him. therefore, we are indebted for the first regular tract on this · fubject; although even bis work, from the comparatively few problems which it contains, and the want of demonstrations to some of them, can hardly be regarded as an elementary treatife. To this work succeeded a small anonymous tract "on the Laws of Chance," which was published in

London in 1692, and a French publication of not much larger size, entitled, " L'Analyse des Jeux de Hazard," which was written by M. Monmort, and published in the year 1708. In this latter work, the author having chiefly infilted on the same mode of reasoning with Mr. Huygens, in the folution of his problems, Mr. de Moivre, (who confidered fuch reasoning as neither genuine nor natural,) was induced, in his celebrated work on the Doctrine of Chances, (which was first published in 1717,) to adopt a plainer and less exceptionable mode, in which he has proceeded from the most simple to the most complicated cases; so that, by the variety of his problems as well as by the improvements and additions which he has made in two fubsequent editions, he has rendered his work one of the best and most copious that has ever been written on the fubject. In the year 1740, Mr. Thomas Simpson, in consequence, as he observes, of the high price of the preceding, and the imperfections of other books on the subject, was led to publish a small treatife on "the Nature and Laws of Chance," which, like his other publications, is not only clear and concife, but contains some problems, whose solutions had either never been attempted, or, at least, never before communicated to the public. Prior, however, to the two last-mentioned publications, a posthumous work of Mr. James Bernoulli was published in the year 1713, entitled, "De Arte Conjectandi," containing an explanation of Mr. Huygens's tract, and the folution of a great variety of other problems deduced from the general principles of combination. The fecond part of this valuable work has lately been translated into English by Mr. Baron Maseres, with copious notes and commentaries, and it is to be regretted that the other parts had not been given to the public in the fame manner.

In the first volume of his Mathematical Repository, published in the year 1748, Mr. Dodson has introduced the solution of feveral queltions in the doctrine of chances; but chiefly with the view of applying them to the doctrine of annuities and survivorships, which constitutes the principal part of his work. In the year 1765, and at other times, M. D'Alembert in his Opuscules, &c. wrote different essays; and about 15 years ago M. Condorcet published a small treatife on the same subject. But as these works are almost wholly confined to the investigation of events, whose probability or improbability can be afcertained by no computation, they ferve more to shew the ingenuity of the authors than to answer any useful purpose. In addition to these, which are the principal publications on this subject, may be noticed a small tract, "De Mensura Sortis," given by Mr. De Moivre, in his "Miscellanea Analytica," and some papers written by him, by Messrs. Bernoulli, Euler, and others, in the Acts of Leiptic, the Journal des Scavans, the Philosophical Transactions, &c. among which may be particularly mentioned an " Essay on the Method of calculating the exact probability of all Conclusions founded on Induction, and a "Supplement" to that effay :- the one preferved from the papers of the late Rev. Mr. Bayes, and communicated, with an appendix, by Dr. Price to the Royal Society in the year 1762; the other chiefly written by Dr. Price, and communicated in the following year. These tracts contain the investigation of a problem, the converse of which had formerly exercised the ingenuity of Mr. Bernoulli, De Moivre, and Simpson. Indeed, both the problem and its converse may justly be considered not only as the most difficult, but as the most important that can be proposed on the subject; having (as Dr. Price well observes) "no less an object in view than to shew what reason we have for believing that there are in the constitution of things fixed laws, according to which events happen; and that, there-

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fore, the frame of the world must be the effect of the wifdom and power of an intelligent cause; and thus to confirm the argument taken from final causes for the existence of the Deity." While the folution of these problems require and display the highest mathematical skill, their application proves how much those are mistaken who have infinuated that the "doctrine of chances is of trivial confequence and unworthy of any ferious inquiry." In truth, there is no part of the mathematics of more confequence, at least in this country, where the valuation of an immense property, and the future provision of many thousands entirely depend on a right knowledge of the subject. In addition to the tracts and papers already mentioned, it may be obferved, that the last communication of Dr. Waring to the Royal Society, in the year 1791, contains the folutions of two theorems on this subject; but as the chief defign of the present article is to explain the general principles on which all folutions in the doctrines of chances are founded, rather than to give a minute history of what has already been done, or an analysis of every particular case, it will be improper to proceed further with this account.

In order the more rightly to understand the subject it will be necessary to begin with the following defini-

tions.

DEFINITION I. The probability of an event is the ratio of the chance for its happening to all the chances for its happening or failing: thus, if out of fix chances for its happening or failing, there were only two chances for its happening, the probability in favour of such an event would be in the ratio of 2 to 6; that is, it would be a fourth proportional to 6, 2, and 1, or 1. For the same reason, as there are four chances for its failing, the probability that the event will not happen, will be in the ratio of 4 to 6, or, in other words, it will be a fourth proportional to 6, 4, and 1, or 3. Hence, if the fractions expressing the probabilities of an event's both happening or failing be added together, they will always be found equal to unity. For let a be the number of chances for the event's happening, and b the number of chances for

its failing, the probability in the first case being $\frac{a}{a+b}$, and in the second case $\frac{b}{a+b}$, their sum will be $=\frac{a+b}{a+b}=1$.

Having therefore determined the probability of any event's

either happening or failing, the probability of the contrary will always be obtained by fubtracting the fraction expressing

fuch probability from unity.

DEFINITION II. The expellation of an event is the present value of any fum or thing which depends either on the happening or on the failing of fuch event. Thus, if the receipt of one guinea were to depend on the throwing of any particular face on a die, the expediation of the person entitled to receive it would be worth 3s. 6d.; for fince there are fix faces on a die, and only one of them can be thrown to entitle the person to receive his money, the probability that such a face will be thrown being $\frac{1}{6}$ (according to Definition I.), it follows that the value of his interest before the trial is made, or which is the same thing, that his expedition is equal to one-fixth of a guinea, or 3s. 6d. Were his receiving the money to depend on his throwing either of two faces, his expediation would be equal to two-fixths of a guinea, or 7s. And, in general, supposing the present value of the money or thing to be received to be A, the probability of the event's happening to be denoted by a, and of its failing by

b, the expediation will be either expressed by $\frac{\Lambda a}{a+b}$, or by

 $\frac{\Lambda'}{a + b}$, according as it depends either on the event's happen-

ing, or on its failing.

Definition III. Several events are inconfilent, when, if one of them happens, none of the rest can: thus, if the fum S were to be received on throwing either an ace or a duce with a fingle die, it is evident that the expectation in this case would depend on either of two events which are inconfiftent with each other; for if one particular face is thrown it is impossible that the other should be turned up at the same time. And fince the value on the ace's being thrown is $\frac{8}{6}$, and its value on the duce's being thrown is also $\frac{8}{6}$, it follows that the whole expectation will be equal to S multiplied into the fum of the probabilities of the two events, or 1;

and this is univerfally true, whatever be the number of fuch DEFINITION IV. Two events are contrary, when one or other of them must, and both together cannot happen.

DEFINITION V. An event is faid to be determined, when

it has either happened or failed.

DEFINITION VI. Events are independent, when the happening of any one of them does neither increase nor lessen the probability of the rest. Thus, if a person undertook with a fingle die to throw an ace at two fuccessive trials, it is obvious (however his expectation may be affected) that the probability of his throwing an ace in the one is neither increased nor lessened by the result of the other trial.

THEOREM.

" The probability that two subsequent events will both happen, is equal to the product of the probabilities of the

happening of those events confidered feparately."

Suppose the chances for the happening and failing of the first event to be denoted by b, and those for its happening only to be denoted by a. Suppose, in like manner, the chances for the fecond event's happening and failing to be denoted by d, and those for its happening only by c; then will the probability of the happening of each of those events,

feparately confidered, be, according to Definition I. $\frac{a}{7}$ and

respectively. Since it is necessary that the first event should happen before any thing can be determined in regard to the second, it is evident that the expectation on the latter must be lessened in proportion to the improbability of the former. Were it certain that the first event would happen,

in other words, were a = b or $\frac{a}{b} = 1$, the expectation on

the second event would be $=\frac{c}{d}$. But if a is less than b, and the expectation on the second event is restrained to the contingency of its having happened the first time, that expecta-tion will be so much less than it was on the former suppo-

fition as $\frac{d}{b}$ is less than unity. Hence we have $1: \frac{d}{b} = \frac{c}{d}$

 $:\frac{dc}{dd}$ for the true expediation in this case.

Corollary. By the fame method of reasoning it will appear, that the probability of the happening of any number of subsequent events is equal to the "product of the probabilities of those events separately confidered," and therefore if a always denote the probability of its happening, and & the probability of its happening and failing, the fraction

 $\frac{d^n}{dn}$ will express the probability of its happening n times succeffively, and (by Definition I.) the fraction $\frac{\overline{b-a}^n}{b^n}$ will ex-

press the probability of its failing n times successively.

Remark. It should be observed that, in some instances, the probability of each subsequent event necessarily differs from that which preceded it, while in others it continues invariably the fame through any number of trials. In the one cafe the probabilities are expressed, as in the theorem, by fractions, whose numerators and denominators continually vary; in the other they are expressed, as in the corollary, by one and the fame invariable fraction. But this perhaps will be better underitood by the following examples.

1. Suppose, that out of a heap of counters, of which one part of them are white and the other red, a person were twice fuccessively to take out one of them, and that it were required to determine the probability that thefe should be red counters. If the number of the white be 6, and the number of the red be 4, it is evident, from what has already been shown, that the probability of taking out a red one the first time will be 10: but the probability of taking it out the 2d time will be different; for fince one counter has been taken out, there are now only nine remaining; and fince, in order to the 2d trial, it is necessary that the counter taken out should have been a red one, the number of those red ones must have been reduced to 3. Consequently, the chance of drawing out a red counter the 2d time will be 3, and the probability of drawing it out the 1st and 2d time will (by

this theorem) be $\frac{4 \times 3}{10 \times 9} = \frac{2}{15}$. 2. Suppose next, that with a fingle die, a person undertook to throw an ace twice successively: in this case the probability of throwing it the first, does not in the least alter his chance of throwing it the second time, as the number of faces on the die is the fame in both trials. The probability, therefore, in each will be expressed by the same fraction, so that the probability, before any trial is made, will, by the preceding corollary, be $\frac{1}{6} \times \frac{1}{6} = \frac{1}{36}$. On these conclusions depend all the computations, however complicated and laborious, in the doctrine of chances. But this perhaps will be more clearly exemplified in the following problems, which, containing the folution of some of the most difficult and important cases, will serve to explain the principles on which every other investigation is founded in this intricate and exhaustless subject.

PROBLEM I.

To determine the probability that an event happens a given number of times and no more, in a given number of trials.

Solution. 1. Let the probability be required of its happening only once in two trials, and let the ratio of its happening to that of its failing be as a to b. Then fince the event can take place only by its happening the first, and failing the fecond time, the probability of which is $\frac{a}{a+b} \times \frac{b}{a+b}$ $=\frac{ab}{a+b}$, or by its failing the first and happening the second

time, the probability of which is $\frac{b a}{a+\lambda l^2}$, the fum of these

two fractions, or $\frac{2ab}{a+b|^2}$ will be the probability required.

2. Let the probability be required of its happening only twice in three trials. In this case the event, if it happens,

must take place in either of three different ways. Ift. By its happening the first two, and failing the third time, the probability of which is $\frac{a \cdot a \cdot b}{a + b}$, 2dly. By its failing the first and happening the other two times, the probability of which is $\frac{b \ a \ a}{a+b|_3}$; or, 3 dly. By its happening the first and third, and

failing the fecond time, the probability of which is $\frac{aba}{a+ba}$.

The fum of these fractions, therefore, or $\frac{3 b a a}{a + b}$, will be the required probability. By the same method of reasoning, the probability of its happening only once in three trials; or, which is the same thing, of its failing twice in three trials,

may be found equal to $\frac{3bba}{a+b}$.

3. Let the probability of the event's happening only once in four trials be required. In this cafe it must either happen the first and fail in the three fucceeding trials-or happen the 2d and fail in the 1st, 3d, and 4th trials-or happen the 3d and fail in the 1tt, 2d, and 4th trials—or happen the and fail in the 1tt, 2d, and 4th trials—or happen the 4th and fail in the 1ft, 2d, and 3d trials. The probability of each of these being $\frac{ab^3}{a+b^4}$, the required probability will be

 $\frac{4 a b^3}{a + b^3}$; and for the same reason the probability of its happening three times and failing only once in four trials will

be $\frac{4b a^3}{(a+b)^3}$. 4. Let the probability be required of its happening twice and failing twice in four trials: here the event may be determined in either of fix different ways. Ift. By its hap-pening the Ift and 2d, and failing in the 3d and 4th trials—2dly, by its happening the 1ft and 3d and failing the 2d and 4th trials-3dly, by its happening the 1st and 4th and failing the 2d and 3d trials-4thly, by its happening the 2d and 3d and failing the 1st and 4th trials-5thly, by its happening the 2d and 4th and failing the 1st and 3d trials-or, 6thly, by its happening the 3d and 4th and failing the 1st and 2d trials. Each of these probabilities being expressed by $\frac{a^2b^2}{a+b^4}$, it follows that the sum of them, or

 $\frac{6a^2b^4}{a+b^4}$ will express the probability required.

By proceeding in the fame manner, the probability in any other case may be determined. But if the number of trials be very great, these operations will become exceedingly com-plicated, and therefore recourse must be had to a more general method of folution.

Supposing n to be the whole number of trials, and d the number of times in which the event is to take place, the probability of the event's happening d times successively,

and failing the remaining nd times, will be $\frac{a^d}{a+\ell} \times \frac{b^{n-d}}{a+\ell} = \frac{a^d \cdot b^{n-d}}{a+\ell}^n$. But as there is the fame probability of its happening any other daffigned trials and failing in the reft, it is evident that this probability ought to be repeated as often as d things can be combined in n things, which, by

the known rules of combination, are $=\frac{n}{1} \times \frac{n-1}{2} \times \frac{n-2}{3}$

be $\frac{a^d \cdot b^{n-d}}{(a+b)^n}$ multiplied into $n \times \frac{n-1}{2} \times \frac{n-2}{3} \times \frac{n-3}{4}$ con-

tinued to d terms.

Example. Supposing a person with fix dice undertakes to throw two aces and no more; or, which is the fame thing, that he undertakes with one die to throw an ace twice, and no more, in fix trials, it is required to determine the probability of his fucceeding, a being in this case = 1, b = 5, n=6, and d=2, the above expressions will become

 $\frac{5^4}{6^6}$, multiplied into $6 \times \frac{5}{2} = \frac{625 \times 15}{40056} = \frac{2}{10}$ very nearly. Hence, fince there are only two chances for his faceceding, while there are eight for his failing, the odds against him will be as four to one.

PROBLEM II.

To determine the probability that an event happens a given number of times in a given number of trials; supposing, as in the former problem, the probability of its happening each time to that of its failing to be in the ratio of a to b.

Solution. It will be observed that this problem materially differs from the preceding, in as much as the event in that problem was restrained so that it should happen neither more nor less often than a given number of times, while in this problem the event is determined equally favourable by its happening either as often or oftener than a given number of times, fo that in the present case there is no further restriction than that it should not fall foot of that number.

1. Let the probability be required of an event happening once at least in two trials .- If it happens the first, and fails the fecond time, or fails the first and happens the fecond time, or happens both times, the event will have equally fucceeded. The probability in the first case is $\frac{ab}{a+b}$, the pro-

bability in the fecond is $\frac{b a}{a + b!^2}$, and the probability in the

third is $\frac{a a}{a + b!}$; hence the probability required will be = 2ab + aa

2. Let the probability be required of its happening once in three times. Provided it has happened once at least in the first two trials, the event will have equally succeeded, whether it happens or fails in the third trial, and therefore $\frac{a^2 + 2ab}{a + b^{12}}$ will represent the probability in this case. But

it may have failed in the first two and happened in the third

trial, the probability of which is $\frac{b b a}{a + b^3}$; adding this to the preceding fraction, we have $\frac{a^3 + 3 a^2 b + 3 a b^2}{a + b^3}$ for the probability required. In like manner the probability of its hap-

pening once at least in four trials will be $\frac{a^2 + 3a}{a + b}$

 $+\frac{ab^3}{a+b^4} = \frac{a^4 + 6a^3b + 6a^3b^3 + 4ab^3}{a+b^4}$, and the probability of its happening once at least in n times will be = In other words, fince the event must happen

continued to d terms; the general rule therefore will once at leaft, unless it fails every time, the probability required (by Def. I.) will always be expressed by the difference between unity and

> 3. Let the probability be required of an event's happening twice at leaft in three trials. In this case it will succeed if it happens the 1st and 2d, and fails the 3d time, if it happens the 1st and 3d and fails the 2d time, if it happens the 2d and 3d and fails the first time, or if it happens each time functifiedly. The 1st three probabilities are $\frac{3a^2b}{a+b}$ and

> the 4th is $\frac{a^3}{a+b^3}$; therefore the probability required will

in four times, the probability of its happening during the to have happened only once in these times, the probability of which, by the preceding problem, is $\frac{3abb}{a+b}$; then will the probability of its happening the 4th, after having happened

probability of its happening the 4th, error bonce in the three preceding, be $\frac{3 a^3 b^3}{a+b!}$, and therefore the whole probability will be $\frac{a^3+3 a^3 b}{a+b!}+\frac{3 a^3 b^3}{a+b!}$

a + h . - . By proceeding in the fame manner,

it may be found that the probability of an event's happening twice at least in five trials, will be $=\frac{a^4+4}{a^3}\frac{a^3}{b}+\frac{6}{5}\frac{a^4}{a^4}$

twice at least in five trials, will be
$$=\frac{a+b!}{a+b!}$$
 $+\frac{a}{a+b} \times \frac{4ab!}{a+b!} = \frac{a^5+5a^4b+10c^3k!+10c^3b!}{a+l!}$.

And if the probability of the event's happening thrice in 4.

5, 6, &c. trials be required, they may, by purfuing the same steps, be found $= \frac{a^3 + 4a^3b}{a + b^4}, \frac{a^5 + 5a^4b + 10a^4b^4}{a + b^5},$ $\frac{a^6 + 6a^5b + 15a^4b^2 + 20a^3b^3}{a + b^5}, &ca^3 \text{ respectively.} \text{ Hence}$

it follows, that if the binomial a+b be raifed to the nth power, the probability of an event's happening at least d times in n trials $a^{n} + n a^{n-1} b + n \cdot \frac{n-1}{2} \cdot a^{n-2} b^{2} (n+1-d)$

that is, the feries in the numerator must be continued till the

index of a becomes equal to d.

Corollary. From this folution it appears that the feries $b^n + n b^{n-x} a + n \cdot \frac{n-1}{2} b^{n-2} a^n \text{ to } d \text{ terms}$, will express the a + b

probability of the event's not happening fo often as d times in n trials.

Example. Supposing a person with fix dice undertakes to throw two aces or more in the 1st trial, what is the probability of his succeeding? In this case a, b, n, and d being respectively equal to 1, 5, 6, and 2, the above expression will become = $\frac{1+30+15\times25+20\times125+15\times625}{6^5}$

 $= \frac{12,281}{46050}.$ Hence the odds against his succeeding will be as 46056 34375 to 12,281, or very nearly as 2 . 4 to one. Present

PROBLEM: III.

To determine the number of trials in which it shall become an equal chance, that an event happens d times; supposing ftill the ratio of the event's happening to that of its failing

in any fingle trial to be as a to b.

Solution. Let n be the number fought: then fince it appears, from the preceding corollary, that the probability of the event's not happening d times in n trials is equal to the event's not happen...(d) $b^n + n b^{n-1} a + n \cdot \frac{n-1}{2} b^{n-2} a^2 \dots (d)$ and fince this expression, a+l

from the nature of the problem, must be $=\frac{1}{2}$, it follows that the feries $1 + \frac{na}{b} + \frac{n \cdot n - 1 \cdot aa}{2 \cdot bb} + \dots (d)$ will be =, and therefore in order to obtain a folution of this problem, it will be necessary to find the unknown quantity

If a is = b, or, in other words, if the chances of the event's happening or failing are equal, the feries will become fimply

$$= 1 + n + n \cdot \overline{n - 1 + n \cdot n - 1 \cdot n - 2 \cdot \dots}(d) = \frac{1 + 1}{2}.$$

But the first half of the terms of the binomial 1 + 1 are equal to the rest of the terms, or half the whole power, and the whole number of terms, in any binomial, raifed to the nth power, is = n + 1. Hence it follows, that the exponent, n, in this case will always be = 2d - 1; so that supposing a counter to have a black and a white face, and that it were required to determine the number of throws which would be necessary to make it an equal chance, that either face should be turned up. 3, 4, 5, &c. times, the number thus required will be 5, 7, 9, &c.

If, on the contrary, instead of being equal, the ratio of b to a is indefinitely great, or, which is the same thing, if the fraction a is indefinitely finall; let this fraction be made

=
$$p$$
, then we have $1 + \frac{np}{1} + \frac{n^q \cdot p^2}{2} + \frac{n^1 \cdot p^3}{2 \cdot 3} \dots (d) = \frac{1 + p}{2}$.

ift. Let d be = 1, then will the above equation become $n \times \log 1 + p = \log 2$; that is, (fince $p - \frac{pp}{p} + \frac{p^2}{2}$ - &c. is equal the hyp. log. of $\overline{1+p}$ $n \times p - \frac{pp}{2} + \frac{p^2}{2}$ - &c. = hyp. log. of 2, and confequently, in as much as ρ is indefinitely finall, $n\rho = ... C9314$ &c. or $\frac{1}{10}$ very nearly.

2dly. Let d be = 2, and the equation in this case will be

 $1 + np = \frac{\overline{1 + p}^n}{1 + np}$, or (making $np = \overline{d + n}$ and $a = \overline{d + 1}$) hyp. log. of z + hyp. log. of $a + x = \pi f$. But the fluxion of the hyp. log. of a + x is $\frac{\dot{x}}{a} - \frac{x \dot{x}}{a a} + \frac{x^2 \dot{x}}{a^3} - \&c$. whole fluent corrected is = the hyp. log. of $a + \frac{x}{a} - \frac{x^2}{2a^2}$

$$\frac{1}{4} \frac{x^3}{3 a^3} = \&c.$$

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Let s be made = the hyp. log. of 2 + hyp. log. of a, then will d + x be $= s + \frac{x}{a} - \frac{x^2}{2a^2} + &c. and <math>x + \frac{x^2}{2a \cdot a - 1}$

 $\frac{x^3}{3a^2 \cdot a - 1} + &c. = \frac{a \cdot s - d}{a - 1} = \frac{a \cdot s - d}{d}$. But this

feries converges fo extremely fast, that it will be necessary to take only the first term of it, and consequently κ will be $=\frac{a \cdot s - d}{l}$, or -31237. Hence d + x (= np) will be = 2 - .31237 = 1.68763 nearly.

3dly. If d be = 3, or $\frac{1+p}{2}$ = $1 + \frac{rp}{1} + \frac{n^2 \cdot p^2}{2}$, let $\overline{d+s}$ as in the former case be $\equiv np$ and $a=d+\tau$; let m also be = $1 + d + \frac{dd}{d}$, then will $n_{2} = \text{hyp. log. of}$

 $2 + \text{hyp. log. of } m + ax + \frac{xx}{a} = \text{hyp. log. of } 2 + \frac{x}{a}$ Flu. $\frac{a\dot{x} + s\dot{x}}{m + as + \frac{s^2}{m}} = \text{hyp.leg. of } 2m + \frac{as}{m} + \frac{m - aa.s^2}{2m^2}$

 $+\frac{2aa-2m-ma}{6m^3} \cdot x^3 + &c.$ or (making s = hyp. log.

 $2 m) x + \frac{a a - m \cdot x^{2}}{2 \cdot m \cdot m - a} + \frac{2 m + m a - 2 a a \cdot x^{3}}{6 m^{2} \cdot m - a} + &c.$ $= \frac{m \cdot s - d}{m - a} = \frac{2 m \cdot s - d}{d d}, \text{ or, (neglecting all the terms in }$

this feries except the first) $x = \frac{2m \cdot s - d}{ds} = . - .3168$. Hence we have np = 3 - .3168 = 2.6843. By pro-

ceeding in the same manner when d is = 4, the value of " may be found $=\frac{1\cdot 2\cdot 3\cdot m\cdot s-d}{d^3}$ (m being in this case = $1 + d + \frac{dd}{2} + \frac{d^{3}}{6}$). And universally if m be

made = $1 + d + \frac{d^{2}}{2} + \frac{d^{3}}{2 \cdot 3} + &c.$ (d) and $s = \frac{1}{2}$

the hyp. log. of 2m; the value of x will always be = $\frac{1 \cdot 2 \cdot 3 \cdot 4 \cdot \dots \cdot d - \dots \cdot m \cdot s - d}{d^{d+1}}$, which, in every case, may be found very nearly equal to $-\frac{3}{10}$; fo that when the ratio

of b to a is indefinitely great n will always be very nearly = $\frac{l}{d-3} \times \frac{l}{2}$; and since it is = 2d-1 when l and a are equal, it follows that the true value in all intermediate cafes must be between these limits, or nearly $=\frac{b}{-} \times \overline{d-.3}$

 $\overline{d-.7}$. If d, however, be a great, and $\frac{a}{4}$ a fmall number, the value will be expressed with sufficient accuracy by the fraction $\frac{b d}{a}$

Example 1. In how many throws with four dice may it be undertaken to turn up the four aces.

Anf. The number of chances for the event's failing in any

fingle trial being $6^t - 1 = 1295$, while there is only one the probability that there shall be precisely p of white, chance for its happening, $\frac{b}{a}$ will be $=\frac{1295}{1}$, and the number required will be = $1295 \times 1 - .3 + 1 - .3 =$

Example 2. In how many throws with four dice may it

be undertaken to turn up 15 points twice?

Ans. The number of chances for throwing 15 points with 4 dice being 140 (fee Prob. VII.), and the number of chances for miffing being 64 - 140 = 1156, will be equal to $\frac{1156}{147}$, and therefore the number required will be =

 $\frac{1156}{140} \times \frac{2}{2} - \cdot 3 + 2 - \cdot 3 = 15$ nearly.

Example 3. Supposing a lottery, like that for the present year (1806), confisting of 25,000 tickets, of which 20 are to be prizes of 10col. and upwards; how many tickets must be bought in order to make it an equal chance that the

be bought in order to make it an equal chance that the purchaser has one of those prizes?

Anf. In this case
$$\frac{b}{a}$$
 is $=\frac{24.980}{20}$, and, therefore, the number required will be $=1249 \times 1 - .3 + 1 - .7 =$

875 nearly.

It may be observed, that in this lottery the whole number of prizes of every description being 5210, it may be found by the preceding rule that it will be necessary to buy about 3 tickets, in order to make it an equal chance that the purchaser has a prize.

PROBLEM IV.

Suppose a given number (n) of counters of the fame shape and fize, but marked with different colours, (of which a are white, b are red, c are blue, &c.) to be mixed promiscuously, and that a given number (m) of them were to be taken out at random; it is required to determine the probability that there shall be precisely p white, q red, r blue, &c. Solution. By the well known rules of combination, the

number of ways in which a things may be combined, fo that there shall be p things in each parcel, is = $a \cdot a - 1 \cdot a \cdot 2 \cdot a - 3 \cdot ...(p)$; the number of ways in which $a \cdot a \cdot 3 \cdot 4 \cdot &c.(p)$; the number of ways in which things may be combined, fo that there shall be q things in each parcel, is $=\frac{b \cdot \overline{b-1} \cdot \overline{b-2} \dots (q)}{1 \cdot 2 \cdot 3}$; the number of ways in which c things may be combined, fo that there shall be r things in each parcel is $=\frac{c \cdot c - 1 \cdot c - 2 \dots (r)}{1 \cdot 2 \cdot 3 & c \cdot (r)}$, and fo on. The number of ways, therefore, in which, a, b, c, &c. things may be combined, so that there shall be p of the 1st, Fof the 2d, r of the 3d, &c. will be $=\frac{a \cdot a - 1 \cdot a - 2 \cdot ...(p)}{1 \cdot 2 \cdot 3 \cdot 3 \cdot c. (p)}$

 $\times \frac{b.\overline{b-1}.\overline{b-2}...(q)}{1.2.3 \,\&c.(q)} \times \frac{c.\overline{c-1}.\overline{c-2}...(r)}{1.2.3 \,\&c.(r)} \times \&c. \text{ But}$ the number of ways in which n things may be combined, fo that there shall be m things in each parcel, without any restriction as to their being composed of any particular fort,

is = $\frac{n \cdot n - 1 \cdot n \cdot 2 \dots (n)}{1 \cdot 2 \cdot 3 \cdot 8 \cdot (n)}$. It follows, therefore, that in taking out m (or p + q + r + &c.) counters,

$$\frac{q \cdot \overline{q - 1 \cdot 3 - 2 \cdot \&c.}}{1 \cdot 2 \cdot 3 \cdot \&c.}(p) \times \frac{b \cdot \overline{l - 1 \cdot l - 1 \cdot \&c.}}{1 \cdot 2 \cdot 3 \cdot \&c.}(q) \times \frac{n - 1}{2} \times \frac{n - 2}{3} \times \frac{n - 3}{4} \times \frac{n - 3}{4}$$

$$\frac{c \cdot c - 1 \cdot c - 2 \cdot \&c}{1 \cdot 2 \cdot 3 \cdot \&c} (r) \&c.$$

$$\frac{n - +}{4} \&c. (m).$$

Example. Supposing that out of a heap of 30 cards, consisting of 12 diamonds, to spades, and 8 clubs, 3 be taken out; it is required to determine the probability that there shall be one of each fort. Because n, the number of

things, is = 30; m, the number of things taken out,
= 3;
$$a = 12$$
, $b = 10$, $c = 8$, and p , q , and r each = 1, the above expression will be = $\frac{12 \times 10 \times 8}{30 \times \frac{2}{3} \times \frac{2}{3}} = \frac{48}{20}$.

Hence, the odds are as 155 to 48, or rather more than three to one against the contingency above-mentioned. If nine were taken out, of which four were to be diamonds, three fpades, and two clubs, the odds against their being taken in that order would be very nearly 22,250 to one.

Corollary. If only counters of one colour are to be taken out, the fraction will be fimply = $\frac{a \cdot a - 1 \cdot a - a \cdot a - 3 \cdot (m)}{n - 1 \cdot n - 2 \cdot n - 3 \cdot (m)}$

If counters of two colours, m will become = p + q, and the fraction expressing the probability will be =

and the fraction expressing the probability will be
$$\frac{a}{2} = \frac{a-1}{2} = \frac{a-2}{3} = \frac{b}{2} = \frac{b}{2}$$

p or q, and confequently a and b are very large numbers, the great multitude of terms involved in the operation will render it almost impracticable, and therefore it becomes necesfary to have recourse to some method of reducing the la-

Since the denominator
$$\frac{n. n-1. n-2}{1.2 \cdot 2. \cdot 8 \cdot 6 \cdot 2}$$
 &c. (m) is = $\frac{n. n-1. n-2}{m. m-1. m-2. \cdot 8 \cdot 6.}$ (e) $\frac{n. n-1. n-2. \cdot 8 \cdot 6.}{m. m-1. m-2. \cdot 8 \cdot 6.}$ $\frac{n-a-n-a-1.}{m. m-1. m-2. \cdot 8 \cdot 6.}$ $\frac{n-a-n-a-1.}{m. m-1. m-2. \cdot 8 \cdot 6.}$ $\frac{n-a-1. n-2. \cdot 8 \cdot 6.}{m. m-1. m-2. \cdot 8 \cdot 6.}$ (p) $\times \frac{b. b-1. b-2. \cdot 8 \cdot 6.}{1.2.3. \cdot 4. \cdot 8 \cdot 6.}$ (g) $\frac{a. a-1. a-2.}{1.2.3. \cdot 8 \cdot 6.}$ &c. (p) $\times \frac{b. b-1. b-2. \cdot 8 \cdot 6.}{1.2.3. \cdot 8 \cdot 6.}$ (m) $\frac{n. n-1. n-2. n-3. \cdot 8 \cdot 6.}{1.2.3. \cdot 8 \cdot 6.}$ (m) will be = $\frac{a. a-1. a-2. \cdot 8 \cdot 6.}{2.3. \cdot 8 \cdot 6.}$ $\frac{n. n-1. n-2. \cdot 8 \cdot 6.}{2.3. \cdot 8 \cdot 6.}$ (a)

$$\begin{array}{c} n\cdot n-1\cdot n-1\cdot x \in \mathcal{A} \\ \&c.\ (q)\times m\cdot m-1\cdot m-2 &c.\ (p) \\ \hline \times b\cdot \overline{b-1}\cdot \overline{b-2} &c.\ (m-a) \end{array}$$
 But the last factor

of $b \cdot b - 1 \cdot b - 2 & \text{c.} (m-a)$ is b-m+a+1, therefore the first and following terms of the fraction $b \cdot \overline{b-1} \cdot \overline{b-2} & \text{c.} (q)$ will be a+b-m, a+b-b-1, &c. or (making a+b-m=v) = $v \cdot v-1$. v-2 & c.; hence the required probability will be = $a \cdot a - 1 \cdot a - 2 \cdot \text{c.}$ (p) $\times v \cdot \overline{v-1} \cdot \overline{v-2} \cdot \text{c.} (a+q-m)$

 \times m . m-1 . m-2 . &c. (p) If counters of three colours are taken out, the fraction expressing the probability that there shall be p of a fort, q of b fort, and r of c fort,

will, by purfuing the fame fteps, (and making d = a + b $\frac{a \cdot a - 1 \cdot a - 2}{1 \cdot 2 \cdot 3} (p) \times \frac{b \cdot b - 1}{1 \cdot 2}$ + c - m) be reduced to

$$\frac{. \ b-2}{3}(q) \times d \cdot \overline{d-1} \cdot \overline{d-2} (a+b+r-m) \times m \cdot \overline{n-3 \cdot n-4} \cdot \overline{m-1 \cdot m-2} (p+q)$$
 which will also greatly leften the

which will also greatly lessen the labour, provided a, b, p, and q are not very large, and that r be always put to denote the highest number.—In short, if

r be always put to denote the highest number.—In short, if only one set of counters or things be very numerous, and the others inconsiderable, an expression will always be obtained by proceeding in this manner which shall give the probability required with very little trouble.

Example. Supposing a lottery like that of the present year (1806) to consist of 25000 tickets, of which three are to be prizes of 20,000l. each, and three of 10,000l. each; and that a person had purchased 3000 of those tickets.— What is the probability of his having among them one prize of 20,000l, and one prize of 10,000l? In this case n is equal to 25,000l, a = 3, b = 3, p = 1, q = 1, m = 3000, r = 2998, and d = 22,000; hence the above expression becomes $\frac{3 \times 3 \times 22000 \times 21,999 \times 21,998 \times 21,997 \times 24,996 \times 21,999 \times 24,999 \times 24,999 \times 24,997 \times 24,996 \times 24,997 \times 24,996 \times 21,999 \times 24,999 \times 24,$

 $\frac{3000 \times 2999}{24,995} = .0777$. The odds therefore against his hav-

ing those two prizes will be as 9,223 to 777, or nearly as 12.

PROBLEM V.

Suppose a given number (n) of counters marked a, b, c, d, e, &c. to be mixed promiseuously and taken out at random; to determine the probability that none of them shall

come out in the order of the alphabet.

Solution 1. Let it be required to determine the probability that neither of the two counters marked a and b shall come out in the right order. The probability that any of the counters is taken out at any particular trial is compounded of the probability of its having previously failed, and of the probability of its being taken out at that particular trial. Now since the chance of b's being taken out the first is

 $\frac{1}{n}$, and the chance of its being taken out the fecond (when

there are only n-1 counters remaining) is $\frac{1}{n-1}$; the pro-

bability that it is taken out the fecond, after having failed the first trial, will be $= \mathbf{i} - \frac{1}{n} \times \frac{\mathbf{i}}{n-1} = \frac{1}{n}$; the probability of its being taken out the third, after having failed the first two trials, will in like manner be $= \mathbf{i} - \frac{1}{n} \times \frac{\mathbf{i}}{n-1} \times \frac{\mathbf{i}}{n-2} = \frac{\mathbf{i}}{n}$; and universally the probability of its being taken out at any other trial, after having failed

 $1 - \frac{1}{n-1} \times \frac{c}{n-2} = \frac{1}{n}$; and univerfally the probability of its being taken out at any other trial, after having failed in the preceding ones, will be $= \frac{1}{n}$. The probability therefore, that it will not be taken out at any particular trial will be $1 - \frac{1}{n}$; hence the probability that b is not taken out

the fecond will be $1 - \frac{1}{n}$. And fince the only cafe in which the condition of the problem can be defeated, when δ is not the fecond taken out, is by a's having been taken out the first; if this probability or $\frac{1}{n} \times 1 - \frac{1}{n}$ be subtract-

ed from $1 - \frac{1}{n}$ (or from the probability of *B's not* being taken out the fectord without any reftriction as to a) the remainder or $1 - \frac{2}{n} + \frac{1}{n \cdot n - 1}$ will be the probability that

b is not taken out the fecond, and that a is taken out at any other trial than the first: that is, the fraction $1-\frac{2}{n}+\frac{1}{n+n-1}$ will express he probability that neither of the

counters marked a and b will be taken out in their right order.

2. Let it be required to determine the probability that neither of the three counters marked a, b, and c, shall come out in their right order.—By reasoning as above, and supposing the first trial to have been made, the probability that the counters marked b and c shall not come out the second and

third will be $= 1 - \frac{2}{n-1} + \frac{1}{n-1 \cdot n - 2}$. The pro-

bability therefore that a is the first taken out (or $\frac{1}{n}$) being multiplied into this expression will give $\frac{1}{n} - \frac{2}{n} + \frac{2}{n}$

t for the probability of the only event (when b and c have not been taken out in their right order) which can defeat the condition of the problem. This being fubtracted from $1 - \frac{2}{n} + \frac{1}{n \cdot n - 1}$ (or the probability

that b and c have not been taken out fecond and third without any refriction as to a) will give $x - \frac{3}{n} + \frac{3}{n \cdot (n-1)}$

 $\frac{1}{n \cdot n - 1 \cdot n - 2}$ for the probability that neither of the

three counters shall be taken out in their proper order.

III. In the fame manner if $\frac{1}{n} - \frac{3}{n \cdot n - 1} + \frac{3}{n \cdot n - 1 \cdot n - 2}$ $\frac{1}{n \cdot n - 1 \cdot n - 2 \cdot n - 3}$ be fubtracted from $1 - \frac{3}{n} + \frac{3}{n \cdot n - 1 \cdot n - 2}$

3 K 2 7 7 7 7

 $\frac{3}{n \cdot n - 1}$ $\frac{1}{n \cdot n - 1 \cdot n - 2}$ we shall have $1 - \frac{4}{n} + \frac{4}{n}$ for the probability that neither of the four counters marked a, b, c. d, shall be taken out in their right order. Hence it is manifelt, if the number of counters to be taken out be m, and A, B, C, D, &c. be the feveral co-efficients of the binomial whose exponent is m, that the probability that neither mial whose exponent is m, that the point right order will of the counters come out in their right order will be expressed by $1 - \frac{A}{n} + \frac{B}{n, n-1} = \frac{C}{n \cdot n - 1 \cdot n - 2} + \frac{C}{n \cdot n - 1 \cdot n - 2}$ $n \cdot n - 1 \cdot n - 2 \cdot n - 3$, &c. (m + 1). Corollary 1. If out of a given number of counters taken out, it were required to determine the probability that the first & of them should be in their right order, and the remaining m ones in the contrary, it will follow, fince the fraction expressing the first of these contingencies is and the fraction expressing the # · h = 1 · h = 2 · h = 3 · · · · · fecond or the contingency that none of the m counters finall come out in their proper order) is $1 - \frac{\Lambda}{n-k} + \frac{\Lambda}{n-k}$ $\frac{B}{\kappa - \lambda \cdot \kappa - \kappa - 1}$, &c. that the required probability in this case will be $= \frac{1}{n \cdot n - 1 \cdot n - 2 \cdot \dots \cdot (k)}$ multiplied into $1 - \frac{A}{n - k} + \frac{B}{n - k \cdot n - k - 1} \cdot \frac{2!}{n - k \cdot n - k - 1 \cdot n - k - 2}$

+ &c. (m + 1). Corollary 2. If it be proposed to take out the whole of the n counters, or, in other words, if n-k be = m, then will the probability that the first & counters come out in their proper order, and all the remaining ones in the contrary be

expressed by $\frac{1}{n \cdot (n-1)(n-2)(n-3)}$ multiplied into 1-1

 $+\frac{1}{2}-\frac{1}{2\cdot 3}+\frac{1}{2\cdot 3\cdot 4}-$, &c. (m+1). If m+1 be a large number, this last feries may be considered as infinite; and fince, thus continued, it is known to be the number whose hyp. log. is - 1, the reciprocal of which is the number whose hyp. log. is + 1. Deducting 1 therefore from 2.3025851 (or the hyp. log. of 10) the remainder 1.3025851 will be the hyp. log. of the number 367878. Hence the above probability in this case will be nearly =

$$\frac{.367878}{n \cdot n - 1 \cdot n - 2 \cdot n - 3} (k)$$

Corollary 3. Supposing n-k to be still = m, and it were required to determine the probability of taking k things in their proper order, without any reflriction as to the rest, it is evident that the above expression ought to be repeated as many times as & things can be taken in n things, or

 $n \cdot \frac{n-1}{2} \cdot \frac{n-2}{3}$ (k) times, and consequently that the probability required will be very nearly = $\frac{.367878 \text{ &c.}}{1 \cdot 2 \cdot 3 \cdot 4 \cdot (k)}$ Hence, if .367878 &c. be put = , and k be expounded by 0, 1 2 3 &c. we shall have π , π , $\frac{\pi}{2}$, $\frac{\pi}{2 \cdot 3}$, &c. for the several

probabilities of taking out o. 1, 2, 3, &c. counters in their proper order; and 1 - 7, 1 - 27, 1 - 27 + 7, &c. for

the feveral probabilities that 0, 1, 2, 3, &c. or a greater num-

Corollary 4. If instead of one there be p counters marked with each of the letters a, b, c, d, &c. and it were required to determine the probability that k forts shall come out in the order of the alphabet, and m forts in the contrary order. the folution in this case will be easily obtained from that of the preceding problem. For fince the permutations are = $p \cdot p - 1 \cdot p - 2$, &c. it follows that the probabilities of all the a's being taken out first will be $\frac{1 \cdot 2 \cdot 1 \cdot 1 \cdot 1}{n \cdot n - 1 \cdot n - 2 \cdot (p)}$

or (making 1.2.3 (p) = b) =
$$\frac{n \cdot n - 1 \cdot n - 2 \cdot (p)}{n \cdot n - 1 \cdot n - 2 \cdot (p)}$$

Hence the probability that all the counters of any particular class thall not be taken in succession will be = I and by purfuing the fame steps

 $n \cdot n - 1 \cdot n - 2$ (P) as in the folution of the preceding problem, the probability that the a's do not come out first nor the b's next

bility that the a's do not come out first nor the b's next will be
$$= 1 - \frac{2b}{n \cdot n - 1} \frac{b}{(p)} + \frac{b}{n \cdot n - 1 \cdot n - 2} \frac{b}{(p)} \times \frac{b}{n \cdot n - 1 \cdot n - 2} = 1 - \frac{2b}{n \cdot n - 1 \cdot n - 2} \frac{b}{(p)} \times \frac{b}{n \cdot n - 1 \cdot n - 2} \frac{b}{(2p)}$$
 and the probability that neither the a's b's; c's; d's, nor any other class will come out in

 $n \cdot n - 1 \cdot n - 2 \cdot (2p^2)$ the a's, b's, c's, d's, nor any other class wil come out in their proper order (putting A, B, C, &c. for the quantities in Corollary I. of this problem), will be $= 1 - 1 \cdot n - 2 \cdot (2p^2)$

$$n \cdot n - 1 \cdot n - 2$$
 (p) $n \cdot n - 1 \cdot n - 2$ (2p)

titles in Corollary 1. of this problem), will be = $1 - \frac{A h}{A h}$... $-1 \cdot n - 2$ (p) $\frac{1}{n \cdot n - 1 \cdot n - 2}$ (2p) $\frac{C h^3}{n \cdot n - 1 \cdot n - 2}$ (2p) $\frac{b^3}{n \cdot n - 1 \cdot n - 2}$ (2p) is the probability that k forts shall be taken out in their right order; if this be multiplied into the foregoing series, &c.

(as in Corollary I.) we shall have
$$\frac{n \cdot n - 1 \cdot n - 2}{A \cdot h}$$

(as in Corollary I.) we finall have
$$\frac{h^k}{n \cdot n - 1 \cdot n - 2 \cdot (kp)}$$
into
$$1 - \frac{A \cdot b}{n \cdot b \cdot b \cdot b \cdot b} + \frac{h^k}{C \cdot b^k} + \frac{h^k}{C \cdot b^k}$$

n-kp, n-kp-1 (kp+2p) $n-kp\cdot n-kp-1$ (kp+2p)+, &c. (m+1) for the probability that k forts of counters are taken out in their proper order, and m forts in the contrary order.

PROBLEM VI.

Supposing a folid with n regular faces to be thrown in continued succession by A, B, and C, and that the sum S be paid to the person who shall first throw any assigned face; to determine the value of the feveral expectations, or the probability of their obtaining this fum.

Solution. By the condition of the problem, A is to have the 1st, 4th, 7th, &c. throws; B the 2d, 5th, 8th, &c.; and C the 3d, 6th, 9th, &c. The probability of A's

throwing it the 1st time is $\frac{1}{n}$; the probability of his throw-

ing it the 4th time depending on the contingency of his having miffed it the first, and of B's and C's having miffed it the

2d and 3d times, may be found by reasoning as in the solution of the preceding problem, $=\frac{n-1}{n}$ $\times \frac{1}{n}$; the probability of throwing it the 7th time, depending on the contingency of his having missed it the 1st and 4th, of B's having missed it the 2d and 5th, and of C's having missed it the 3d and 6th times, may be found $=\frac{n-1}{n}$ $\times \frac{1}{n}$, and so on. In like manner the probability of B's throwing it the 2d, 5th, &c. times, will be $=\frac{n-1}{n}$, $\frac{n-1}{n}$, &c. and the probability of C's throwing it the 3d, 6th, &c. times will be $=\frac{n-1}{n}$, $\frac{n-1}{n}$, &c. Hence the whole expectation of A

will be
$$\frac{S}{n} \times 1 + \frac{n-1}{n}^3 + \frac{n-1}{n}^6 + \frac{n-1}{n}^7 + , &c. = \frac{S \cdot nn}{n^3 - n - 1^3}$$
, the whole expectation of $B = \frac{S}{n} \times \frac{n-1}{n} + \frac{n-1}{n}^5 + \frac{n-1}{n}^7 + , &c. = \frac{S \cdot n \cdot n - 1}{\frac{n^3 - n - 1}{n}^3}$

and the whole expectation of $C = \frac{S}{n} \times \frac{n-1}{n}^2 + \frac{n-1}{n}$ $+ \frac{S}{n} + \frac{S}{n} + \frac{S}{n} - \frac{S}{n} + \frac{n-1}{n}$

Corollary 1. If the folid be a cube, the odds in favour of A against B will be as 36 to 30, and the odds in his favour against C will be as 36 to 25. And supposing the fam S to be 10l. the values of their respective expectations will be 31. 138. 31. 68., and 21. 158.

Corollary 2. If, instead of a cube, the solid be a counter with two taces, n in this case will be = 2, and the odds in favour of A against B will be as 2 to 1, and the odds in his favour against C will be as 4 to 1; that is, their respective expectations in the sum S (supposing it to be tol.) will be 1. 145., 21. 175., and 11. 95. nearly. If, on the contrary, the solid have a great number of faces, the chances will be nearly equal. Hence the advantage of having the priority in the throws will be greater or less in proportion as the saces are sew or many in number.

Corollary 3. If infleed of three there he d persons to throw the solid successively, the expectation of the 1st will be

Throw the folial interestively, the expectation of the 1st will be
$$\frac{S \cdot n^{d-1}}{n^d - n - 1}; \text{ of the 2d} = \frac{S \cdot n^{d-2} \cdot n - 1}{n^d - n - 1}; \text{ of the 3d} = \frac{S n^{d-3} \cdot n - 1}{n^d - n - 1}; \text{ of the 4th} = \frac{S \cdot n^{d-4} \cdot n - 1}{n - n - 1}; \text{ of the}$$

 $\overline{d-1th} = \frac{S \cdot n \cdot n - 11^{d-2}}{h - n - 1^{d}}, \text{ and of the } dth = \frac{S \cdot n - 1^{d-1}}{h - n - 1^{d}}.$

PROBLEM VII.

To determine the chances of throwing any given number (p) of points with any number (m) of folids, having a given number (n) of regular faces.

Solution r. Let the chances be required of throwing on two common dice any given number from 12 to 2. In order to throw 12, the two fixes must turn up together, and therefore there can only be one chance for this number. In order to throw II, the fixes and fives may be changed alternately, and therefore there will be two chances for this number. The next number may be thrown by the two fives, or by a fix and four, and as these last may be alternately turned up, it follows that there are three chances for succeeding in this cafe. In the fame manner nine points may be thrown by the turning up of the four and five, or of the fix and three; and fince each of these admit of being alternately changed, the chances for throwing this number will be four. Again, eight points may be thrown by the two fours, the three and five, or the two and fix coming up; and fince the two last pairs admit of being changed alternately, the number of chances in this case will be five. For throwing seven points, the chances will be fix; for either the three and four, the two and five, or the ace and fix may be turned up, each pair of which admit of being alternately changed. The chances for fix points are only five; confifting of the two alternate throws of an ace and five, or a four and duce, or of the fingle throw of two trays. The chances for throwing five points confilt of the two alternate throws of an ace and four, or of a duce and tray, and therefore are just four. The chances for throwing four points confit of the alternate throws of an ace and tray, and of the fingle throw of two duces, and are therefore only 3. The chances for throwing three points confilling of the alternate throw of an ace and duce are no more than two; and the chance for throwing two points being limited to the two aces being turned up together must be a single one. Hence the chances for throwing 12, 11, 10, 2 points being respectively 1, 2, 3, 4, 1; if either of these be divided by 36, or the number of all the changes upon two dice, the quotient will give the probability for any number of points required.

By proceeding in the same manner, the chances may be determined when there are any greater number of dice, or when the solid has a greater number of faces than the common die. But the following computations, when three and four dice are thrown, will explain the process better than a more minute detail of it.

WITH THREE DICE.

No. of Points.	Faces No of turned up. Permutations.			Faces turned up.		No. of Points.		No. of Permutations.	No. of Joints.		No. of Permutations	
17 16 15	6. 6. 6 6. 6. 5 6. 6. 4 6. 5. 5 6. 6. 3 6. 5. 5 6. 6. 2 6. 5. 3 6. 5. 4 5. 5. 5 6. 6. 2 6. 5. 3 6. 5. 3 6. 5. 3 6. 5. 5 6. 6. 2 6. 6. 2 6. 5. 5 6. 6. 2 6. 5. 3 6. 5. 5 6. 6. 2 6. 5. 3 6. 6. 2 6. 5. 3 6. 6. 5 7. 5 8. 6. 6 8. 5 8. 6 9. 7 9. 8 9. 9 9.	1 1 3 3 5 3 6 3 6 1 10 3 6 3 3 3 15 3 6	13	6. 4. 3 5. 5. 3 5. 4. 4 6. 5. 2 6. 4. 2 6. 5. 5. 4 7. 5. 5. 4 6. 4. 2 7. 5. 5. 1 7. 5. 5. 1 7. 5. 5. 1 7. 5. 5. 3 7. 5. 4 8. 5. 1 8. 5. 5 8. 5 8. 5 8. 5 8. 5 8. 5 8. 5 8	6 3 21 6 6 25 6 6 3 3 6 3 3 27	9	6. 3. 1 6. 2. 2 5. 4. 1 5- 3. 2 1. 4. 2 1. 3. 3 6. 2. 1 5. 3. 1 5. 2. 2 1. 4. 3. 3 6. 1. 1 3. 3. 3 6. 1. 1 1. 2. 2	6 3 27 6 3 1 25 3	8 7 5 4 3	4. 3. 1 3. 3. 2 5. 1. 1 4. 2. 1 3. 3. 1 0. 2. 7 3. 2. 1 2. 2. 2 4. 1. 1 3. 1. 1 2. 2. 1 2. 1. 1	6 3 21 3 6 3 10 3 6 3 1 1	

WITH FOUR DICE.

No. of Points.	Faces turned up.	No. o		No. ct Points.		No Pe:mu	of tations.	No. of Points.	Faces turned up.	No. Permut		No. of Points	Faces turned up	No. Permut	
23 22 21 20	6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6	4 4 6 4 1 1 2 1 6 1 2 1 2 1 4 1 2 1 2 1 2 1 2 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 4 10 20 35	17	6. 6. 5. 1 6. 5. 5. 5. 3 7. 5. 5. 5. 3 7. 5. 5. 5. 3 7. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	24 4 12 12 6	20	15	6. 6. 3, 1 1 6. 5, 4 1 1 6. 5, 5, 3, 2 2 5, 5, 5, 4 2 2 5, 5, 5, 4 4 3 3 6 6 6 5, 2 3 2 3 1 6 6 5, 5, 5, 4 4 4 5 6 5, 5, 5, 4 4 4 5 6 5, 5, 5, 5, 4 4 5 6 6 6 5, 5, 2 2 2 6 6 6 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	24 24 4 12 12 12	125	1.4	5. 3. 3. 3. 3. 4. 4. 4. 3. 3. 5. 4. 4. 2. 3. 2. 3. 4. 4. 2. 3. 2. 3. 4. 4. 2. 3. 4. 4. 4. 4. 2. 3. 4. 4. 4. 4. 2. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.	12 12 6 24 12 24 12 6 24 12 6 24 12	14

The chance for turning up 13, 12, 11, &c. points being the same with those for turning up 15, 16, 17, &c. points respectively, it will be unnecessary to proceed with the operation. The whole number of changes on 3 dice being $6 \times 6 \times 6 = 216$, and on 4 dice $6 \times 6 \times 6 \times 6 =$ 1296, the probability of throwing any given number of points will be the fraction, whole numerator is given above, and whose denominator is either 216 or 1296, according as 3 or 4 dice are used; thus the probability of throwing 9 points with three dice is $\frac{25}{216}$, and the probability of throw-

ing 15 points with 4 dice is $\frac{140}{1200}$; that is, the odds in the Ist case against throwing them are as 7.2 to 1, and in the fecond case as 8 to 1.

If the folids have more faces than a cube, or if their number be much greater than is stated above, these operations will be rendered too complicated and laborious, and

therefore it becomes necessary to have a more general solution of the problem. Suppose a fingle folid to have n forts of faces, of which one is marked A, r marked B, r marked C, r^3 marked D, and fo on to n terms, then will $1 + r + r^3$ $+r^3 \cdots r^{n-1}$, represent the whole number of chances on such a folid, and each term of the series, divided by the whole, will represent the chance that any particular face will be turned up. If there be m such folids, (lince the sum of the series is $\frac{1-r^n}{1-r}$) the whole number of chances on all those solids

will be
$$=\frac{1-r^n}{1-r}\Big|^{r_1} = \frac{1-r^{r_1}^n}{1-r} \times \frac{1-r^{r_2}^n}{1-r^{r_2}} = 1+mr$$

 $+\frac{m\cdot m+1}{2}r^2 + \frac{m\cdot m+1\cdot m+2\cdot r^3}{2\cdot 3} + &c.$ multiplied into $1-mr^n + \frac{m\cdot m-1\cdot r^2}{2}r^{r_2} - \frac{m\cdot m-1\cdot m-2}{2\cdot 3}r^{r_3}$

into I -
$$m r^n + \frac{m \cdot m - 1}{2} \cdot r^{2n} - \frac{m \cdot m - 1}{2 \cdot 3} \cdot r^{2n}$$

+ &c. Now fince the smallest number of points that can be thrown with those solids is m, the next m+1, the third m+2, and so on: it follows that the first term of the product of these two series, or unity, will represent the number of chances for throwing m points, the second term the number of chances for throwing m+1 points, the third term the number of chances for throwing m+2 points, &c. and that the term of the series, in which the exponent of r is p-m, will represent the number of chances for throwing p

But fince this term arises from such terms of the first feries. in which the exponents of r being = p - m p - m - n p - m - 2n, &c. are respectively multiplied into the first, second, third, &c. terms of the second series, and since the last factor of the co-efficient of the term, whose exponent is p - m, is both in the numerator and denominator = p - m, it is evident that the whole co-efficient may be divided into $p - 1 \cdot p - 2 \cdot p - 3 \dots (m-1) + \frac{p - m \cdot p - m - 1 \cdot p - m - 2 \cdot (m)}{1 \cdot 2 \cdot 3 \cdot \dots (m-1)} + \frac{p - m \cdot p - m - 1 \cdot p - m - 2 \cdot (m)}{m \cdot m + 1 \cdot m + 2 \cdot \dots \cdot p - m \cdot \dots}$

and therefore that the term it felf will be
$$=\frac{p-1 \cdot p-2 \cdot p}{1 \cdot 2 \cdot p}$$

$$\frac{\overline{p-3} \ (m-1)}{3 \ (m-1)} \times r^{p-m}.$$
 In the fame manner the co-efficient of the term in which the exponent of r is $\overline{p-m-n}$ will be
$$= \frac{\overline{p-m-1} \cdot \overline{p-n-2} \cdot \overline{p-n-3} \ (m-1)}{1 \cdot 2 \cdot 3 \cdot 4 \cdot (m-1)},$$
 and the co-efficients of the terms in which the exponents of r are

co-efficients of the terms in which the exponents of r are p-m-2n, p-m-3n, &c. will be $\frac{p-2n-1}{n}$.

$$\frac{p-2 \ n-2 \ (m-1)}{3 \cdot (m-1)}, \frac{p-3 \ n-1 \cdot p-3 \ n-2 \ (m-1)}{1 \cdot 2 \cdot 3 \ (m-1)}$$
&c.. Hence, if the first of the terms just mentioned be

3. (m-1)8. Hence, if the first of the terms just mentioned be multiplied into 1; the second into $-m r^n$; the third into $m \cdot m - 1$ 2 r^{nn} and p - n be made = d, p - 2n = c,

p-3n=f, &c. the number of chances for throwing exactly p points will be equal to $\frac{p-1}{1} \times \frac{p-2}{2} \times \frac{p-3}{3}$ $(m-1) \times r^{p-m} - \frac{d-1}{1} \times \frac{d-2}{2} \times \frac{d-3}{3} (m-1)$

$$\times m \cdot r^{p-m} + \frac{e-1}{1} \times \frac{e-2}{2} \times \frac{e-3}{3} \quad (m-1) \times \frac{m \cdot m-1}{1} r^{p-m} - \frac{f-1}{1} \times \frac{f-2}{2} \cdot \frac{f-3}{3} \quad (m-1) \times \frac{m \cdot m-1}{1} r^{p-m} - \frac{f-1}{1} \times \frac{f-2}{3} \cdot \frac{f-3}{3} \quad (m-1) \times \frac{m \cdot m-1}{3} \cdot \frac{f-3}{3} \cdot \frac{f-3}{3$$

$$m.\overline{m-1}.\overline{m}.-\underline{r}^{p-m}$$
 + &c. which feries are to be continued

till they either vanish or become negative. But if r be = 1, or, which is the same thing, if there be only one sace of a fort on each die, the chances will be expressed simply by $\frac{p-1}{1} \times \frac{p-2}{2} \times \frac{p-3}{3} (m-1) - \frac{d-1}{1} \times \frac{d-2}{2} \times \frac{d-3}{3} (m-1) \times m + \frac{e-1}{1} \times \frac{e-2}{2} \times \frac{e-3}{2} (m-1)$

$$\times \frac{m \cdot m - 1}{} - \&c.$$

Remark. Since it appears from the preceding computations, that the chances continually increase till the number of points required becomes a mean between the greatest and that they then as regularly decrease till the number of points required be the least than can be thrown on those solids; it will be best, if the number required be nearer the lesser the lesser the greater extreme, to use, instead of the former, a number equally distant from that greater extreme. Thus, the greatest number that can be thrown on three common dice is 18, and the least is 3. If therefore the required number be 6, it will besser the labour to find the number of chances for throwing 15; the latter being as much less than 18 as the former is greater than 3: if the chances for throwing 11 points on 4 dice be required, it will be most convenient to find the chances for throwing 14 the greatest, as the former is from 24, the greatest, as the former is from 4, the least number that can be thrown on 4 dice.

Example. Let it be required to determine the chances for throwing precifely 24 points on 6 dice. In this case n is = 6, p = 24, r = 1, m = 6, d (= p - n) = 18, e (= p - 2n) = 12, f (= p - 3n) = 6, g = o. The above expression therefore becomes $= 23 \times \frac{2^2}{2} \times \frac{21}{3} \times \frac{20}{4} \times \frac{19}{5} \times \frac{17}{3} \times \frac{16}{2} \times \frac{15}{3} \times \frac{14}{4} \times \frac{13}{5} \times 6 + \frac{11}{1} \times \frac{10}{2} \times \frac{9}{3} \times \frac{9}{3} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{3} \times \frac{1}{3} \times \frac{1}{4} \times \frac{1}{5} \times \frac{1}{3} \times \frac{$

PROBLEM VIII.

To determine the probability that an event shall happenp times successively in n trials, when the ratio of its happening to that of its failing is as a to b.

Solution. The probability that it happens the first p times is $\frac{a^p}{a+b^p}$. The probability that it happens p times after

having failed the ref time is $\frac{b}{a+b} \times \frac{a^{b}}{a+b^{b}}$, and fince

the probability of its failing any affigned time, without any refriction, as to its having either failed or not in the preceding time, is conftantly $\frac{b}{a+b}$, the probability of its happening p times fuccessively, after having failed either the $\overline{p+1}$,

p+2, p+3, ... 2p-1. preceding time, will be either $\frac{a^p}{a+b|^p} \times \frac{2b}{a+b}$ or $\frac{a^p}{a+b|^p} \times \frac{3b}{a+b}$ or $\frac{a^p}{a+b|^p} \times \frac{4b}{a+b}$ &c.; fo that if $\frac{a^p}{a+b|^p}$ be made = c and $\frac{bc}{a+b} = d$, the

probability of its happening p times fucceffively, after having failed in the preceding p-t trials will be pd, and the whole probability of its happening during the first 2p trials will be =c+pd.

In order to its happening p times fuccessively at the end of $z \not p + z$ trials, it must have failed upon the vabole during the first p trials, and also in the p + z trial. The probability, therefore, of its happening the next p trials after having sailed in the first p + z trials will be $z = z - c \cdot d$; which being added to $z + p \cdot d$ (the probability of its happening in the preceding $z \not p$ trials) will make the whole probability

probability of its happening p times in 2p+1 trials = c - cd+p+1. d.

In like manner the probability of its happening p times fucceffively at the end of 2p+2 trials will depend upon its having failed upon the whole during the first p+1 trials, and also in the p+2d trial. The probability, therefore, in this case, will be $1-c-d \times d = d-cd-dd$; which being added to c-cd+p+1. d (the probability of its happening p times in 2p+1 trials) will give c-2cd+p+1. d-dd for the whole probability of its happening p times fuccessively in 2p+2 trials. The probability of its happening p times fuccessively in 2p+2 trials. The probability of its happening p times fuccessively in 2p+3 trials may be found, by proceeding in the same manner, to be 1-c-2d-d+c

The probability of its happening p times in 2p + 4 trials to be $= 1 - c - 3d \cdot d + c - 3cd + p + 3cd - 3dd$ = c - 4cd + p + 4cd - 6dd. The probability of its happening p times in 2p + 5 trials to be $= 1 - c - 4d \cdot d + c - 4cd + p + 4cd - 6dd = c - 5cd + p + 5cd - 10dd$. Therefore fince the p-11 term of the figurate numbers 1, 3, 6, 10, &c. is $\frac{p \cdot p - 1}{2}$, the probability of the event's happening p times free fively in 3 p trials will be $= c - pcd + 2pd - \frac{p \cdot p - 1}{2}$. dd.

The probability of its happening p times in 3p+1 trials will depend on the chance of its having failed during the first 2p trials, and also in the 2p+1 it trial, and of its having succeeded in the next p trials; the probability of which being 1-c-pd. d, and the probability of its happening p times in 2p trials being $c-pcd+2pd-\frac{p\cdot p-1}{2}dd$, the whole probability of its happening p times in 3p+1 trials will be =c+2p+1. d-p+1. $cd-\frac{p\cdot p-1}{2}+p$. dd.

By proceeding in this manner, the probability of its happening p times in 4p trials will be found $= c - 2pcd + \frac{p \cdot p - 1}{2} \cdot cdd + 3pd - \frac{2p \cdot 2p - 1}{2} dd + \frac{p \cdot p - 1}{2} \cdot \frac{p \cdot 2p - 1}{2} dd + \frac{p \cdot p - 1}{2} \cdot \frac{p \cdot 2p - 1}{2} dd + \frac{p \cdot p - 1}{2} \cdot \frac{p \cdot 2p - 1}{2} dd + \frac{p \cdot p - 1}{2} \cdot \frac{p \cdot 2p - 1}{2} \cdot \frac{p \cdot 2p$

+ &c. +
$$r-1 \cdot pd = r-2 \cdot p \cdot r-2 \cdot p-1$$

$$d^{3} + \frac{r-3 \cdot q \cdot r-3 \cdot p \cdot r-1 \cdot p-2}{2 \cdot 3}$$

 d^3 . &c. Let n be $= r \not p$ then will n - p = r - 1. $\not p$ $n - 2 \not p$, $n - 3 \not p$, $n - 4 \not p$, &c. relpectively, the probability that the event happens $\not p$ times fueceffively in n trials will be $= c - \beta c d + \frac{\gamma \cdot \gamma - 1}{2}$

$$e d d = \frac{3 \cdot 3 - 1 \cdot 3 - 2}{2 \cdot 3} e d^3 + &c. + \alpha d = \frac{\beta \cdot \beta - 1}{2},$$

$$d d + \frac{\gamma \cdot \gamma - 1 \cdot \gamma - 2}{2 \cdot 3} d^3 - &c.$$
Example In so throws with a facely counter, having one

Example. In 30 throws with a fingle counter, having one fide white and the other black, what are the odds that the white does not come up ten times fuccessively? In this case

c is
$$=\frac{1}{2^{10}} \cdot a^2 = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = \frac{1}{2^{11}} \cdot n = 30 \cdot p = 10 \cdot a \cdot (= n - p) = \frac{1}{2^{11}} \cdot n = \frac{1}{2^$$

20. and
$$\beta (= n - 2 p) = 10$$
. The foregoing expression therefore becomes $= \frac{1}{2^{11}} - \frac{10}{2^{21}} + \frac{1}{2^{11}} - \frac{1}{2^{21}} = \frac{1}{2^{21}} \times \frac{1$

,00106. Hence the odds against the white side's coming up ten times successively, will be as 99894 to 106, or nearly as 942 to one. If, instead of a counter, a fingle die had been thrown up, the odds against the ace, or any assigned face coming up ten times successively in 30 trials would have been nearly as 50 millions to one.

Scholium. By the affiltance of the 3d Problem, "the number of trials necessary to make it an equal chance that an event shall happen p times successively" may be found to be nearly

$$= \frac{\frac{7}{10} \times \frac{a + l_1 \cdot - a}{a^t} \times 1 + \frac{a}{a + b} + \frac{a \cdot l}{a + l}^{2} + \frac{a}{10}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times 1 + \frac{a \cdot l}{a \cdot l}^{2} \times \frac{a \cdot l}{a^t} \times \frac{a \cdot l}$$

 $\frac{a+b-\frac{a}{a+b^{\prime}}}{1-\frac{a}{a+b^{\prime}}} = \frac{a+\frac{b^{\prime}-a}{b^{\prime}} \times \frac{a+b^{\prime}-a^{\prime}}{b\cdot a+b^{\prime}} \times \frac{7}{10}}{10}$

and therefore if e and f respectively represent the first and second fractions, the required number will be nearly = ef $\times \frac{7}{10}$. Thus, let it be required to determine how many trials are necessary to make it an equal chance, that an event shall happen 6 times successively, supposing the probabilities of irs happening and failing to be the same. Since a and b are each = 1, and f = 6, the above expression will become $= \frac{2^6 - 1}{1} \times \frac{2^6 - 1}{2^3} \times \frac{7}{10} = 63 \times \frac{63}{3^2} \times \frac{7}{10} = 86.8$. Hence the number of trials will be between 87 and 86.

Had the probability of the event's happening to that of its failing been in the ratio of 1 to 5, the number of trials necessary in the above case would have been $=\frac{6^{\circ}-1}{1} \times \frac{7}{1} = \frac{46.655}{1} \times \frac{7}{1} = \frac{30.100}{1}$

$$\frac{6^6 - 1}{5 \times 6^5} \times \frac{7}{10} = 46,655 \times \frac{46,655}{5 \times 7776} \times \frac{7}{10} = 39,190,$$
PROBLEM IX.

Supposing A and B to play with equal skill; to determine the

the odds when each of them wants a given number to win

the game.

Solution. If only one can be reckoned at each party, the probability that either of them is the winner at the end of it will be = 1. Hence if A wants 2, and B only one of being up; the former, in order to be the winner, must gain twice fuccessively, and therefore his chance will be $=\frac{1}{1}\times\frac{1}{2}=\frac{1}{1}$, and the chance of the latter $=1-\frac{1}{1}$ $=\frac{3}{2}$. Consequently the odds against A, or in favour of

B are as 3 to 1. If A wants 3, 4, 5 6, or any other number of being up, while B wants only one, his chance of winning in these cafes must always depend on his succeeding in every party without intermillion, and therefore the probability when he wants 3 will be $\frac{1}{23} = \frac{1}{8}$, when he wants 4 it will be $\frac{1}{23} = \frac{1}{8}$

 $\frac{1}{16}$, when he wants 5 it will be $\frac{1}{25} = \frac{1}{32}$, and fo on; fo that the odds against him in those cases respectively will be 7 to

1, 15 to 1, 31 to 1, 63 to 1, &c.

If A quants 3, and B evants 2 of being up; the former may win in either of 4 different ways .- tit. By gaining the Ith, 2d, and 3d games .- 2dly. By gaining the Ift, 2d, and 4th, and losing the 3d game .- 3dly. By gaining the 1st, 3d, and ath games, and lofing the ad :- and athly. By lofing the ift, and gaining the 2d, 3d, and 4th games. The probability of the 1st is 1/2, and the probability of each of the

rest is $\frac{1}{2} \times \frac{1}{2} = \frac{1}{16}$. Hence the sum of the 4 probabilities will be $=\frac{1}{8}+\frac{3}{16}=\frac{5}{16}$. Confequently the odds again 1 him will be as II to 5, or rather more than 2 to one.

When A wants 4, B flill wanting 2 of being up, if he gains the first game (the probability of which is $\frac{1}{2}$) he will be in the fame fituation as in the preceding case, and his expecta-

tion on fuch an event will be $\frac{1}{2} \times \frac{5}{15} = \frac{5}{2}$.—If he lofes

the 1st game (the probability of which is also 1) ne will then want 4 while B wants only one of being up, and his expectation in this case will be $\frac{1}{2} \times \frac{1}{10} = \frac{1}{10}$; therefore

the sum of these probabilities being 6, it follows that the odds against him are as 26 to 6 .- In the same manner the odds may be found when he wants 5 of being up, to be as 57 to 7; when he wants 6 of being up, to be as 120 to 8, and so on when he wants any other number, B being always fup-

posed to want only 2 of being up. When A wants 4 and B wants 3 of being up, the former may win in either of the \$5 following different ways:

Ift. by gaining the 1's 2nd 3d 4th game, the probability of which is

the probability of each of which is $\frac{1}{16} \times \frac{1}{4} = \frac{1}{64}$.

 $+\frac{10}{62} = \frac{22}{64}$ for the probability required, and hence the odds against A's winning will be as 42 to 22.

By proceeding in the same manner when A wants 5 of being up, the odds against him will be found to be as 219 to 37. But these operations become more and more laborious in proportion as the number wanted by each party becomes more confiderable, and therefore it will be better to have recourfe to the rules of combination, which will greatly reduce the labour in those cases. Thus; let B want & and A evant 5 of being up. The probability here of A's winning will be expressed by $\frac{t}{2^5} + \frac{\tau}{2^6}$ multiplied into the number of ways in which 6 things may be combined by 5 of a fort + 1 multiplied into the number of ways in which 7 things

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may be combined by 5 of a fort $+\frac{1}{2}$ multiplied into the number of ways in which 8 things may be combined by 5 of a fort = $\frac{1}{2^5} + \frac{5}{2^5} + \frac{15}{2^5} + \frac{35}{2^8} = \frac{93}{250}$, that is, the odds against A's winning the game are 163 to 93.

In like manner, if B sounts 5 and A wants 6 of being up, the probability of A's winning will be expressed by $\frac{1}{2^6} + \frac{6}{2^7} + \frac{21}{2^6} + \frac{56}{2^9} + \frac{126}{2^{15}} = \frac{386}{1024}$; or in other words, the odds against his winning the game will be as 638 to 386.

If initead of one only, either one or two may be reckoned at each party, such as in the game of bowls, quoits, &c. the invelligation of the problem will be not en different. In this case, the chance of just gaining one in two trials may be confidered as the fame with that of taking two out of four things of two forts, fo that the first may come out of the 11t fort, and the second out of the contrary; and the chance of

3 L

gaining two, in two trials, may be confidered as the fame with that of taking two out of four things of two forts, fo that both may be of the fame fort. The chance of taking the proper fort the first time is $\frac{2}{4}$; the chance of missing it $=\frac{1}{9}$, and his expectation on the second $=\frac{1}{6} \times \frac{1}{2} =$ the second time is $1-\frac{1}{4-1}$, the probability therefore of $\frac{1}{12}$. His whole expectation, therefore, is $=\frac{1}{9}+\frac{1}{12}=$ the event first mentioned is $\frac{2}{4} \times 1 - \frac{1}{4-1} = \frac{1}{3}$. The chance of taking out the same fort twice in succession is $\frac{2}{4} \times \frac{1}{3} = \frac{1}{6}$. Hence, if A wants 2 and B only 1 of being up, the latter may win at the end of the first party, either by reckoning one or two (the probability of which is $(\frac{1}{6} - \frac{1}{1} - \frac{1}{1})$; or he may also win by having loft only one at the end of the full party, and gaining one at the end of the fecond. Now if A has gained one at the end of the first party, the expectation of each at the beginning of the fecond will be equal, and therefore B's chance of winning in the fecond, after having lost in the first party will be $=\frac{1}{2}\times\frac{1}{2}=\frac{1}{6}$. Hence the whole probability of his winning will be $\Rightarrow \frac{1}{2} + \frac{1}{6} = \frac{2}{3}$, and A's chance will be the remaining $\frac{1}{2}$; that is, the odds against A will be as 2

Let A want 3, B still wanting only 1 of being up. If A gains one in the first fet, he will be in the same situation as

in the preceding cafe. If he gains 2 he will be on an equality with B. His expectation on the first event is $\frac{1}{3} \times \frac{1}{3}$ $\frac{21}{2} = \frac{7}{6}$; that is, the odds against him are as 20 to 7.

In like manner, when Λ wants 4, B fill wanting only r of being up. If he gains one he will be in the fame fituation as in the foregoing cafe; if he gains two he will be in the fame fituation as in the first case; hence, his expectation

will be $=\frac{1}{2}\times\frac{7}{26}+\frac{1}{6}\times\frac{1}{2}=\frac{13}{108}$, and the odds against

him will be as 95 to 13. By proceeding in this manner, the odds may be found when A wants any greater number, B being always supposed to want only one of being up; nor will the reasoning, indeed, be different when B wants more than one; or when the game is of fuch a nature as that either A or B may reckon 3, 4, or any greater number at each party.

It would be as tedious as it is unnecessary to proceed further with these operations, and, therefore, it will be sufficient to observe, that the following table has been deduced from a fimilar method of reasoning with that which has been used in the preceding cases, and that it is inserted principally with the view of thewing the marner in which the odds are constantly lessened in proportion as the number to be reckoned at each party is increased.

		y be reckoned Party.		may be reckon- ach Party.			ree may be each Party.	When Eleven may be reckoned at each Party.		
Awants	B	Odds against A	A B wants	Odds.	A	Bwants	Odds.	A B wants	Odds.	
2 3 4 5 6 3 4 5 6	I I I I 2 2	as 3 to 1 7 to 1 15 to 1 31 to 1 63 to 1 $\frac{2^{\frac{1}{5}}}{15}$ to 1 $\frac{2^{\frac{1}{5}}}{15}$ to 1 $\frac{4^{\frac{1}{3}}}{15}$ to 1 15 to 1	2 I I I I I I I I I I I I I I I I I I I	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	3 4 5 6 3 4 5 6	I I I I 2 2 2 2 2 2	as $1\frac{5}{6}$ to 1 $3\frac{1}{2}$ to 1 6 to 1 $10\frac{1}{2}$ to 1 $1\frac{5}{2}$ to 1 $1\frac{4}{2}$ to 1	2 I 3 I 1 5 I 5 I 3 2 2 5 2 2 2 5 2 2 2	as $1, \frac{7}{5}$ to I $2, \frac{7}{5}$ to I $4, \frac{1}{5}$ to I $6, \frac{1}{5}$ to I $8, \frac{7}{5}$ to I $1, \frac{1}{5}$ to I $2, \frac{7}{5}$ to I $3, \frac{7}{5}$ to I $4, \frac{3}{5}$ to I	
4 56 56 6	3 3 4 4 5	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	4 3 5 3 6 3 5 4 6 4	1 2 to 1 2 to 1 4 10 to 1 3 to 1 2 2 to 1 4 10 to 1 2 2 to 1 1 1 to 1	4 5 6 5 6 6	3 4 4 5	1 ½ to I 2 1 to I 3 ½ to I 1 ½ to I 2 ½ to I 1 ½ to I 2 ½ to I 1 ½ to I	4 3 5 3 6 3 5 4 6 4 6 5	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	

Were the game of fuch a nature as to admit of an indefinite number to be reckoned at each party, the expectations would be nearly equal, or, in other words, the odds would be indefinitely fmall, whatever number were wanted on either fide of being up. This, indeed, appears from the preceding table, where the odds are continually lessening as the number to be gained at each party increases. It is also to be observed, that, except in one instance, the odds in those tables are never inversely as the numbers wanted of being up; and that particularly in the last column, where

It may be gained at each party, those odds vary from that ratio more than in any other.

Hence it follows, that in the game of whilt, which admits of 11 being gained in a fingle deal, it would be very wrong to proceed on such principles in determining the odds; for, although whilt may not be strictly of the same nature in every respect with the game supposed in the table, yet it is to be remarked, that the circumstances in which it differs, especially when less than three are wanted of being up, only ferve to increase the errors of such a mode of computation, This, however, if any doubt can remain on the fubject, will be more clearly explained in the following problems.

PROBLEM X.

To determine in the game of whist, the chance of any particular player (A) having one or more honours.

Solution. Let A be the dealer, and let the chance be required of his having the 4 honours. Supposing it certain that an honour is turned up, it then becomes necellary to find the chance of his taking 3 particular cards in 12 out of a flock containing 51. By the corollary to the 4th problem this probability is expressed by $\frac{a}{1}$, $\frac{a-1}{2}$, $\frac{a-2}{3}$ (p) $v \cdot \overline{v-1}$, $\overline{v-2}$

 $\frac{(a+q-m)m \cdot m-1 \cdot m-2 \cdot (\beta)}{n-2 \cdot n-3 \cdot n-4}, \text{ where } n \text{ reprefents}$ the number of cards, a the number of honours, p the number to be taken, m the whole number to be taken out of n; v = a + b - m = n - m, and (fince m - q in this case is = p) a + q - m = a + p. Here then we have n = 51, a=3, p=3, m=12, v=39, and a-p=0, and the fraction expressing the required probability = $\frac{12 \times 11 \times 10}{51 \times 50 \times 49}$; which, being multiplied into $\frac{4}{13}$, or the probability that the honour turns up, will become = $\frac{44 \times 4}{13 \times 4165}$. Supposing it certain, on the contrary, that the honour is not turned up, the chance of having four (making a and peach = 4) will be $\times \frac{12 \times 11 \times 10 \times 9}{51 \times 50 \times 49 \times 48}$;

which, being multiplied into $\frac{9}{12}$, (or the probability that an

honour is not turned up) will become $=\frac{9\times33}{52\times4165}$. Hence the whole chance of A's having the four honours

Will be $\frac{16 \times 44 + 9 \times 33}{5^2 \times 4165} = \frac{11}{2380} = .00462$.

If A is not the dealer, the chance of his having the four honours will be found by proceeding in the fame manner, $= \frac{13 \times 12 \times 11 \times 10}{51 \times 50 \times 49 \times 48} \times \frac{9}{13} = \frac{33}{16.650} = .00198.$ The chance of his having three honours and no more

may also be found either = $\frac{792 + 495}{20,825}$ = .0618, or $\frac{143}{4105}$

= .03433 according as he is or is not the dealer.

The chance of his having two honours and no more may in like manner be found = $\left(\frac{11,115}{41,650}\right)$.26684, or $\left(\frac{8151}{11.650}\right) = .1957$, and the chance of his having one ho-

nour and no more $=\left(\frac{9139}{20,825}\right)$.43884 whether he is or is not the dealer .- The chance also that he has no honour may in the first case be found = $\frac{37.962}{106,600}$ = .22785; and in

the fecond case = $\frac{712,842}{52 \times 41,650} = .3291$.

Nor is the method of proceeding different when it is required to determine the chance of any two partners at whilt having either four or three or two honours between them; the computation in this case being made on 25 or 26 instead of 12 or 13 cards, according as the honour is or is not supposed to be turned up. The chance of the dealer and his partner having four honours between them appears to be $=\frac{115}{1600}$ = .06903; the chance of their having three honours,

or reckoning two, $=\frac{468}{1666}=.28992$; and the chance of their having two, or not reckoning any thing by honours = The chance of the eldest band and his partner's having four honours between them appears also to be $=\frac{69}{1666}$ = .c.+142; the chance of their having three honours,

or reckoning two, $=\frac{364}{1(65)}=.21849$, and the chance of their having two, or not reckoning any thing by honours = $\frac{650}{1666}$, or the same as in the case of the dealer and his partner.

Corollary. Since the chance of the dealer's having three honours or more is .0618 + .0046 = .0664, and the chance of his having two honours or more is .c664 + .2668 = .3332, it follows that the odds against his having three or more honours are as 14 to 1, and that the odds against his having two or more honours are as 2 to 1. On the other hand, the chance of his having one honour or more being .4388 + .3332 = .772, the odds for his having one or more honours will be as 3.2 to 1. These chances in the case of the eldest or any other single hand being .0363, .232, and .6708 respectively, the odds against such hand's having three or more honours will be as 20. 1 to 1; the odds against his having two or more honours will be as 32 to 1; and the odds for his having one or more honours will be as 2 to 1. The chance of the dealer and his partner having three or more honours between them being .06903 + .28093 = .35 nearly, and the chance of the eldest hand and his partner having the like number between them being .04142 + .21849 = .26 nearly; the odds against the former partners reckoning any thing by honours will be nearly as 2 to 1, and the odds against the latter will be nearly as 3 to 1.

PROBLEM XI.

To determine, in the game of whift, the chance of getting the odd or any number of tricks.

Solution. Let the chances of getting and lofing a fingle trick be to each other in the ratio of a to then will the probability of getting n tricks be represented by $\frac{a^a}{a+\lambda a^a}$, the probability of getting

 $\frac{1}{n-1}$ tricks by $\frac{n a^{n-1} b}{(a+b)^n}$, the probability of getting $\frac{1}{n-2}$

triels by $\frac{n \cdot n - 1}{a + a^{n-2}} \frac{a^{n-2} b^2}{a + a^{n-2}}$, and fo on. In the prefent cafe

the chances of losing or winning a trick being equal, a will be equal to b, and the chance of winning 13 tricks, or reckon-

ing 7, will be $=\frac{1}{2^{13}} = \frac{1}{8192}$, the chance of winning 12 or reckoning 6 tricks will be $=\frac{13}{8102}$, and the chance of reck-

oning 5, 4, 3, 2, and 1 trick will be $\frac{78}{8192}$, $\frac{286}{8192}$, $\frac{715}{8192}$

1287, and 8192, respectively.

Corollary. Hence the chance of reckoning 6 or more

tricks is $\frac{x+13}{8192}$ = .001709; the chance of reckoning 5 or more tricks is $=\frac{14+78}{8192} = .01123$; of reckoning 4 or more tricks $=\frac{92+286}{8192} = .04614$; of reckoning 3 or more tricks = $\frac{373 \text{ r}}{8192} = .13342$; of reckoning 2 or more tricks = $\frac{1093 + 1287}{8192}$ = .29053, and of reckoning one or more tracks = $\frac{1250 - 1716}{8092} = 1$

PROBLEM XII.

To determine the respective chances at whist, when two of the partners have eight and the other two have nine of the game.

Solution. The party who reckon eight may win the game in the first deal either by having three or more honours between them, or by getting two or more tricks without reckoning any honours. Or, if they do not win the game in that deal, they may, however, reckon one by getting the odd trick, in which case they will be on an equality with their opponents. Supposing them therefore to be the dealers, the probability of their having three or more honours, by Cor. Prob. X. is .35; the probability of their getting two or more tricks, by Prob. XI. is .29053, and the probability of their not having three or more honours is 1 - .35 = .65. Hence the chance of their getting the game in the first deal is = $.35 + .29053 \times .65 = .53882$. Again, the probability of their getting one trick and no more by Prob. XI. is $\frac{1716}{8192}$ = .20047, which being multiplied into .65 produces .13617 for their chance of reckoning only one in the first deal; and as their expectation in this case will be equal to that of their adversaries, it will of course be expressed by .13617 $\times \frac{1}{2} = .068085$, and their whole chance of winning will be = .53882 + .068085 = .6069. If they be not the dealers, their chance of winning may be found, by reaforing in the fame manner = .26 + .29053 \times 1 - .26 $+ .20947 \times \frac{1 - .26}{2} = .5428$. Hence the chance of

their winning in the first case is as 3 to 2, and in the second case as 6 to 5 nearly. But if it be not considered whether they are, or are not the dealers, their chances of winning will be one with another, very nearly as 7 to 5.

Corollary. Were these two partners only seven, their chance of winning the game might be found by the help of the two preceding problems and their corollaries, equal either to .3867 or .3809 according as they were, or were not the dealers, and their chance of winning if they were only fix might in like manner be found equal either to .3262 or to .3211, that is, the odds against the two partners who reckon only feven while the other partners reckon nine. are as 8 to 5, and the odds against them when they reckon only fix are as 21 to 10 or a little more than two to one.

By purfuing the same sheps the odds may be determined in every circumitance of the game; but the labour of fuch a computation would be very great, as the operations become more and more complicated in proportion as the game is further from being terminated.

PROBLEM XIII.

A undertakes to play a match with B of three or five games, in winning the greater number of which he becomes of course the winner of the match. A has an advantage in together, from which three cards are dealt to each of the

all the games but one equivalent to the odds of b to a in that one game B has the same advantage against A. It is required to determine the respective chances of A and B; and whether it is material that the games should be played in any particular order.

Solution 1. Let the number of games be three, and let A be supposed to play the two games, on which he has the advantage of b to a, first, and the game on which he has the chance only of a to b, last. Either A or B may become the winner by obtaining the superiority over his adversary in the following order: 1, 2. 1, 3. 2, 3. A's chance for winning in this order is expressed by the fractions $\frac{bb}{a}$, $+\frac{baa+aab}{a+bi} = \frac{b^3+bba+2baa}{a+b^3}$, and confequently B's chance will be $=\frac{a^3+aab+2abb}{a+bi}$. If A

be supposed to play the game first, on which he has only the advantage of a to b, and the other two games laft, the

fractions expressing the probability of his winning will be $= \underbrace{ab}_{a} + \underbrace{a^2b + b^3}_{\vdots} = \underbrace{b^3 + bba + 2baa}_{\overline{a} + b'} \text{ as before.}$

Hence it follows that in this case it makes no difference in what order the games are played.

2. Let the number of games be five, and let A be fup. posed to play the four games on which he has the advantage of b to a, first, and the game on which the odds are against thin, as b to a, table. Either party may become the winner, by fueceeding in the following order: 1, 2, 3, 1, 2, 4, 1, 2, 5, 1, 3, 4, 1, 4, 5, 1, 3, 5, 2, 3, 4, 2, 3, 5, 2, 4, 5, or 3, 4, 5. A's chance for winning in this order is expressed by the fractions $\frac{b^3}{a+b^3} + \frac{3ab^3}{a+b^3} + \frac{6a^3b^3}{a+b^3}$ $= \frac{b^3 + 5b^3a + 4b^3a^2 + 6b^3a^3}{a+b^3}, \text{ and B's chance will,}$

in consequence, be = $\frac{a^5 + 5 a^4 b + 4 a^3 b b + 6 a^2 b^3}{a + b!}$.

If A be supposed to play the game first, in which the odds are against him, the several fractions expressing his chance of winning may be found = $\frac{ab^3}{a+1} + \frac{b^3 + 2a^3b^3}{4} + \frac{3a^3b^3 + 3ab^4}{4} + \frac{b^3 + ab^3aa + 0bba^3}{a+b^3}$. It is evident therefore

that in this, as well as in the former case, it is not in the least material in what order the games are played.

Example. Supposing A and B to play a match at piquet of five games, on the particular condition that B is to be the dealer in all the games except one, which gives an advantage It is required to determine their respective chances of winning the match.—In this case a is = 4, and b = 5; and hence the above expression denoting A's chance becomes

 $= \frac{3125 + 12,500 + 8000 + 9600}{59,049} = \frac{33.225}{59,049}$ and the ex-

preffion denoting B's chance becomes = 25.824. The odds therefore in favour of A are as 14 to 11 nearly. If they

To determine the chances in the game of Macao. Schrien. In this game two packs of cards are shuffled Fullyllin

players, who are generally five in number. The tens being always deducted from the aggregate number on the faces of the three cards, the remaining numbers will of course be either 0, 8, 7, 6, 5, 4, 3, 2, 1, or o. If the first of these numbers is turned up, the perfon having it is entitled to 3 stakes; if the second, he is intitled to 2 stakes; if either a 7, or any of the lower numbers, he is intitled to I take; but if a o is turned up, he is intitled to no stake. The quellion, therefore, to be folved is, the chance of having

either 9, 8, 7, 6, 5, 4, 3, 2, 1, or 0.

The number of changes on n things when taken 3 and

3, being = $n \cdot \frac{n-1 \cdot n-2}{1 \cdot 2 \cdot 3}$, it follows that all the changes of this kind on two packs, or 104 cards, will be =

 $104 \times 103 \times 102 = 182,104$, and, confequently, that

the fum of all the chances for having either 9, 8, 7, &c. points mult be equal to this number. In order to find the chances for having nine, let it be enquired in how many ways 19 may be dealt; 1st, by having 1, 3, and 10. As there are 8 aces, 8 eights, and 32 tens, the different ways in which 10 may be dealt in this case will be 8 x 8 x 32 = 2048. 2dly, 19 may be dealt by 2, 7, 10. 3, 6, 10. or 4, 5, 10: and as there are 2048 chances for dealing each of thefe, the whole number of chances for dealing 19, when one of the faces is a 10, is = 2048 x 4 = 8192. But 19 may aifo be dealt by 1, 9, 9, 2, 9, 8, 3, 9, 7, 4, 9, 6, 9, 5, 5, 8, 8, 3, 8, 7, 4, 8, 6, 5, 7, 7, 5, or 7, 6, 6, The number of ways in which the cards under ten may be combined, when two of them are of a fort, is $\frac{8 \times 7 \times 8}{}$

= 224, and the number, when they are all different is 82 = 512. Hence, the number of combinations in the preceding case is $224 \times 5 + 512 \times 5 = 3680$; and, consequently, all the chances for dealing 19 are 8192 + 3680 = 11,872. The number of ways in which all the tens may

be combined two and two, is $\frac{32 \times 31}{2} = 496$; therefore,

the number of ways in which 29 may be dealt, is 496 x 4 = 3968. The number 9 also may be obtained by dealing either of the three following cards: 1, 1, 7. 1, 2, 6, I, 3, 5. I, 4, 4. 2, 2, 5. 2, 3, 4. or 3, 3, 3. The chances for obtaining the last of these being $\frac{3 \times 7}{1 + 2 \times 3}$

= 56, the chances for obtaining any of the whole of them are 56 + 224 × 3 + 512 × 3 = 2264. Hence, all the chances for obtaining a nine, according to the rules of the game, are 11,872 + 3968 + 2364 = 18,104.
By proceeding in the fame manner, the chances for

obtaining eight may be determined; thus, 18 may be had by 1, 7, 10. 2, 6, 10. 3, 5, 10. 4, 4, 10 = 3 X 2048 + $\frac{6 \times 7 \times 3^2}{3}$ = 7040; or it may be had without

a ten, by having 9. 8, 1. 9, 7, 2, 9, 6, 3, 9, 5, 4, 5, 7, 3, 8, 6, 4, 8, 5, 5, 8, 8, 2, 7, 7, 4, 7, 6, 5, 0r 6, 6, 6 = 7 \times 512 + 3 \times 224 + 56 = 4312. Hence, all the chances for having 18 are 7040 + 4312 =11,352: 28 may be obtained, either with an 8 and 2 tens, or with 10 and 2 nines. These chances are 8 x 496 + 28 x 32 = 4864. Isailly, an eight may be had by 6, 1, 1. 5, 2, 1. 4, 3, 1. 4, 2, 2. or 3, 3, 2 = 3 × 224 + 2 × 512 = 1696. The fum, therefore, of all the chances for having eight, according to the rules of the game, is

By pursuing the same steps, the chances for having 7. 5, 3, and 1, may be found to be the same with those for having 9; and the chances for having 6, 4, and 2, the fame

.11,352 + 4864 + 1696 = 17,912.

with those for having 8: but the chances for having o will be found to be = 19,936. In other words, the fum of all the chances for having each of the odd numbers is 18,104; the fum of all the chances for having each of the even numbers is 17,012; and the fum of all the chances for having a blank is 19,936; which, being added together, make up the number 182, 104, and, therefore, provethetruth of the folution.

Corollary. It appears from this problem that the odds against the number 9 being turned up are nearly as 9 to 1; against the number 8, as 91 to 1; against a blank, as 81 to I; and for either of the other numbers, as 2 to 1. If, therefore, each stake (as is generally the practice in this game), be five guineas, the expectation of the player on the number 9 will be worth 11. 118. 4d.; his expectation on the number 8 will be worth 11. 0s. 8d., and his expectation on all the remaining numbers together will be worth 31. 128. Sd., making in the whole the fum of 61. 48. Sd.

Innumerable other problems might be added for determining the laws of chance, as well in the preceding games, as in those of Hazard, Pharaon, Piquet, &c. &c.; but the folution of them (were the subject of much more importance than it appears to be), would fwell beyond all due limits, an article whose chief delign has been to give a clear idea of the principles on which the doctrine of chances is founded, together with the folution of fuch general problems as may admit of the most extensive application. Those, however, who with for further information respecting the games of chance, may have recourse to the writings of De Moivre. James Bernoulli, Thomas Simpson, &c., but particularly to those of the former, which are not furpassed, and, perhaps, not equalled by any other work on this subject.

In addition to the problems given in this article, two others should be noticed, which are not only the most abstrufe, but the most important in the whole doctrine of chances; the first of them solved by James Bernoulli, and afterwards, to greater exactness by De Moivre; the second, communicated by Dr. Price to the Royal Society, from the papers of the late Mr. Bayes, as hath been already observed in the begining of this article. In regard to the former of thefe problems, Mr. James Bernoulli introduces his folution of it with observing, " Hoc est illud problema, quod evulgandum hoc loco proposui, postquam jam per vicennium pressi, & cujus tum novitae, tum fumma utilitas cum pari adjuncta difficultate omnibus reliquis hujus doctrine capitibus pondus & pretium superaddere potest." Such, therefore, being the opinion of that eminent mathematician concerning this problem, perhaps the prefent article ought not to be concluded without giving the folution of it, more particularly as M. De Moivre, though he purfued the inveftigation to a greater degree of accuracy, has contented himfelf with stating the rules, without giving any demonstration

PROPOSITION.I.

of them.

Supposing a very great number of trials to be made concerning any event, it is required to determine the probability there is that the proportion of the number of times it will happen to the number of times it will fail in those trials will differ less than by very small assigned limits from the probability of its happening to the probability of its failing in a fingle trial.

Solution. Let the probabilities of happening and failing be equal, and the number of trials be n. Let I, and Lalfa. be the two terms equally distant, by the interval I, from the middle term of the binomial I + I", and the fum of the terms included between L and L, together with the extremes; then if " be a very great number, the probability

that the event happens neither more frequently that -n + l

nor more rarely than $\frac{1}{2}n-I$ times will be $=\frac{s}{2n}$ But if

the probability of its happening to the probability of its failing in any one trial be as a to b, let L and R be the two terms equally distant by the interval I from the greatest term of the binomial $a + b|_n$, and let S be the fum of the terms included between L and R, together with the extremes, then will the probability that the event happens neither more

frequently than $\frac{an}{a+b}+l$ times, nor more rarely than

$$\frac{an}{a+b}-l$$
 times be rightly expressed by $\frac{S}{a+b}$.

These are the rules given by M. De Moivre for the fo-lution of this very difficult proposition, which, he observes, are founded on the common principles of the doctrine of chances, and therefore require no demonstration. This is certainly true, fo far as regards the general principles of the folution, but the method of determining the values of s and S are by no means fo obvious. In this, indeed, confifts the whole difficulty of the folution; and as M. De Morvre has omitted the process by which he obtained those values, it will be necessary to supply the omission by inserting the following lemmas, which are chiefly derived from Mr. Simpfon's treatife "On the Nature and Laws of Chance."

Lemma 1. To find the fum of the feries 1 × 2 × 3 × 4

continued to x terms.

Solution: Let the feries be = P, and its hyp. log. =

$$\frac{C}{x-a}$$
. log. $x + Ax + B + \frac{C}{x} + \frac{D}{x^3}$, &c. then will

$$\frac{C}{x+1-a \cdot \log_{1} x+1} + A \cdot x+1 + B + \frac{C}{x+1},$$

$$+ \frac{D}{\cos_{1} x}, &c. = \log_{1} 1 \cdot 2 \cdot 3 \cdot \sin_{1} x+1 = \log_{1} P +$$

$$+\frac{1}{x+1}$$
, &c. = log. 1, 2 · 3 · · · · x + 1 = log. P

$$\frac{\log_{1} x + 1}{-x^{-1}} + D \cdot x + 1 = a \log_{1} \frac{x + 1}{x} + A + C \cdot x + 1 = 1$$

$$-x^{-1} + D \cdot x + 1 = 2 - x^{-2} + a + b = a.$$
 But the

$$-x^{-1} + D \cdot x + 1$$
 $-2 - x^{-2} + \infty$, &c. = 0. But the fluxion of the log, of $\frac{1+x}{x}$ is $\frac{-x}{x^2+x}$, whose fluent is x^{-1}

$$\frac{x^{-2}}{2} + \frac{x^{-3}}{3} - \frac{x^{-4}}{4} +, &c. The above feries, there- \frac{n^n + \frac{1}{2}a' \mathcal{U}}{l' s' \sqrt{cls}}, \text{ hence the ratio required is } \frac{m!}{n^n + \frac{1}{2} \cdot a' \mathcal{U}}$$
fore converted into finally terms will be $1 - \frac{x^{-1}}{l' s'} + \frac{x^{-2}}{l' s'} + \frac{x^{-2}}{l' s'} + \frac{m!}{l' s' \sqrt{cls}}$

fore, converted into fimple terms will be
$$1 - \frac{x^{-1}}{2} + \frac{x^{-2}}{3} + \frac{x^{-3}}{3} + \frac{x^{-3}}{4} + \frac{x^{-2}}{3} + \frac{x^{-3}}{3} + \frac{x^{-3}}{4} + \frac{x^{-3}}{3} + \frac{x$$

$$\frac{x^{-3}}{4} +, &c. - ax^{-1} + \frac{ax^{-2}}{2} - \frac{ax^{-3}}{3} + \frac{ax^{-4}}{4} -, &c. + A - Cx^{-2} + Cx^{-3} - Cx^{-4} +, &c. - 2Dx^{-3} + 3Dx^{-4} - 4Dx^{-5} +, &c. - 3Ex^{-4} + 6Ex^{-5} -, &c. + Hence, by equating the homologous terms, A will be found$$

= - 1,
$$a = -\frac{1}{2}$$
, $C = \frac{1}{3 \cdot 4}$, $D = 0$, $E = -\frac{1}{3 \cdot 4 \cdot 5 \cdot 6}$

$$F = 0$$
, $C = \frac{1}{5 \cdot 6 \cdot 6 \cdot 6 \cdot 7}$, &c. and confequently the above

expression will be changed into
$$x + \frac{1}{2}$$
, $\log_2 x - x + B + \frac{1}{12 \ln x} - \frac{1}{360 \times^2} + \frac{1}{1260 \times^5} -$, &c. = log. P. If x be sup-

posed =
$$\tau$$
, this equation will become = $-\tau + B + \frac{\tau}{12}$

$$-\frac{1}{360} + \frac{1}{1260}$$
, - &c. = 0. Hence B will be = 1 -

$$\frac{1}{12} + \frac{1}{300}$$
, &c., and therefore the log. $P = x + \frac{1}{2}$, log.

if
$$x - x + 1 - \frac{1}{12} + \frac{1}{360} -$$
, &c. $+ \frac{1}{12x} - \frac{1}{360x^2} +$

 $\frac{1}{1260 \text{ m}^5}$ -, &c. Now the number whose hyp. log. is 1 is

= 2.71828 &c., the number whose hyp. log. is
$$\frac{1}{12 \times 1}$$

$$\frac{1}{360 x^3} + \frac{1}{1200 x^5} -, &c. is 1 + \frac{1}{12 x} + \frac{1}{288 x^2} - \frac{1}{51840 x^3} + &c. (for Cotes's Harm Ment Prop. I. Schol 3.), and$$

+, &c. (fee Cotes's Harm. Menf. Prop. I. Schol. 2.), and the number whose hyp. log. is
$$1 - \frac{1}{12} + \frac{1}{360}$$
 -, &c. is easily found to be 2,50% &c. which Mr. Stribing has proved to be the square root of the circumference of a circle, whose

radius is unity. Let this circumference be denoted by
$$c_1$$
, the feries $1 + \frac{1}{12 x} + \frac{1}{288 x^4} -$, &c. by d_1 , and the num-

ber 2.71828 &c. by m, then we shall have
$$\frac{\sqrt{r+1}}{m} \times d$$

= P. But when x is a very great number, the series de-

noted by d b-comes inconfiderable, and P in this case will be nearly
$$=\frac{\lambda}{m} \times \sqrt{c \, x}$$
.

Lemma 2. To find the ratio which any given term of a binomial, raifed to an infinite or very great power, bears to the whole feries.

Solution. Let the binomial be a + b, and n the index of its power. Let I be the diltance of the given term from

the field, and s be made = n - l. In this case the term proposed will be $= n, n-1, n-2, \dots, n-1 + 1, a, b'$

the preceding lemma is =
$$\frac{\frac{n}{m}^{a} \times \sqrt{cn} \times a^{c}b^{i}}{\frac{n}{m}^{i} \times \sqrt{cl} \times \frac{s}{m}^{i} \times \sqrt{cs}} = \frac{1}{m} \left(\frac{1}{m} \times \sqrt{cl} \times \frac{s}{m} \times \sqrt{cs} \right)$$

$$\frac{n^{n+\frac{1}{2}}a^{t}b^{t}}{b^{t}a^{t}a^{t}b^{t}}$$
, hence the ratio required is $\frac{n^{n+\frac{1}{2}}a^{t}b^{t}}{b^{t}a^{t}a^{t}a^{t}b^{t}}$, hence the ratio required is $\frac{n^{n+\frac{1}{2}}a^{t}b^{t}}{b^{t}a^{t}a^{t}a^{t}b^{t}}$.

Corollary. Since the greatest term of the binomial a + 1 " is that in which the exponents are to each other as a to b, if s be taken to I in that proportion, or, in other words, if I be made $=\frac{i n}{a+b}$, and $s=\frac{a n}{a+b}$, and if these expressions be substituted in the values given above, the ratio of the greatest term to the whole power will become $=\frac{a+b}{\sqrt{a+b}}$, or if a

and b are equal, it will become $=\frac{2}{\sqrt{-c}n}$, which are thevery

expressions given by M. De Moivre in those cases respectively. Lemma 3. To find the ratio which the greatest term of a binomial raifed to an infinite, or very great power, bears to a given number of terms next to it.

Solution. The fame fymbols being retained, as in the preceding lemma, let y be the greatest term, and p the number of terms to be taken on either fide of it. Now fince

$$\frac{1}{12} + \frac{1}{360} - \frac{1}{3}$$
 &c., and therefore the log. $P = x + \frac{1}{2}$, log. $\frac{3 \cdot 6y}{l + 1 \cdot 3}$ is the next term to $y_2 = \frac{3 \cdot 3 - 1 \cdot 6y}{l + 1 \cdot l + 2 \cdot 3}$ the next

following,

following, $\frac{s \cdot s - 1}{l + 1} \cdot \frac{s - 2}{l + 2} \cdot \frac{b^2 y}{l + 3}$, a^2 the third term, and fo on, it follows that the term whose distance from the greatest is p, will be $\frac{s \cdot s - 1 \cdot s - 2 \cdot s - 3}{l + 1 \cdot l + 2 \cdot l + 3} \cdot \frac{b^2 y}{l + 2}$, and $\frac{b \cdot s}{l + 1 \cdot l + 2 \cdot l + 3} \cdot \frac{b^2 y}{l + 3} \cdot \frac{b^2 y}{a^2}$, and

$$+ \begin{cases} -\frac{1}{s} - \frac{1}{2 \cdot s^2} - \frac{1}{3 \cdot s^3} - \frac{1}{4 \cdot s^4}, & & \\ -\frac{2}{s} - \frac{4}{2 \cdot s^3} - \frac{8}{3 \cdot s^3} - \frac{16}{4 \cdot s^4}, & & \\ -\frac{3}{s} - \frac{9}{2 \cdot s^2} - \frac{27}{3 \cdot s^3} - \frac{81}{4 \cdot s^4}, & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & & \\ & & & \\ & & \\ & & & \\ & \\ & & \\ & \\ & & \\ & \\ & \\ & & \\ &$$

But fince a l is = l s, $p \cdot \log_* bs - \log_* a l$ will vanish out of the equation; and fince the numerators of the remaining terms are feries of powers whose roots are in arithmetical progression, their sum may be easily obtained (by the 1st Froposition in Stirling, DeSummatione Serierum); and hence the foregoing expression will be found $= \log_* y - \frac{p-1}{2} + \frac{p-1}{2} + \frac{p-1}{2} - \frac{p-1}{2} + \frac{p-1}{2} - \frac{p+1}{2} + \frac{p-1}{2} + \frac$

$$- &c. \frac{pp + p}{2l} - \frac{2p^3 + 3pp + p}{12ll} - &c. But p$$
being very small in respect of l and s, all the terms except

the first in which l and s are denominators may be omitted, and consequently the log, of the term whose distance from the greatest is denoted by p will be very nearly $= \log_s y$ $\frac{pp}{p} - \frac{pp}{p}$, or substituting $\frac{na}{p}$, and $\frac{nb}{p}$ for

$$-\frac{pp}{2l} - \frac{pp}{2s}, \text{ or fublituting } \frac{n \ a}{a+b}, \text{ and } \frac{n \ b}{a+b} \text{ for their equals } s \text{ and } l, = \log_2 y - \frac{pp \cdot a+b}{n+2ab}. \text{ Let this term}$$

be denoted by T, and let d be $=\frac{a+(1)^2}{2ab}$, then will log.

$$T = \log_{1} y - \frac{d p p}{n} \text{ and } T = y \times 1 - \frac{d p^{2}}{n} + \frac{d^{2} p^{4}}{2 \cdot n^{4}} - \frac{d^{3} p^{6}}{2 \cdot 3 \cdot n^{3}} + \frac{d^{4} p^{6}}{2 \cdot 3 \cdot 4 \cdot n^{4}} - \frac{d^{3} p^{10}}{2 \cdot 3 \cdot 4 \cdot 5 \cdot n^{5}} + &c. (See Cotes's Harm. Menf. Prop. 1. Schol. 2.) By proceeding in$$

2.3.1 2.3.4.1 2.3.4.5.1 Eco (Cotes's Harm. Menf. Prop. 1. Schol. 2.) By proceeding in the fame manner the p-1th, p-2d, p-3d, &c. terms may be found; fo that the fum of all the terms between y and T, including the laft, will be = y into $1-\frac{dp^2}{2}$

$$\frac{d \cdot (p-1)^2}{n} - \frac{d \cdot (p-2)^2}{n^2}, & & & & \\ \frac{d^3 \cdot (p-1)^3}{n^3} + \frac{d^3 \cdot (p-1)^3}{2 \cdot n^2} + \frac{d^2 \cdot (p-1)^3}{2 \cdot n^2}$$

+ &c. $-\frac{d^3p^6}{2 \cdot 3 \cdot n^2} - \frac{d^3 \cdot (p-1)^5}{2 \cdot 3 \cdot n^2}$ - &c. which, as in the former case of the pth term being series of powers whose

former case of the pth term being series of powers whose roots are in arithmetical progression, the sum of the whole, neglecting in each series all the terms except the first, will be obtained (by the proposition just referred to) = $y \times$

be obtained (by the proposition just referred to) =
$$y \times p - \frac{dp^3}{3n} + \frac{d^2p^5}{2 \cdot 5 \cdot n^2} - \frac{d^3p^7}{2 \cdot 3 \cdot 7 \cdot n^3} + &c. \text{ or if } p \text{ be made}$$

$$= v \sqrt{n} = y \text{ into } v \sqrt{n} - \frac{dv^3}{2 \cdot 5} + \frac{d^2v^5}{2 \cdot 5}$$

$$= v \sqrt{n} = y \text{ into } v \sqrt{n} - \frac{3}{2} \frac{\sqrt{n}}{\sqrt{n}} + \frac{4}{2} \frac{\sqrt{n}}{\sqrt{n}$$

Corollary 1. The fum of the terms between the pth and the greatest term being given above, the ratio which this

therefore that its hyp. log. will be $= \log_{1} y + p \cdot \log_{2} b - p \cdot \log_{3} a + the fluent of \frac{s}{s} + \frac{s}{s-1} + \frac{s}{s-2} (t-p+1)$ $- \text{ the fluent of } \frac{i}{l+1} + \frac{i}{l+2} + \frac{i}{l+3} (l+p) = \log_{2} y + p \cdot \log_{3} b \cdot s - p \cdot \log_{3} a \cdot l + \frac{1}{l+3} \text{ s.c.}$ $+ \begin{cases} -\frac{1}{l} + \frac{1}{2 \cdot ll} - \frac{1}{3 \cdot l^{3}} + \frac{1}{4 \cdot l^{3}}, & \text{s.c.} \\ -\frac{2}{l} + \frac{4}{2 \cdot ll} - \frac{8}{3 \cdot l^{3}} + \frac{16}{4 \cdot l^{4}}, & \text{s.c.} \end{cases}$

fum bears to all the terms, will be $=\frac{y}{a+b}$ into $v\sqrt{n}-\frac{dv^3\sqrt{n}}{3}+\frac{d^3v^5\sqrt{n}}{2\cdot 5}-\&c$. But $\frac{y}{a+b}$ (being the ratio which the greatest term has to all the terms) has been proved in the corollary to the preceding lemma to be $=\frac{a+b}{\sqrt{a\,b\,c}\,n}$; the above ratio therefore will be $=\frac{a+b}{\sqrt{a\,b\,c}}\times y$. $\frac{d^3v^3}{2\cdot 5}+\frac{d^3v^3}{2\cdot 3\cdot 3\cdot 7}+\frac{d^3v^3}{2\cdot 3\cdot 4\cdot 5\cdot 11}$.

Corollary 2. If the probabilities of happening and failing are equal, a+b will be =2, and $d\left(=\frac{a+l}{2ab}\right)$ will also be =2, hence the feries in the preceding corollary will become $=\frac{2}{\sqrt{c}}$ into $v=\frac{2v^3}{3}+\frac{4\cdot v^5}{2\cdot 5}-\frac{8\cdot v^7}{2\cdot 3\cdot 7}+\frac{16\cdot v^9}{2\cdot 3\cdot 4\cdot 5}-\frac{32\cdot v^{11}}{2\cdot 3\cdot 4\cdot 5\cdot 11}+8cc.$, which is given by M. De More the formula of the probabilities of happening and failing are equal, a+b will be a+b.

De Mowre for determining the ratio between the fum of as many terms immediately succeeding the greatest as there are units in $v\sqrt{n}$, to the whole power of the binomial $\frac{1}{1+1}$.

Corollary 3. Since the log, of the pth term from the greatest, or log. T, is $= \log_{\bullet} y - \frac{p \cdot p \cdot a + b^{1}}{n \cdot a \cdot ab}$ this equation, when a and b are equal, will be log. $T = \log_{\bullet} y - \frac{2 \cdot p \cdot p}{n}$. But the greatest term of the binomial $\overline{1 + 1}$ is the middle term, the log. of y, therefore, in this case, will be the log. of the middle term; hence will the log. of the ratio which T has to the middle term be expressed, as M. De Moivre has observed, by $\frac{-2 \cdot p \cdot p}{n}$.

Corollary 4. In this lemma it is to be observed, that the ratio only of the p terms next fucceeding the greatest term is given. But the ratio of the p terms preceding the greatest term may be determined in the same manner. For fince the pth term which precedes y is 1.1 - 1.1 - 2.... 1 - p + 1, it may be found by pursuing the same steps as have been taken in this lemma, that the

ing the same steps as have been taken in this lemma, that the expression denoting the ratio, in this case, is $= \log_2 y - \frac{p-1}{2} \frac{1-p+1}{2} - 2 \cdot \frac{p-1}{2} \frac{1-3 \cdot p-1}{2} \frac{1-p+1}{2} - \infty c$.

- pp + p

 $\frac{2\beta}{2\beta} = \frac{2\beta^3 + 3\beta\beta + \beta}{12 + 3\beta} = &c. which, on account of the finallness of p compared with s and l, is =$ log, $y = \frac{pp}{2s} - \frac{pp}{2l}$, or the very fame with the ratio of the pth term fucceeding the greatest. Hence, agreeable to the observation of M. De Moivre, when n is a very great number, L and R, and confequently the fum of the p terms from the greatest, whether they precede or succeed it, will

the folution of this propolition may now be obtained with-

First, supposing the probabilities of the event's happening and failing to be equal, let v be taken $=\frac{1}{2}$, then will the fum of the p terms included between L and the middle term (by Corollary 2, Lemma 3d) be $=\frac{2^{n+1}}{\sqrt{2}} \times \frac{1}{2} - \frac{2}{24}$ $+\frac{4}{320}-\frac{8}{3300}+$ &c. $=\frac{2^{n+1}}{\sqrt{6}}\times .427912$, and S = $\frac{1+1}{\sqrt{c}}$ × .855624 &c., hence we have $\frac{S}{2^n} = \frac{2}{\sqrt{c}}$ × . 855624 &c. = 2 2.5062 &c. × . 855624 &c. = 68269 &c. If, therefore, the number of trials be infinite, the probability that the event will happen neither more frequently than $\frac{1}{2}n + \frac{1}{2}\sqrt{n}$ times, nor more rarely than

 $\frac{1}{2}n - \frac{1}{2}\sqrt{n}$ times will be to the contrary as . 68269 to (1 - . 68269 =) . 31731, or nearly as 28 to 13. But it is by no means necessary that the number of trials should be infinite; if they be 3500, or even 1600, the probability that they happen neither more frequently than 1830, nor more rarely than 1770 times in the first case; nor more frequently than 820, nor more rarely than 780 times in the fecond cafe will be very nearly in the proportion given above. Nay, M. De Moivre afferts, that he has, by repeated trials, found this rule tolerably correct, when the number is even fo low as 100.

and failing be unequal, suppose as I to 2, and let v, as in the former case, be = -, then will the sum of the terms included between L and the greatest term (by Corollary 1, Lemma 3) be = $\frac{31^{n+1}}{\sqrt{2c}}$ into $\frac{1}{3} - \frac{3}{32} + \frac{8}{5120} - \frac{243}{114,688} + \frac{243}{1048,57}$ -&c. = 31 × . 421183 &c. Hence, L + R (by

Corollary 4, Lemma 3) = S = $\frac{24}{\sqrt{3}c}$ x .842366 &c. and $\frac{S}{a+b} = \frac{3 \times .842366 &c.}{\sqrt{2 \times .62831 &c.}} = .7129 &c.$ The probability, therefore, that in a very great number of trials the events will happen neither more frequently than - na +

I, nor more rarely than $\frac{nu}{a+b}-1$ times, will be to the

contrary as . 7129 to . 2871; or very nearly as 5 to 2. The the probability of the event's happening to that of its failing in one trial be as 3 to 1, the probability that it happens neither more frequently than $\frac{n a}{d + b} + l$, nor more rarely

than $\frac{na}{a+b} - l$ times, may be found to be as . 9163 to

0837, or nearly as 11 to 1. The less, therefore, the ratio of the probability of the event's happening is to that of its failing, the greater will be the probability that in an indefinite number of trials, the event will happen neither more frequently nor more rarely than the number of times limited

in this problem. Thus, if a = 1, b = 2, $v = \frac{1}{3}$ and n= 3600, the probability that the event happens neither more frequently than 1230, nor more rarely than 1170 times, is as 5 to 2 nearly, but if a = 1 and b = 3, the pro-

bability that it happens neither more frequently than 930, nor more rarely than \$70 times is nearly as 11 to 1.

If v, instead of -, be = 1, the above series will converge more flowly, and therefore Mr. De Moivre has recomfe in this case to the quadrature of curves, by means of equiditlant a and b equal, and I to be successively denoted by a vin $\frac{1}{6}\sqrt{n}, \frac{2}{6}\sqrt{n}, \frac{3}{6}\sqrt{n}, \frac{4}{6}\sqrt{n}, \frac{5}{6}\sqrt{n}, \frac{9}{6}\sqrt{n}$, then the logarithm of the ratio which the term diffact from the middle by the intervals $\frac{1}{6}\sqrt{n}$, $\frac{2}{6}\sqrt{n}$, &c. has to the middle term, will (by Corollary 3, Lemma 3d), be refpectively equal to the logarithms $-\frac{2}{30}$, $-\frac{8}{30}$, $-\frac{18}{30}$, $-\frac{3^2}{30}$, $-\frac{5^3}{30}$, and $-\frac{7^2}{30}$

 $\frac{1}{18}$, $\frac{2}{9}$, $\frac{1}{2}$, $\frac{8}{9}$, $\frac{25}{18}$, and $\frac{2}{1}$, whose correspond-

ing numbers being .94590, .80073, .60653, .41111, .24935, and .13534, may be confidered as fo many equidistant ordinates of a curve; and if the last four of them be taken, the area of the curve contained between thefe ordinates

will be $\frac{.60653 + .24935 + 3 \times .41111 + .24955}{8} \times \frac{1}{5}$ = .27160. Adding this to .682688, or the area of the curve contained between the ordinate when lis interpreted by $o \sqrt{n}$, $\frac{1}{6}\sqrt{n}$, $\frac{2}{6}\sqrt{n}$, and $\frac{3}{6}\sqrt{n}$, we have .95429 for the probability required. In other words, the probability that the event happens neither more frequently than - n + a/n

times, nor more rarely than $\frac{1}{n} = \sqrt{n}$ times, will be to the probability that the contrary happens as .95429 to .04571, or, as 21 to 1 nearly.

If v be taken = 3, the area contained between the ordinates, when ? is interpreted by 6 / n, 7 / n, 8 / n, and 2 a/n, will be found = .02902, which, being added to .97429

is, the probability that the event happens neither more frequently than $\frac{n}{2} + \frac{3}{2} \sqrt{n}$ times, nor more rarely than $\frac{n}{2}$

 $\frac{1}{n}\sqrt{n}$ times, will be to the probability that the contrary

happens very nearly as 344 to 1. If I were interpreted by a higher number, or, in other words, if the limits were extended, the probability might be increased, till it amounted almost to a certainty, yet the extension of those limits would bear but an inconsiderable proportion to the whole when n is very great, and none at all when it is infinite. Whence it follows, as M. De Moivre properly observes, that, "although chance produces irregularities, till the odds will be infinitely great, that in process of time those irregularities will bear no proportion to the recurrency of that order, which naturally results from original design." The truth of this observation, though undeniable, will, perhaps, be more fully consistent by the following proposition, which is the converse of the preceding one, but rather more difficult in its solution, and more direct in its application to the arguments abovementioned.

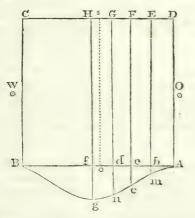
PROPOSITION II.

The number of times an unknown event has happened or failed being given, to find the chance that the probability of its happening flould lie fomewhere between any two named

degrees of probability.

Solution. The solution of this proposition being not only very long and laborious, but given at full length in the Philos. Transactions (vols. 53 and 54), it will be unnecessary to enter further into it at present, than to give a general idea of the manner in which it has been investigated, and of the principles on which the demonstration is founded.

If the probability of an event's happening in each fingle trial be a_i and that of its failing be b_i , the probability of its happening p times, and failing q times in p+q (= n) trials, will be = a^p b^q multiplied into the co-efficient of the term in which a^p b^q occurs when the binomial $a+l^{n}$ is expanded. Or, denoting this co-efficient by E, the probability will be = E a^p b^q .



Suppose BCDA to be a plane perfectly level; the line AB to be divided into equal parts Ab, be, ed, &c. and the perpendiculars bE, eF. dG, &c. to be erected. If a ball W be thrown upon this plane, the probability that it refls between any two of the parallel lines will be equal. Supposing it, therefore, to be thrown for the first time, and a line of to be drawn through the point on which it has rested. Vol. VII.

If the ball O be then thrown p + q = n times, and if its resting between A D and os, after a single throw, be called the bappening of the event M in a fingle trial, then will the probability that the point o falls between any two points in the line BA be the ratio of the distance between these two points to the whole line BA; and if the ball W has been thrown, and the line os be drawn, the probability of the event M in a fingle trial will be the ratio of Ao to BA. Hence, if on the base BA, a figure Bgnem A be described, whose property is this; that the base being divided into two parts, as A b and B b, and at the point of division b, a perpendicular being erected and terminated by the figure in m, y, x, r, respectively represent the ratio of bm, Ab, and Bb, to BA and y be =Expra (E being the co-efficient of the term in which at b2 occurs); then, before the ball W is thrown, the probability that the point of hall fall between f and b, and allo that the event M shall happen p times, and fall q times in p+q trials will be the ratio of f g m b to C A, or the square upon B A. Supposing now, before any thing is discovered concerning the place of the point o, that it should appear that the event M had happened p times, and failed q times in p + q trials, and from hence, that it were gueffed that the point o lay between any two points f and b, in the line B A, and consequently, that the probability of the event M, in a fingle trial, was somewhere between the ratio of A b to BA, and that of Af to BA; then would the probability that this guess were right be the ratio of fgbm to BA.

Having demonstrated the truth of these propositions, nothing further remained to complete the solution than to determine the area of the figure described above, and of the several parts of it separated by the ordinates perpendicular to BA. For this purpose BA being made = 1, and the equation of the curve $y = x^p r^q$, the area of the figure $A b_m$, and consequently its ratio to CA = 1, is found =

$$\frac{x^{p+1}}{p+1} = \frac{q \cdot x^{p+2}}{p+2} + \frac{q \cdot q - 1 \cdot x^{p+3}}{2 \times p+3}, - &c. \text{ the area of the figure B } b m, \text{ and its ratio to C A,} = \frac{r^{q+1}}{q+1} - \frac{p \cdot r^{q+2}}{q+2} + \frac{p \cdot p - 1 \cdot r^{q+3}}{2 \times q+3} - &c. \text{ and the area of the whole figure}$$

A m B, and its ratio to C A = $\frac{1}{n+1} \times \frac{1}{1}$. Hence the ratio of A b m to the whole figure is = $\frac{1}{n+1} \cdot E \times \frac{x^{\frac{n}{2}}}{n+1}$.

 $\frac{q^{x^{p+2}}}{\frac{p+2}{p+2}} + \&c., \text{ and if, as } x \text{ expresses the ratio of } Ab \text{ to}$ BA, \$z\$ express the ratio of Af to BA, the ratio of Agf $\text{to the whole figure will be } \frac{1}{n+1} \cdot E \times \frac{z^{p+1}}{\frac{p+1}{p+1}} - \frac{qz^{p+2}}{\frac{p+2}{p+2}} + \frac{z^{p+1}}{\frac{p+2}{p+2}} + \frac{z^{p+2}}{\frac{p+2}{p+2}} + \frac{z^{p+2}$

 $\frac{q \cdot q - 1 \cdot z^{p+3}}{2 \cdot p + 3} - \&c.$, and configuratly the ratio of fg bm

to Am B will be = n+1. E, multiplied into the difference between these two series. Or, in other words, if nothing is known concerning an event, but that it has happened ρ times, and failed q times in $\overline{\rho+q}$ trials; and it be guessed, that the probability of its happening in a single trial, lies somewhere between z and x; the chance of being right in this case, will be n+1. E, multiplied into the difference

between the feries $\frac{z^{p+1}}{p+1} - \frac{q \cdot z^{-1}}{p+2} + \frac{q \cdot q - 1 \cdot z^{p+3}}{2 \cdot p + 3}$

See, and the feries
$$\frac{\kappa^{p+1}}{p+1} - \frac{q \cdot \kappa^{p+2}}{p+2} + \frac{q \cdot q - 1 \cdot \kappa^{p+3}}{2 \cdot p+3}$$

When p and q are very large numbers, it will be impos-fible to apply this rule to practice, on account of the multitude of terms contained in the two ferres. Mr. Bayes, aware of this difficulty, attempted, with great labour and ingenuity, to remedy the defect; but although he confiderably improved the rule, he did not fucceed fo far as to give the required chance within limits fufficiently narrow. His friend and editor, Dr. Price, has therefore purfued the inquiry with equal labour, and the refult of an investigation, which occupies too many pages to admit of its being inferted here, has been the following rule.

If nothing is known concerning an event, but that it has happened p times and failed q times in p + q, or n trials, and from hence it be gueffed, that the probability of its happening in a fingle trial lies between $\frac{p}{n} + z$, and $\frac{p}{n} - z$, the chance to be in the right, if either p or q exceed z, is left

than 2 Z, and greater than
$$Z + Z \times \frac{1 - 2 E a^2 b^2 - \frac{2 E a^2 b^2}{n}}{1 + E a^2 b^2 + \frac{E a^2 b^2}{n}}$$

If either p or q exceed 10, this chance is less than 2 Z, and $2 E a^2 b^2$

If either
$$p$$
 or q exceed 10, this chance is left than 2Σ , and
$$\frac{1 - 2 E a^2 b^3 - \frac{2 E a^2 b^3}{r}}{1 + \frac{1}{2} E a^2 b^3 + \frac{E a^2 b^3}{2n}}; \text{ but in}$$
all cases, where z is small, and also where the disparity be-

all cases, where z is small, and also where the disparity between p and q is not great, the chance is very nearly = 2 Σ . In this rule, it is to be observed, that (supposing m2 = $\frac{n^3}{2pq}$, K = the ratio of the quadrantal arc of a circle to its radius, and H = the ratio, whose hyp. log. is $\frac{2^2-1}{2^n}$ $\frac{2^4 - 1}{360 n^2} + \frac{2^7 - 1}{1260 n^5} - \frac{2^4 - 1}{1680 n^7} + &c.) \Sigma \text{ is made} = \frac{n+1}{n}$ $\times \frac{\sqrt{2pq}}{n} \times \to a^p \mathcal{B}$ into the feries $\frac{H n}{n+1} \times \frac{\sqrt{K}}{\sqrt{2}} - \frac{n}{n+2}$ $\frac{1 - \frac{2 m^2 z^2}{n} \frac{n+1}{2}}{2 m z} + \frac{n}{n+2} \times \frac{1 - \frac{2 m^2 z^2}{n} \frac{n+2}{2}}{n+2} \times \frac{3n^3}{n+4 \cdot 4 \cdot 4 m^3 z^3} - \frac{3n^3}{n+2} \times \frac{1 - \frac{2 m^2 z^2}{n} \frac{n^2}{2} + 3}{n+4 \cdot n+6 \cdot 8 m^3 z^3} + \frac{3 \cdot 5 \cdot n^4}{n+4 \cdot n+6 \cdot n+8 \cdot 16 \cdot m^3 z^3} \times \frac{1 - \frac{2 m^2 z^3}{n} \frac{n+2}{2} + 4}{n+4 \cdot n+6 \cdot n+8 \cdot 16 \cdot m^3 z^3}$ - &c. and E $a^{b}b^{b} = \frac{\sqrt{n}}{2\sqrt{K\rho q}}$ multiplied into the ratio, whose hyp. \log_{2} is $\frac{1}{12} \times \frac{1}{n} - \frac{1}{p} - \frac{1}{q} - \frac{1}{360} \times \frac{1}{n^{2}} - \frac{1}{p^{2}} - \frac{1}{q^{2}} + \frac{1}{1263} \times \frac{1}{n^{2}} - \frac{1}{p^{2}} - \frac{1}{q^{2}} + \frac{1}{1650} \times \frac{1}{n^{2}} - \frac{1}{n^{2}} -$

 $\frac{1}{1188} \times \frac{1}{n^3} - \frac{1}{p^3} - \frac{1}{q^7} - &c.$ From the preceding investigation, it appears that the first rule gives a direct and perfect folution in all cases, and that the f coul rile is only a method of approximating to the folution, when the labour of applying the first rule becomes too great. If either p or q are nothing, or very small, it is

evident that the first rule gives an eafy and correct foliation; but, in all other cases, recourse must be had to the approximation in the fecond rule; which, however, may be generally computed without any great difficulty. Indeed, what principally recommends the folution of this proposition is, that giving complete information when either per qure small, it gives it in those cases where it is most wanted, and where M. de Moivre's folution of the inverse proposition can assord httle or no direction. In the other cases, where p and q are very great, and where only the approximation is wanted, the required chance may be obtained with tolerable accuracy by the affiltance of M. de Moivre's proposition. But in order to give a distinct idea of the nature of the present proposition, it will not be improper to conclude this account with the following examples: observing, however, previously, that both Mr. Bayes and Dr. Price, having omitted to flate the value of E in the first rule, it may be

found = $\frac{n^2 \sqrt{n}}{p^2 q^4 + 4 \sqrt{K p} q}$ multiplied into the ratio, whose hyp. log. is $\frac{1}{12} \times \frac{1}{n} - \frac{1}{p} - \frac{1}{q} - \frac{1}{360} \times \frac{1}{n^3} - \frac{1}{p^4} - \frac{1}{q^3} + \frac{1}{1260} \times \frac{1}{n^3} - \frac{1}{p^5} - \frac{1}{q^5} - &c.$

1. Supposing an event to have happened about the pro-

bability of which nothing further is known than that it has happened once, and that it be inquired what conclusion should be drawn from hence with respect to the probability of its happening on a fecond trial. In this case q in the first rule becomes = o and p = 1, and if the limits \approx and x be put respectively = 1, and - the expression is that rule, or $\frac{1}{n+1}$. $\frac{x^{p+1}}{p+1} - \frac{x^{p+1}}{p+1} \left(= 1 - \frac{1}{2} \right)^2$ will give $\frac{3}{4}$ for the answer; which shows that it is 3 to 1 that the chance lies fomewhere between 1 and -, or that the odds are 3 to 1, that it is somewhat more than an even chance that it would happen on a fecond trial. In the fame manner, if the event has happened twice, the expression will be $x = \frac{1}{2} = \frac{7}{8}$ if

thrice, = $1 - \frac{1}{2} = \frac{15}{10}$. That is, the odds will be 7 to I if it has happened twice, and 15 to I if it has happened thrice, for more than an equal chance that it will happen on further trials. Again, if the event has happened ten times without failing, and isquiry be made what reason we have to think we are right if we guess that the probability lies fomewhere between $\frac{3}{4}$ and $\frac{2}{3}$, or between 3 to 1 and 2 to 1,

the answer in this case will be $-\frac{3}{4}$ $\left| \frac{1}{3} - \frac{2}{3} \right|^n = .3067$; that is, the odds are greater than 2 to 1 against our being right. If we had gueffed that the probability lay between 16 and

2, or between 16 to 1 and 2 to 1, the chance would have

been nearly equal that we had gueffed right. 2. Supposing nothing further to have been known of an event than that it happened ten times and failed once, and that a person guessed from thence that the ratio of the probability of the event's happening in a fingle trial to that of its failing, lay somewhere between the ratio of 9 to 1 and

II to I; then would the chance of his being right in his guels be expressed by n + 1. E multiplied into the difference between $\frac{z^{p+1}}{p+1} - \frac{q z^{p+2}}{p \times 2}$ and $\frac{x^{p+1}}{p+1} - \frac{q x^{p+2}}{p+2}$. Now fince z is $= \frac{11}{12}$, $x = \frac{9}{10}$, p = 10, q = 1, n = 11, and E

also = 11, this expression may be easily found = . 07699 &c.; fo that there would be the odds of 923 to 77, or 12 to I nearly against his being right. If the event had happened 20 times and failed twice, the required chance would

be
$$23 \times 231 \times \frac{11^{161}}{12} - 2 \times \frac{11}{12}^{13} + \frac{11}{12}^{13} - \frac{9}{10}^{13} - \frac{9}{10}^{13} - \frac{10}{10}^{13} - \frac{10$$

against his being right are less than in the former case, being

here only 892 to 108, or 9 to 1 nearly.

3. Lastly, supposing an event to have failed 1000 times, and to have happened 100 times in 1100 trials; or, in other words, fuppoling a person, to have known nothing more of a lottery than that he had just feen 1100 tickets drawn of which 1000 were blanks, and 100 were prizes; and that in confequence he gueffed that the proportion of the blanks

to the prizes in the lottery lay formewhere between 10

 $\frac{1}{110}$, and $\frac{10}{11} + \frac{1}{110}$. In this case the first rule would require fo many terms as to render it impracticable, and therefore recourse must be had to the second rule, by which the question may be determined in the following manner:

Since p is = 1000 · q = 100 · n = 1100 · z = $\frac{1}{110}$, and m

 $\left(=\frac{\sqrt{n^2}}{2\sqrt{n}a}\right) = 81.578$, E $a^p b^p$ may be found = .0418545 and $\Sigma = .3531$; hence 2Σ will be = .7062 and $\Sigma + \Sigma \times 1 - 2 \to a^{\dagger}b^{\dagger} - 2 \to a^{\dagger}b^{\dagger}$

 $\frac{\pi}{1 + \frac{1}{2} E a^{p} b^{q} + E a^{p} b^{q}} = .675\%, \text{ fo that the chance of}$

his being right in his conjecture lies fomewhere between , .7062 and 6758, or between the odds of 240 to 100, and 208 to 100, or nearly between 12 to 5 and 10 to 5.

CHANCE, in Law. Where a man commits an unlawful act, by misfortune or chance, and not by defign, it is an inflance of deficiency of will. In this case the will observes a total neutrality, and does not co-operate with the deed; and it therefore wants one main ingredient of a crime. It may here be observed, that if any accidental mischief happens to follow from the performance of a lanvful act, the party flands excused from all guilt : but if a man be doing any thing unlawful, and a confequence enfues which he did not forefee or intend, as the death of a man or the like, his want of forefight shall be no excuse; for, being guilty of one offence, in doing antecedently what is in itself unlawful, he is criminally guilty of whatever confequence may follow the first misbehaviour. 1 Hal. P. C. 39. See the next article.

CHANCE-Medley, formed of Fr. chance, and meler, miscere, the accidental killing of a man in felf-defence. This felf-

defence is that by which a man may protect himfelf from an affault, or the like, in the course of a sudden brawl or quarrel, by killing him who affaults him.

This kind of killing (fe defendendo) is what the law expreffes by the word chance-medley, or (as some write it) chaudmedley; the former of which, according to its etymology, fignifies a cafual affray, the latter, an affray in the heat of blood or passion; both of these being much of the same import: but the former is in common speech too often erroneoully applied to any manner of homicide by misadventure: whereas it appears by the flatute 24 Hen. VIII. c. 5. and our ancient books (Staundf. P. C. 16.), that it is properly applied to fuch killing as happens in felf-defence, upon a sudden rencounter. (3 Inst. 55. 57. Fost. 275, 276.) This right of natural defence does not imply a right of attacking; for, instead of attacking one another for injuries past or impending, men need only have recourse to the or-dinary tribunals of justice. They cannot, therefore, legally exercise this right of preventive defence, but in sudden or violent cases; when certain and immediate suffering would be the confequence of waiting for the affiftance of law. Therefore, to excuse homicide by the plea of self-defence, it must appear, that the slayer had no other possible (or, at least, probable) means of escaping from his affailant. It is frequently difficult to distinguish this species of homicide (upon chance-medley in felf-defence) from that of manslaughter, in the proper legal sense of the word. (3 Init. 55.) But the true criterion between them feems to be this: when both parties are actually combating at the time when the mortal throke is given, the flayer is then guilty of manflaughter; and if the flayer hath not begun to fight, or (having begun) endeavours to decline any further ftruggle, and afterwards, being close pressed by his antagonist, kills him to avoid his own destruction, this is homicide excusable by felfdefence. (Foit. 277.) See Homicide. In chance medley the offender forfeits his goods, but hath a pardon of course. See Stat. 6 Edw. I. c. 9.

CHANCEFORD, in Geography, a township of Ame-

rica, in York county, Pennsylvania.

CHANCEL, is properly that part of the choir of a church, between the altar or communion-table, and the baluftrade, or rail that encloses it; where the minister is placed at the celebration of the communion.

The word comes from the Latin cancellus, which in the lower Latin is used in the same sense, from cancelli, lattices, or eross-bars; wherewith the chancels were anciently encom-

paffed, as they now are with rails.

The right of a feat and a fepulchre in the chancel, is one of the privileges of the founders of a church. The repairs of the chancel belong by ufage, in most parishes, to the rector or vicar, or both

CHANCELADE, in Geography, a town of France, in the department of the Dordogne; one league N.W. of Peri-

CHANCELLOR, an officer, supposed originally to have been a notary, or fcribe, under the emperors, and named cancellarius, because he sat behind a lattice, called in Latin cancellus, to avoid being crouded by the people.

Naude fays, it was the emperor himself who sat and rendered justice within the lattice; the chancellor attending at

the door thereof, whence he took his title.

Others say, he had it from this, that all letters, addresses, petitions, &c. to the king, being first examined by him, were cancelled, where amis: others, as Sir Edward Coke (4 Inft. 88.) because all patents, commissions, and warrants, coming from the king, were examined and cancelled by him, when granted contrary to law, which is the highest point of 3 M 2

the fentences of other courts.

Du-Cange, from Joannes de Janua, fetches the original of the word chancellor from Palestine, where the houses being flat, and made in form of a terrace, with parapets or palifadoes, called cancelli; those who mounted these houses to rehearle any harangue, were called cancellarii; whence the name passed to those who pleaded at the bar, which he calls eancelli forenses, and at length to the judge who presided; and lastly to the king's secretaries.

Theoffice, and alfothename of chancellor (however derived), was undoubtedly known to the courts of the Roman emperors; where it originally feems to have fignified a chief feribe or fecretary, who was afterwards invested with feveral judicial powers, and a general superintendency over the rest of the officers of the prince. Under the emperor Carinus, one of his door-keepers, with whom he entrufted the government of the city, was denominated cancellarius; and from this humble original, fays Mr. Gibbon, (Hift. Rom. Emp. vol. ii. p. (11.) the appellation has, by a fingular fortune, rifen into the title of the first great office of state in the monarchies of Europe. From the Roman empire it paffed to the Roman church ever emulous of imperial state; and hence every bishop has, to this day, his chancellor, the principal judge of his confiltory. And when the modern kingdoms of Europe were established upon the ruins of the empire, almost every flate preferved its chancellor, with different jurisdictions and dignities, according to their different constitutions. But in all of them he feems to have had the supervifion of all charters, letters, and fuch other public inftruments of the crown, as were authenticated in the most folemn manner; and therefore, when feals came into use, he had always the cultody of the king's great feal.

This officer is now in great authority in all countries:

the person who bears it with us, or the

Lord High CHANCELLOR of England, is the first lay person of the realm, next after the king and princes of the blood, in all civil affairs. He is the chief administrator of justice next the fovereign, being the judge of the court of chancery; and to him belongs the appointment of all the justices

of peace in the kingdom.

All other justices are tied to the strict rules of the law ; but the chancellor has the king's absolute power to moderate the rigour of the written law, to govern his judgment by the law of nature and conscience, and to order all things fesundum aguum & bonum. Accordingly, Stamford fays, the chancellor has two powers, the one absolute, the other ordinary; meaning, that though by his ordinary power he mult observe the same form of procedure as other judges, yet in his absolute power he is not limited by any written law, but

by conscience and equity.

Although Polydore Virgil, in his History of England, makes William I. called the Conqueror, the founder of our chancellors; yet Dugdale has shewn, that there were many chancellors of England long pefore that time, who are mentioned in his "Origines Juridicales," and catalogues of chancellors; and Sir Edward Coke (4 Inft.) fays, it is certain, that both the British and Saxon kings had their chancellors, whose great authority under their kings were probably derived from the reasonable customs of neighbouring nations, and the civil law. The offices of lord-chancellor and lord-keeper, by the statute 5 Eliz. cap. 18. were invested with the same power; till that time they were different, and frequently sublisted at the same time in different persons; fometimes the lord-chancellor had a vice-chancellor, who was keeper of the feal.

Since that datute, there cannot be a lord-chancellor and

Fis jurisdiction. Others, because he cancelled and annulled a lord-keeper at the same time; but before, there might, and had been. King Henry V. had a great feal of gold, which he delivered to the bishop of Durham, and made him lord. chancellor; and also another of silver, which he committed to the bishop of London to keep. Lord Bridgman was lord-keeper, and lord chief justice of the common pleas, at the same time; which offices were held not to be inconfistent. (4 Inst. 78.) By flat. I W. and M. cap. 21. commissioners appointed to execute the office of lord-chancellor, may exercise all the authority, jurisdiction, and execution of laws which the lord-chancellor, or lord-keeper, of right might fo use and execute, &c.; fince which statute this high office hath been feveral times in commission. The keeper was created per traditionem magni sigilli, but the lord-chancellor by patent, though now that he has the keeper's office, he is created in like manner by the mere delivery of the king's great feal into his cullody; whereby he becomes, without writ or patent, an officer of the greatest might and power of any now subsiding in the kingdom, and in point of precedency fuperior to every temporal lord. And the act of taking away this feal by the king, or of its being affigned or given up by the chancellor, determines his office. (1 Sid. 338.) The chancellor is a privy-counfellor by his office, and according to lord-chancellor Ellefmere, prolocutor of the house of lords by prescription. See PARLIA-MENT.

Though he be fole judge of the court of chancery, yet in matters of much difficulty, he fometimes confults the other judges, though they have no share whatever of the judicial authority; fo that this office may be discharged by one who is no professed lawyer, as anciently it commonly was by an ecclefiastic, who presided over the royal chapel, and became keeper of the king's confcience; vilitor, in the king's right, of all hospitals and colleges of royal foundation; patron of all the king's livings, under the value of 20 marks per ann. in the king's books, (38 Ed. III. 3. F. N. B. 35) though Hobart (214) extends this value to 20 pounds; guardian of all infants, idiots, and lunatics; and general fuperintendent of all charitable inflitutions; and all this, over and above the valt and extensive jurisdiction which he exercifes in his judicial capacity in the court of chancery, wherein, as in the exchequer, there are two diffinct tribunals; the one ordinary, being a court of common law; the other extraordinary, being a court of equity. See Court

of Chancery.

The lord chancellor, as there is now no lord high steward, is accounted the first officer of the kingdom; and he net only keeps the great feal, but all patents, commissions, warrants, &c. from the king, are peruled and examined by him, before they are figned; and he annuls the king's letters patent when contrary to law. See this article fupra. By his oath he fwears well and truly to ferve the king, and to do right to all manner of people, &c. The flat. 25 Ed. III. c. 2. declares it to be treafon to flay the chancellor (and certain other judges), being in their places doing their offices; and it feems, that the lord-keeper and commissioners of the great seal are within this statute, by virtue of stat. 5 Eliz. c. 18. and 1 W. and M. c. 21. See TREASON.

The lord-chancellor, in his judicial capacity, has twelve affillants or coadjutors, anciently called clerici, as then being in holy orders, now Masters in Chancery, and the Master of the Rolls. See Master of the Rolls, Masters in Chan-

Besides these superior officers, he has other assistants. The fix clerks in chancery transact and file all proceedings by bill and answer; and also issue out some patents that pass the great feal; which business is done by their under clerks,

each of whom has a feat there; of whom every one of the fix clerks has a certain number in his office, usually about ten; the whole body being called the fixty clerks.

The curfitors of the court, 24 in number, make out all original writs in chancery, which are returnable in C. B., &c. and among thefe the business of the several counties is severally distributed. The register is an office of great importance in this court, under whom are feveral deputies, who take cognizance of all orders and decrees, and enter and draw them up, &c. The mafter of the Subpana office iffues out all writs of Subpoena. The examiners are officers who take the depositions of witnesses and examine them, and make out copies of the depositions. The clerk of the affidavits files all affidavits used in court, without which they will not be admitted. The clerk of the rolls sits constantly in the Rolls, to make fearches for deeds, offices, &c., and to make out copies. The clerks of the petty-bag office, three in number, have a great variety of business belonging to their respective departments, in making out writs of fummons to parliament, conge d'elires for bishops, patents for customers, liberates upon extent of statute-staple, and recovery of recognizances forfeited, &c.; and also relating to fuits for and against privileged persons, &c. These clerks have several subordinate clerks. The ufher of the chancery had formerly the receiving and custody of all money entered to be deposited in court, and paid it back again, by order; but this business was afterwards asfumed by the masters in chancery: till by stat. 12 Geo. I. c. 32. a new officer was appointed, called the accountant general, which fee. There is also a ferjeant at arms, to whom persons standing in contempt are brought up by his substitute as prisoners. A warden of the fleet receives such prifoners as stand committed by the court, &c. Besides these officers there are feveral others; fuch as a clerk of the crown in chancery; clerk and controller of the hanaper; clerk for inrolling letters patent, &c., not employed in proceedings of equity, but concerned in making out commissions, patents, powers, &c. under the great feal, and collecting the fees thereof; a clerk of the faculties, for dispensations, licences, &c.; clerk of the prefentations for benefices of the crown in the chancellor's gift; clerk of appeals, in appeals from the courts of the archbishop to the court of chancery; and various other officers, who are constituted by the chancellor's commission.

CHANCELLOR of a cathedral. His office is thus defcribed in the Monasticon; viz. to hear the lessons and lectures read in the church, either by himfelf, or his vicar; to correct and fet right the reader when he read amis; to inspect schools, to hear causes, apply the seal, write and dispatch the letters of the chapter, keep the books, take care there be frequent preachings, both in the church, and out of it, and allign the office of preaching to whom he

CHANCELLOR 'of a diocese, or of a bishop, is a person ap-

pointed to hold the bishop's courts, held in the respective cathedral of each diocese, and to affift the bishop in matters of ecclefiastical law. This officer, as well as all other ecclefialtical ones, if lay or married, must be a doctor of the civil law fo created in some university. Stat. 37 Hen. VIII. c. 17. He was anciently called ecclesiasticus, and ecclesia cauffidicus, the church-lawyer. See Bifhop's COURT.

CHANCELLOR of the dutchy of Lancafter, is an officer before whom, or his deputy, the court of the dutchy chamber of Lancaster is held. It is his business to judge and determine all controversies between the king and his tenants of the dutchy-land; and otherwise to direct all the king's affairs relating to that court. See Dutchy Court.

CHANCELLOR of the exchequer, is an officer, supposed by

fome to have been created for moderating extremities in the exchequer. He fometimes fits in that court and the exchequer-chamber, and, with the rest of the court, orders things to the king's best benefit. He is always in commission with the lord-treasurer for letting lands accruing to the crown by diffolution of abbies, and otherwife: he has power (by flat. 33 Hen. VIII. c. 39), with others, to compound for forfeitures on penal statutes, bonds, and recognizances entered into to the king. He has a great authority in managing the royal revenue, &c. and this feems of late to be his chief bufiness; accordingly he is commonly the first lord commissioner of the treasury. The court of equity in the exchequer-chamber, which was intended to be holden before the lord-treasurer, chancellor, and barons, is usually held before the barons only. When there is a lord-treasurer, the chancellor of the exchequer is under-treasurer. See Court of Exchequer.

CHANCELLOR of the order of the garter, and other military orders, is an officer who feals the commissions and mandates of the chapter, and affembly of the knights, keeps the register of their deliberations, and delivers acts thereof under the feal of the order. This office is annexed to the

fee of Salisbury. See GARTER.

CHANCELLOR of an university, is he who seals the diplomas or letters of degrees, provision, &c. given in the

univerfity.

The chancellor of Oxford is their chief magistrate, elected by the students themselves; his office is durante vita, to govern the university, preserve and defend its rights and privileges, convoke affemblies, and do juffice among the members under his jurisdiction.

Under the chancellor is the vice-chancellor, who is chosen annually; being nominated by the chancellor, and elected by the university in convocation. His business is to supply

the chancellor's absence.

At his entrance upon his office, he chooses four pro-vicechancellors out of the heads of colleges, to one of whom he deputes his power in his absence. See Oxford.
The chancellor of Cambridge is, in most respects, the

same with that of Oxford; only he does not hold his office durante vita, but may be elected every two years.

He has under him a commissary, who holds a court of record of civil causes, for all persons of the university under the degree of master of arts.

The vice-chancellor of Cambridge is chosen annually by the fenate, out of two perfons nominated by the heads of the feveral colleges and halls. See CAMBRIDGE. See also University Courts.

CHANCERY. See Court of Chancery.

CHANCHA, in Geography, a town of Egypt; 2 leagues E. of Cairo, at the entrance of a defert which leads to

mount Sinai.

CHANCRE, in Surgery, is a term originally derived from the Greek word nagativos, CANCER, CANKER, or (agreeably to the French orthography) CHANCRE. This word, among the Romans, fignified an eroding ulcer of any kind, uleus cancrofum; fuch, for example, as may be often feen in the infide of the cheeks or lips, where the cuticle is extremely thin, as it is upon the glans penis, and interior part of the prepuce. "Si quando autem ulcera oris cancer invafit, primo confiderandum est, num malus corporis habitus sit, eique occurrendum:" Celsus, de Med. lib. vi. cap. 15. The translators of Celfus, in this passage, and in lib. v. cap. 26. § 31. 35. have not improperly rendered the term cancer by the word gangrene; and so, conversely, the Greek term yayygaina has been translated cancer in the Latin vulgate bible, and canker in the authorized English version, 2 Tim

2 Tim. ii. 17-because a gangrene is of an eroding or spreading nature. In this sense, the word may be used metaphorically:

Yet writers fay, as in the sweetest bud

The eating canker dwells; fo eating love Inhabits in the finest wits of all." SHAKESPEARE. French writers do not confine the term chancre, as most of the modern English authors have done, to fores ariling from a venereal cause; although they, too, are getting more into that habit: but the French use this word to denote the little eating ulcer of the mouth, before noticed; and they even apply the fame term to vegetables, e. g. " Cet arbre la a une chancre."

The older medical authors, especially those of the middle age, employed the words cancrana and carolus, likewife, to fignify that kind of eroding malignant fore which arises from impure fexual intercourse; and it is this local disorder, almost exclusively, to which modern surgeons are accustomed to apply the epithet chancre. Indeed, we feldom hear the word, without annexing the idea of its originating in a venereal cause; and from this affociation, we are very apt to forget the true ctymology of the term, and that it was in

use even before the existence of lues venerea.

The old Italian words carolo, a canker-worm, and carolofo, worm-eaten, were, perhaps, derived from caries, which fignifies rottennels. Hence, the Italians write, in their ancient idiom, "bubones di caroli," that is, bubones ex carie: Vide Welsch. Obs. Med. Syllog. in Marc. Cumani, 4to. p. 38. Hence again, Fracastorius and others say, " caries

penis," where we should fay, "chancre penis."

Marcellus Cumanus, who wrote in the year 1495, during the invalion of Italy by Charles VIII. tells us, he cured many persons afflicted with venereal chancres : " Vidi quendam patientem carolos in virga, in parte præputii interna;" and in another place, he fays, "Ego infinitos bubones causatos ex pusulis virga, & ex nimia satigatione & labore curavi." That he means the same disease in both cases is evident, from the following observations: " Ut resolvatur bubo in principio & augmento, à causa primitiva, vel à earolis fiat hoc, &c."-and again, " Aliquando incipiebat pullula una in modum vesiculæ parvæ sine dolore, sed cum pruritu, fricabant, et inde ulcerabatur tanquam formica corrofiva: et polt aliquot dies incurrebant in angultiis propter dolores in brachis, cruribus, pedibus, cum puttulis magnis." This is the very field description on record of what we now denominate VENEREAL CHANCRES: (See LUES VENERFA and SYPHILIS.) The next authors who noticed this symptom of lucs, were Torella, Almenar, and John De Vigo.

The most common characters of a chancre, in its incipient state, are a red, painful, and itching pimple, containing a finall quantity of subjectent ferum, which readily burfts into a little ulcer, having hard, thickened, and flightly elevated edges. But this very fame kind of fore may arife in other parts of the body, thinly covered with cuticle; and it appears to be, in a great measure, owing to the structure of the affected part, what characters the ulcer shall assume, rather than to the peculiar nature of the efficient caufe. We do not, at prefent, enter into the subject of the cure of chancres; as this belongs to the article Syphilis or Lues VENEREA: but we may here observe, that medical men have grievoully obscured this subject in their writings, and too generally have supposed all chancres to be venereal; from which erroneous datum, they have further concluded, that all chancres require mercury for their cure! See Mr. Blair's " Effays on the Venereal Difeafe," Part II. fub finem; where this queltion is confidered, in reference to the

medicinal use of nitric acid. Mr. Abernethy has also, of late, thrown out some useful hints on the same subject, in his "Surgical Observations," Part I. p. 108, &c. CHANDA, in Geography, a considerable city of His-

dooffan, in the country of Berar, belonging to Nagpour, and about 70 geographical miles to the fouth of it. N. lat. 19° 48'. E. long. 80° 2'.

CHANDACE, in Ancient Geography, a fortified town

CHANDAIL, a circar or diffrist of Hindoostan in the territory of Allahabad, S.W. of the country of

CHANDANA, in Ancient Geography, an ancient town

placed by Steph. Byz. in Japygia

CHANDANACA, a town of Afia, in Persia. Steph.

CHANDELEUR islands, a cluster of islands in the gulf of Mexico, near the coast of West Florida. N. lat. 29° 30'. to 29° 45'. W. long. 88° 48'. to 88° 58'.

CHANDELIER fignifies a candleftick, lamp, &c. which Illuminated chandeliers form an important addition to a collection of works in pyrotechny, and are much admired by the Italians. They have the advantage of being eafily made; and in a grand exhibition illuminated pieces of this kind should be fired after every two or three wheels, or fixed pieces of common and brilliant fires. For the conftruction of an illuminated chandelier, let it be made of thin wood, confifting of a tlem and arched branches, and furmounted with a crown. In the front of the branches, in the body, and in the crown at the top, bore as many holes for illuminations as they will contain, at the distance of three inches from one another: and in these insert illuminations formed with white, blue, or brilliant charges. Having fixed the port fires, clothe them with leaders, fo that the chandelier and crown may be illuminated together. See Pyro. TECHNY.

CHANDELIERS, OF CHANDELEERS, in Fortification, are upright flakes raifed on one or more pieces of wood to support planks, boughs, fascines, and, in general, all that can help to cover the beliegers, and prevent the enemy from feeing what is doing behind them. When the beliegers are under the necessity of opening any trenches that are enfiladed, they must take such precautions and raife a parapet every now and then to cover part of such a trench. Chandeliers fometimes ferve as a moveable parapet.

CHANDEGHERE. Sce KANDEGHERI.

CHANDEREE, in Geography, a very ancient city of Hindooftan, capital of a circar or district in the province of Malwa, near the river Beewah. It once contained, according to the Ayin Acbaree, 14,000 flone houses; and, although, like most of the ancient cities of Hindooftan, it is fallen into decay, it is still the residence of a principal rajah: 242 miles N.E. of Ougein, and 302 N.W. from Nagpour. N. lat. 24° 48'. E. long. 78° 40'.

CHANDERNAGORE, a town of Hindooftan, in the country of Bengal, formerly a French fettlement, but now possessed by the English, situated on the western bank of the Ganges, about an hour's walk below Chinfurah, and fomewhat more than 10 miles from Calcutta. It is built, about a mile in length, along the Ganges, in a straight line, with two parallel and feveral crofs threets behind it, which have some good buildings. The ruins of the fort, demolished by the English, are at the north end of the place, and fufficiently shew its former strength. The French governor built a handsome house, and laid out an elegant garden about four miles below the town, affording a charming prospect along the Ganges. This place was taken by the

English, under the conduct of colonel Clive and admiral Watson, in March 1757; restored to the French at the peace of 1763; taken again during the American war, and reflored in 1783; and fince taken in 1793, and retained.

N. lat., 22°, 51′ 26″. E. long. 88° 29′ 15″.

CHANDIEU, a town of France, in the department of

the Rhône and Loire; I league N. of Montbrilon.

CHANDIGA, a river of Siberia, which runs into the Adlan. N. lat. 62° 10'. E. long. 1,5° 14'.
CHANDIROBA, in Boiany. Maregr. Sloan, Plum.

See FRUILLEA.

CHANDLER, SAMUEL, in Biography, an eminently learned nonconformist divine, was born in 1603 at Hungerford, in Berkshire, where his father was pastor of a congregation of protestant diffenters. His academical education was commenced under Mr. Moore of Bridgewater, and completed under the learned Mr. Samuel Jones of Tewksbury, where his fellow students were Butler and Secker, afterwards diffinguished prelates in the church of England. Having acquired in this excellent feminary a very confiderable share of critical, biblical, and oriental learning, he first began to preach in 1714; and in 1716 he fettled with a diffenting congregation at Peckham, near London. But being married, and having an increasing family, and losing his whole fortune in the South Sea scheme in 1720, the income derived from his office was inadequate to his support; fo that he was under the necessity of opening a bookseller's shop in the Poultry, which he kept two or three years, whilft he continued to discharge his duty as a minister. At this time he was appointed to preach a weekly evening-lecture at the meeting-house in the Old Jewry, where he delivered a courfe of fermons on the miracles of Christ and the truth of the Christian religion. These fermons, which were published in 1725, in the form of a treatile, in 8vo, and entitled "A Vindication of the Christian Religion, in two parts," the first containing a discourse on miracles and the fecond an answer to Collins's "Grounds and Reasons of the Christian Religion," were very favourably received by the public, and occasioned his being chosen, about the year 1726, minister of the congregation in the Old Jewry, to which he officiated with a high degree of reputation, first as affiltant and afterwards as pastor, for 40 years. As a preacher, he was eminently instructive and animated; and he was affiduous in the exercise of his pastoral office. In 1727, he published " Reflexions on the Conduct of the modern Deifts, in their late Writings against Christianity," with a preface in favour of the rights of private judgment, in anfwer to some remarks of Dr. Rogers; and, in the following year, he published "A Vindication of the Antiquity and Authority of Daniel's Prophecies, and their Application to Jesus Christ." Whilst he thus ably and strenuously de-fended the truth of revealed religion, he displayed his abhorrence of the perfecuting spirit which has been too often manifelted by its erroneous advocates, in a translation of "The Hillory of the Inquisition, by Philip à Limborch," in 2 vols. 4to. 1731; and to this translation he prefixed " A large Introduction, concerning the Rife and Progress of Persecution," which involved him in a controversy with Dr. Berriman, and occasioned the publication of two or three pamphlets on each fide. In the profecution of the subject of religious liberty, he published, in 1732, a letter to Dr. Gibson, bishop of London, concerning the repeal of the test act, entitled "The Dispute better adjusted about the proper Time of applying for a Repeal of the Corporation and Tell Acts, by shewing that some Time is proper." Having formed a defign of writing a commentary on the Hebrew prophets, he began by publishing, in 1735, " A

Paraphrase and critical Commentary on Joel," 4to.; but whilft he was proceeding with the book of Ifaiah, he was convinced, by the MS lexicon and lectures of Schultens, which fell into his hands, that he did not possess a sufficient acquaintance with the Oriental tongues for the execution of his plan; and he, therefore, abandoned his delign. In 1736 he republished his introduction to the history of the Inquisition, in an enlarged form, under the title of "The Hiltory of Perfecution, in 4 parts: 1. Amongst the Heathens; 2. Under the Christian Emperors; 3. Under the Papacy and Inquisition; 4. Among Protestants; with a Preface, containing Remarks on Dr. Rogers's Vindication of the civil Establishment of Religion," 8vo. In the course of this publication he endeavoured to prove, that the things for which Christians have perfecuted one another have generally been of fmall importance; that pride, ambition, and covetousness, have been the grand sources of persecution ; that the decrees of councils and fynods are of no authority in matters of faith; that the imposition of subscriptions to human creeds is unreafonable and pernicious; and that the Christian religion absolutely condemns persecution for conscience-sake. In 1741, he renewed his controversial warfare with deilm, by a "Vindication of the History of the Old Testament," which was followed, in 1742, by his "Defence of the Prime Ministry and Character of Joseph," both written in answer to Dr. Thomas Morgan, whom, according to Dr. Leland, he clearly convicted of falsehood and mifreprefentation. In 1744, he published "The Witnesses of the Refurrection of Jesus Christ re-examined, and their Testimony proved entirely confiltent;" which, in the judgment of Dr. Leland, was " a valuable treatife," containing, particularly in the last chapter, a very clear and judicious summary of the evidence for the refurrection of Jesus. His next publication, in 1748, was "The Cafe of Subscription to explanatory Articles of Faith, as a Qualification for Admission into the Christian Ministry, calinly and impartially reviewed; in answer to, 1. A late Pamphlet, entitled, the Church of England vindicated in requiring Subscription from the Clergy to the 39 Articles; 2. The Rev. Mr. John White's Appendix to his third Letter to a diffenting Gentleman; to which is added, the Speech of the Rev. John Alphonfo Turretine, previous to the Abolition of all Subscription, at Geneva, translated from a MS. in the French," 8vo. About this time he accompanied his friend, the earl of Finlater, into Scotland, and accepted, what he had before declined, the honour of a doctor's degree in divinity, which was conferred upon him without folicitation, and with every token of respect, by the two universities of Edinburgh and Glafgow. He had likewife the honour of being afterwards elected a fellow of the Royal Society and of the Society of Antiquaties. Upon the death of king George II. in 1760, Dr. Chandler published a funeral fermon, containing an eulogy of that prince, and comparing him to king David, This occasioned a pamphlet, entitled "The Hilbory of the Man after God's own Heart," in which the author calumniated the character of David, and centured the parallel which the preacher had delineated between him and the British monarch, as an infult to the latter. This wanton and illiberal attack was repelled, on the part of Dr. Chandler, by a publication, entitled "A Review of the History of the Man after God's own Heart, in which the Falsehoods and Misrepresentations of the Historian are exposed and corrected." Without attempting to vindicate the lewish prince from all the accusations of his adversary, the author, by means of his skill in the Hebrew language, and his extensive acquaintance with biblical learning, detected and exposed the mifreurefentations of his puny antagonist, who had chiefly availed

himfelf of Bayle's article of "David" in his dictionary, by flewing that he had paid no regard to feripture criticisms, to the various readings of particular passages, and the opinions of expolitors and commentators. This gave occafron to a very learned and elaborate publication, in 2 vols. 8vo. entitled "A critical History of the Life of David; in which the principal Events are ranged in order of time, the chief Objections of Mr. Bayle and others against the Character of this Prince, and the Scripture Account of him, and the Occurrences of his Reign are examined and refuted; and the Pfalms which refer to him explained." This work, trivial as was the occasion which gave rife to it, did great honour to the judgment and fagacity, as well as the erudition, of Dr. Chandler; and contained explications of several pfalms, and commentaries upon them, particularly that on the 68th pfalm, which have been much admired. This was the last of Dr. Chandler's productions; and the greatest part of it was printed off at the time of his death, which happened on the 8th of May 1766, in his 73d year. In early life he had been subject to frequent and dangerous fevers, which induced him to restrict himself for 12 years to a vegetable diet; and this had so good an effect on his conflitution, that although he afterwards returned to the usual mode of living, he enjoyed an uncommon share of spirits and vigour till the age of 70 years. During the last year of his life he was afflicted with frequent returns of a very painful diforder, which he endured with a great degree of Christian fortitude and refignation. Under repeated paroxysms of his complaint he often declared, " that to fecure the divine felicity promised by Christ was the principal, and almost the only thing that made life defirable: that to attain this he would gladly die, submitting himself entirely to God, as to the time and manner of his death, whose will was most righteous and good; and being perfuaded that all was well which ended well for eternity." He had feveral children, -two fons and a daughter who died before him, and three daughters who furvived him; one of whom was married to the Rev. Dr. Harwood. The eminent abilities and exten-·five learning of Dr. Chandler commanded respect and esteem not only from the diffenters, with whom he was immediately connected, and among whom he had a very confiderable degree of influence, but from feveral dignitaries and other perfons of rank belonging to the established church.

He is faid to have had liberal offers of preferment in the church: nor is this at all unlikely, confidering his early acquaintance with the prelates Butler and Secker, and his connection with feveral persons of high rank in the state; but he declined every proposal of this kind, because he did not choose to conform: preferring a steady adherence to the dictates of conscience to any secular advantage which he might thus have obtained. Amongst the diffenters his talents and character gave him that influence, which mult have been gratifying to his mind; and he exerted himfelf on a variety of occasions, by his acquaintance with persons in power, and by the respect with which he was held among perfons of his own profession, in assisting individuals, and in promoting the general interest of his brethren. Accordingly he was principally instrumental in establishing the fund for the relief of the widows and orphans of poor diffenting ministers, which has been eminently useful, and has been

long supported with diffinguished liberality.

Befides the works which we have already noticed, Dr. Chandler printed a number of fingle fermons and pamphlets, on occasional subjects. After his death, 4 volumes of his fermous were published by Dr. Amory, in 1768, according to the directions of his will; and, in 1777, Mr. White, his immediate successor as pailor of the congregation in the

Old Jewry, published in 1 vol. 4to. "A Paraphrase and Notes on the Epitles of St. Paul to the Galatians and Ephefians, with doctrinal and practical Observations; together with a critical and practical Commentary on the two Epidles of St. Paul to the Theffalonians.". He also left an inter-leaved bil's, containing a large number of critical notes, which merited publication; but by fome accident or other, though they were intended for the prefs by gentlemen who purchased them, the defign was never executed.

Mrs. Mary Chandler, the fifter of Dr. Chandler, was celebrated for her literary acquirements and poetical productions. As the was fomewhat deformed in her perfon, in confequence of an accident in her childhood, she used to fay, "that as her person would not recommend her, the must endeavour to cultivate her mind, in order to render herfelf agreeable." She was born at Malmbury in Wilt-fhire, in 1687, and, after an excellent education, fettled in business at Bath, where she was highly esteemed by all who knew her, among whom were feveral persons of rank and eminence in the literary world. She published feveral poems; but that which she wrote on Bath was the most popular, and passed through several editions. Having long struggled with the infirmities of a valetudinary constitution, she died in 1745. Dr. Chandler drew up an account of her, which is inferted in "The Lives of the Poets," published under the name of Theophilus Cibber. Our author had also a brother, Mr. John Chandler, who was for many years eminent in his profession as an apothecary in the city of London, and much respected among his acquaintance. He published a pamphlet on colds and catarrhs, which was well received. Amory's Preface to Dr. Chandler's Sermons, Biog. Brit.

CHANDOR, in Geography, a town of Hindooftan, in the country of Baglana; 52 miles N.E. of Nassuik, and So

N.W. of Aurungabad.

CHANDOUL, a town of Persia, in the province of

Adirbeitzan; 150 miles N.E. of Tauris.

CHANE, in Ichthyology, a name given by Aristotle, Athenaus, and the other Greek writers, to the fish called by other authors hiatula, chauna, and chaunus. This fift appears to be the labrus hepatus of modern writers, a species common in the Mediterranean, and which has the lower jaw longelt, and the fides traverfely lineated with black. See LABRUS Hepatus.

CHANFRIN, in the Manege, is the fore part of a horse's head, extending from under the ears, along the interval be-

tween the cye-brows, down to his nofe.

CHANG, in Geography, a town of China, of the second rank, in the province of Chen-fi; 495 miles S.W. of Peking. N. lat. 33° 50'. E. long. 109° 31'.

CHANGA, or XANGA, a small island, in the Indian Sez, near the coalt of Africa, at the mouth of the river of the

fame name. S. lat. 10° 45'. E. long. 39° 50'. CHANGAMAH, a fortified place of Hindooffan, in the country of Mysore, fituated in the valley of Vaniam Laddy or Barra-maul, directly distant from Trinomaly about

CHANGAPRANG, a town of Alia, in the country of Thibet, 242 miles W. of Laffa, and 195 N.N.E. of Cat-

mandu. N. lat. 31° 6'. E. long. 86° 52

CHANGASARI, a town of Russia, in the government of Viborg; 85 miles W.N.W. of Viborg

CHANGAY, a mountain of Afia; being a branch of

the Altaian chain. See ALTAI.
CHANG-CHA, acity of Caina, of the first rank, in the fouthern part of the province of Husquanz.
CHANG-CHE, a city of China, of the fecond rank, in

the province of Quang-fi; 403 leagues S.S.W. of Peking.

N. lat. 22° 6'. E. long. 106° 17

CHANG-CHEW, a city of China, of the first rank, in the fouthern part of the province of Fo-kyen; fituate on a river which ebbs and flows; over which is a stately bridge, confifting of 36 very high arches, broad enough to admit shops on both sides, which are stored with all forts of rich merchandize, both of China and the Indies. Its vicinity to Amoy (which fee), a place of valt commerce, occasions a confant traffic to be continually carried on between them. The neighbouring mountains yield the finest crystal, of which they make buttons, feals, figures of animals, &c .- Alfo, a district of the province of Kiang-nan or Nanking.

CHANG-CHOUI, a town of China, of the third rank, in the province of Honan; 15 leagues S.E. of Hiu.

CHANGE, in Commerce. See Exchange.

CHANGE, in Geography, a town of France, in the department of the Mayeune; one league N. of Laval .- Alfo, a town of France, in the department of the Sarthe; one league

S. of Le Mans.

hand, is to turn or beat the horse's head from one hand to the other, from the right to the left, or from the left to the right. You should never change your horse without pushing him forward upon the turn; and after the turn, push him on

Araight, in order to a ftep.

CHANGE of crops, in Agriculture, is that part of husbandry which relates to the mode of changing, diffributing, and cultivating different forts of crops, on any kind of foil, in order to prevent its being exhausted in the least possible degree. This is an improvement of confiderable importance; and which modern cultivators have attended to in a particular manner. It has been observed that " experience foon taught men, that even the most fruitful foil cannot conflantly yield the fame grain; and that this of course laid them under a necessity of feeking for some means to remedy the defect. They found that the plough was then the most ready, and perhaps the most effectual: and hence all the ancient writers fo highly recommend a thorough ploughing. At the same time the apparent loss of the produce of the ground, during the year of fallow, put them upon inquiring how this inconvenience might be prevented, confiltently with keeping the land in good heart. Repeated observations convinced the Romans, the most attentive of all nations to every thing relative to husbandry, that, befides the alternate refling of the land, wheat might, as is observed by Piny, be fown after lupines, vetches, beans, or any other plant which has the quality of fertilizing and enriching the foil."

A judicious change of crops must therefore, without doubt, be of great importance in the common tillage husbandry, as it enables the farmer to fave the expence and lofs of a crop in the fallow year; and to get quit of weeds, by attacking them at different seasons of the year, and in different periods of their growth; both from the nature of the crops cultivated, and where the intermediate crops are hoed, as those of beans, peafe, and many other fimilar feeds. It has been well remarked by cultivators, that in the change of crops that are cultivated for the purpose of preventing the exhaustion of land, by the repeated fowing of the same kinds of grain, attention should always be had, both to the nature of the foil, and the intentions of the farmer; as it is only in this way that the most advantageous changes can be adopted and introduced in the different lituations and conditions of land. But this method of operating, though a practice of infinite confequence in agriculture, and which was much examined and attended to at an early period of the art, feems to have been much overlooked and neglected, until lately, when the

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culture of turnips probably furnished the useful hint, and led the farmer to perceive that his land, instead of being impoverithed by that valuable root, was greatly enriched, and prepared to yield a better crop of bailey in the fpring, than would otherwise have been the case. This might alkewise fuggelt to him, that other fucculent plants, which shade and cover the earth much with their leaves, might have the fame effect; and the fuccess which has followed has answered his . utmost expectation, as it is now found that a fallow does not become necessary in several years; the ground being kept clean from weeds and in heart by a variety of green and other crops, when rightly timed and properly managed in respect to their introduction and culture afterwards.

It has been discovered by modern cultivators that some forts of crops, fuch as peafe, beans, clover, and all plants of the pulse kind, are enrichers and cleaners of the earth; while wheat, oats, barley, and the whole tribe of vegetables, whose roots are fibrous and spread far, impoverith and rob the ground. The latter also let it become foul, by giving way to weeds and grafs, which, being the natural products of CHANGE, in the Manege. To change a horse, or change, every foil, are more readily nourished by it than such plants as it does not spon aneoutly produce. It is therefore evident, that by judiciously interposing such green or other enriching crops as are adapted to the foil between the grain-crops, the farmer may not only, in a great meafure, avoid the necessity and expence of fallowing, but frequently be enabled to reap better crops. Befides, under this fystem of management, he may be enabled to keep a much larger flock of cattle, and confequently produce a much larger quantity of manure, the advantages of which are very great. See GREEN CROPS and COURSE of CROPS.

CHANGE of feed, denotes the practice of fowing feed taken from a different foil, in order to prevent the land from becom-

ing tired with the fame kind of grain.

This is a custom pretty common among farmers, though experience has not yet shown how far it is well founded. Great importance has been attached to this practice by fome cultivators, probably from adopting imperfect notions of the nature of vegetation itself, or from pursuing false analogies in respect to the breeding of animals; but it is evident, a cultivator of much experience observes, from the trials that have been made in the cultivation of grain, and from what happens in particular cases of gardening, that it will be of no utility to have recourfe to the change of feed, provided it is properly adapted to the fuil, except it be for an improved kind. The only thing necessary, is that of collecting and preferving the best of the different kinds, and by that means preventing a degeneracy. "It is hardly, he observes, to be supposed that the soil can become tired of, or be improper for, producing a fort of grain for which it is adapted, fince it may be observed that the same forts of plants are frequently propagated on the same spots of ground, for a valt length of time, without any manifelt injury in respect to their qua-

A great objection to the practice is also found by some

on the ground of the expence.

It is observed by Mr. Middleton, in the Agricultural Report of Middlefex, that the changing of the feed of corn every two or three years, though extremely general, is done at an extra expence of from Od. to 1s. a bushel on wheat, and half these sums on other kinds of grain. This practice is, he thinks, as little founded on propriety, as a change of live-flock once in every two years would be, and never will be the means of advancing corn to a high pitch of excellence. On the contrary, when corn farmers become wife enough to apply Bakewell's method of improving cattle to the raifing of feed grain, the advance will be rapid indeed, and its improvement will go on towards the mark of perfection, in a degree which, in the prefent state of things, can scarcely be conceived. The method he wishes to recommend to those cultivators who defire to excel in the article of grain, is, he fays, the following: namely, a few days before harvelt, to walk through their fields of corn, to felect and gather the prime famples of every species of feed, and ever afterwards to continue the same practice, by repeating the operation of collecting the most perfect grain from the crops produced from such selected seed. The same observations, he afferts, apply to every variety of cultivated crops.

However this may be, we are inclined to believe, from obferving what takes place in respect to the curl, a disease in potatoe crops, that a change of feed may fometimes be ufeful, though, perhaps, much less frequently than is the prac-

tice of farmers in general.

But it is added by the first of these writers, on the authority of Mr. Donaldson, that "as some of the varieties of the fame fort of grain or feed, when fown under fimilar circumstances of foil and climate, are, however, often found by the cultivators of land to be of a much more early growth than others, as well as of a more or less hardy and vigorous nature; it may be of utility to change them in these respects, the early kinds being always cultivated on the colder and more backward deferiptions of land, while those of the later are fown upon the dry and more warm foils. In this way the crops may often be confiderably improved, as, in fo far as regards themselves, they will enjoy the advantages of more genial foils and climates. Another advantage may be gained in this method, as by employing fuch early kinds of feed, the farmer may, in some cases, delay the putting in of his feed for feveral days, without the danger of the crop being injured thereby, or of its not being reaped at the usual time. He may likewife, in the late foils, thus obviate the difficulties and inconveniencies attending bad feed times, as by fuch a change the feed, though put in later, may be equally early at the harvest." And it has also, he says, been remarked, that "there is an advantage refulting from changing feed from foils of opposite natures, which cannot be depended upon when the change is made from fimilar foils. Some weeds will grow only in throng deep lands, while others are peculiar to light and fandy foils. When, from whatever cause, grain abounds so much with the seeds of weeds as to render it improper for fowing, by procuring feed from a certain that no dangerous feed-weeds will be introduced by the change. The fowing of fuch grain as contains the feeds of weeds should, however, never be practised, except where perfectly clean feed cannot be procured, as, though the above may be the case in regard to particular forts of weeds, it does not by any means extend to all." It is also found from experience, "that grain, like all other feeds and plants, when brought from a warmer to a colder climate, gradually degenerates, till, by being frequently cultivated, it becomes natural both to the foil and climate." And "experience has shown that it degenerates sooner, and to a greater degree, in mountainous diffricts, than in the level and better sheltered parts of the country. At the fame time, it is well known, that many vegetables introduced from other countries, and which it was once thought would not come to maturity in this, have, by proper care and attention, been brought to a great degree of perfection. It is certain, too, that the introduction of better forts of grain has foon become effectual in removing the poor kinds that were originally cultivated. This has been the case in respect to oats in some parts of Scotland: which is a circumstance that, the writer just men- ties, it will beget five changes, whence the number of all the tioned thinks, proves how much the quality of grain may be changes will be $60 = (5 \times 4 \times 3 \times 2 \times 1) \div 2 \times 1$. Hence

improved by proper attention; and further, that frequent and judicious changes of feed, in the way flated above, are of the greatest importance in effecting this improvement." And it is further " concluded, that from the long established tricts in Scotland, where that species of grain is cultivated, which are well known; as well as from the pactice being no less general, although more local, for the farmers in Banfffhire, where deep throng cold foils prevail, to procure, in unof Moray; and also the practice of many other diffricts where improved agriculture is to any confiderable degree eftablished; it will, he thinks, be found that frequent changes ation of its superior excellence, perhaps it would be more advantageous to take it from better kinds of foil, and from fomewhat better climates; as the good habits acquired by ferior fituations. But on the contrary, care foould be taken they are of a superior kind or quality." See SEED and

CHANGEABLE Rofe. See Hibiscus.

CHANGER, or CHAUNGER, an officer belonging to the king's mint, who changes money for gold or filver

CHANGER, Money, is a banker who deals in the exchange,

CHANGES, in Arithmetic, &c. the permutations, varia-

or how oft their order may be varied.

Suppose two quantities a and b. Since they may be either wrote ab or la, it is evident, their changes are 2 = 2

will be as in the margin; as is evident by combining acb ber of changes arises $3 \times 2 \times 1 = 6$. If the quantities be 4, each may be combined four ways with

each order of the other three; whence the number of changes arise $6 \times 4 = 4 \times 3 \times 2 \times 1 = 24$. вас Wherefore, if the number of quantities be supposed

 $n-2 \times n-3 \times n-4$, &c. to n-n. If the same quantity occur twice, the changes of two will be found bb, of three \div 2 × 1; in the fecond, 3 = (3 × 2 × 1) \div 2 × 1; in the third, $12 = (4 \times 3 \times 2 \times 1) \div 2 \times 1$.

If a fifth letter be added, in each feries of four quanti-

if the number of quantities be n, the number of changes will be $(n \times n - 1 \times n - 2 \times n - 3 \times n - 4, \&c.) \stackrel{\cdot}{\cdot} 2 \times 1$. From these special formulæ may be collected a general one; viz. if n be the number of quantities, and m the number which shews how oft the same quantity occurs; we shall have $(n \times n - 1 \times n - 2 \times n - 3 \times n - 4 \times n - 5 \times n - 6 \times n - 7)$ &c. (\div) $m-1 \times m-2 \times m-3$, &c.); the feries being to be continued, till the continual fubtraction of unity from n and m leave o. After the fame manner we may proceed farther, till putting n for the number of quantities, and 1, m, r, &c. for the number that shews how oft any of them is repeated, we obtain an universal form $(n \times n - 1 \times n)$ $-2 \times r - 3 \times n - 4 \times n - 5$, Sec.) $-1 (1 \times 1 - 1 \times 1 - 2 \times 1 + 2 \times 1 + 3 \times$ $l-3\times l-4$, \times , &c. $m\times m-1\times m-2\times m-3$, &c.) $r\times$ $r-1\times r-2\times r-3$, &c.

Suppose, for instance, n = 6, l = 3, r = 3. The number of changes will be $(6 \times 5 \times 4 \times 3 \times 2 \times 1) \div 3 \times 1 \times 2 \times 3$ $\times 2 \times 1 (=6 \times 5 \times 4) \div 3 \times 2 = 2 \times 5 \times 2 = 20$

Hence, if it be proposed to affign how many different ways 6 perfons might be placed at table, the answer would be $6 \times 5 \times 4 \times 3 \times 2 \times 1 = 720$. For 13 persons we shall find the number 13 × 12 × 11 × 10 × 9 × 8 × 7 × 6 × 5 ×

 $4 \times 3 \times 2 \times 1 = 6227020800.$

If it were required to find how many changes may be rung on feven belis, the answer would be 1 x 2 x 3 x 4 x 5 \times 6 (= 720) \times 7 = 5040. On 12 bells, it would be $12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 =$ 479001600. Supposing 10 changes to be rung in one minute, that is, 10 x 12 or 120 flrokes in a minute, or two throkes in each fecond of time, then, according to this mode of computation, it would take upwards of 91 years to ring over all these changes on the 12 bells. If two more bells were added, so as to make the whole number 14 bells, it would require, at the same rate of ringing, about 16575 years to ring all the changes on 14 bells but once over. And if the number of bells were 24, it would require more than 117,000000000000000 years to ring all the different changes upon them. See ALTERNATION.

In this manner may all the possible anagrams of any word be found in all languages, and that without any study. Suppose, v. g. it were required to find the anagrams of the word Roma, the number of changes will be 4 × 3 × 2 × 1

= 24. Thus,

Roma orma mroa arom roam oram nirao armo rmea omra mera germ rmao omar maor aomr raom oarm maro amro ramo came mace amor

The anagrams therefore of the word Roma, furnishing any word of known fignification in the Latin tougue, are feven; viz. Roma, ramo, oram, mora, maro, armo, emor. Wallis's Algebra, p. 117. See ANAGRAM and COMBINATION.

Whether this new method of anagrammatizing be likely to prove of much fervice to that art, is left to the poets.

Changes of infeds. See Aurelia, and transformation, &c. of infeds in article Entomology.

CHANGEWATER, in Geography, a town of America, in the state of New Jersey; 25 miles W.S.W. of Morris-

CHANG-HAI, a town of China, of the third rank, in the province of Kiang-nan, or Nan-king; 6 leagues S.E. of Song-kiang.

CHANG-HANG, a town of China, of the third rank, in the province of Fo-kien; 50 miles S. of Ting-tcheou.

CHANG-HIA-TONG, a town of China, of the second

rank, in the province of Quang-fi; 400 leagues S.S.W. of Peking. N. lat. 22° 27'. E. long. 106° 4'.

CHANG-HO, a town of China, of the third rank, in the province of Chang-tong; 6 leagues S.W. of Vou-

CHANGI, a gulf in the northern part of the Chinese fea, which is in the most advanced and narrow part of a great bay, which begins at the island of Fungma, and terminates at the frontiers of the province of Peking, about 50 leagues from the capital of the Chinese empire.

CHANG-IN, a town of China, of the fecond rank, in the province of Quang-fi; 385 leagues S.S.W. of Peking.

N. lat. 23° 3'. E. long. 106° 24'. CHANG-KAO, a town of China, of the third rank, in the province of Kiang-fi; 10 leagues W.S.W. of Chouitcheou.

CHANGLASSE, a town of Asia, in the county of Thibet, near the river Sanpoo; 204 miles W. of Lassa, and 190 N.E. of Catmandu.

CHANG-LIN, a town of China, of the third rank, in the province of Quang fi; 6 leagues N.W. of Ping.

CHANG-LING, a town of Asia, in the kingdom of Corea; 5 miles S.S.W. of Hoang.

CHANG-NAN, a town of China, of the third rank, in the province of Chen-si; 14 leagues S.E. of Chang.

CHANG-SE, a town of China, of the second rank, in the province of Quang-fi; 1180 miles S.S.W. of Peking. N. lat. 22° 18'. E. long. 107" 14'.

CHANG-TCHEOU, a town of Asia, in the kingdom

of Corea; 20 miles W. of Long-Kouang.

CHANG-TCHING, a town of China, of the third rank, in the province of Honan; S leagues S.S.E. of Kouang.

CHANG-TE, a city of China, of the first rank, in the fouthern part of the province of Hu-quang.

CHANG-TE, a city of China, of the first rank, in the province of Ho-nan.

CHANG-TI, or TIEN, in Ancient Mythology, a deity of the ancient Chinese, whom, according to Du Halde, they worshipped as the supreme being: the name is faid by some to denote the fpirit which prelides over the heavens; but in the opinion of others it is only the vifible firmament.

CHANG-TSAI, in Geography, a town of China, of the

third rank; 6 leagues N. of Yun-hing.

CHANG-YEON, a town of China, of the third rank, in the province of Kiang-fi; 10 leagues N.N.E. of Nannghan.

CHANG-YU, a town of China, of the third rank, in the province of Tche-kiang; 6 leagues E.S.E. of Chao-

CHANGY, a town of France, in the department of the Rhone and Loire; 31 leagues N.W. of Roanne.

CHANIERES, a town of France, in the department of

the Gironde; 12 miles E. of Blaye. CHANIEWIEZE, a town of Lithuania, in the palatinate of Novogrodek; 56 miles S.W. of Novogrodek.

CHAN-LIN, a town of China, of the third rank, in the

province of Quang-fi; 8 miles N.N.W. of Ko-hoa. CHANMANNING, a town of Asia, in Thibet, where

the grand Lama occasionally resides; 116 miles W. of Lassa, and 266 N. of Catmandu; about 167 geographical miles of horizontal distance from Paridrong, in the Lama's

CHANNA, in Ichthyology, the name of a fish, faid to be caught in great plenty in the Mediterranean, and brought to market in Italy and elsewhere, among the sea perch, which it nearly refembles. It is not fufficiently clear that 3 N 2

the above species is the same with the Gmelinian labrus chaunus, as fome imagine.

CHANNADELLA, a name given by Bellonius and others to a species of labrus, apparently the chane of the elder writers. See LABRUS hepatus.

CHANNEL, in Anatomy, Surgery, &c. See CANAL.

CHANNEL, in Architecture. See GUTTER. CHANNEL, or bed of a river. See RIVER.

CHANNEL of the larmier, is the hollow fosit of a cornice, which makes the pendant mouchette. See LARMIER.

its circumvolution, inclosed by a liftel. See VOLUTE.

CHANNEL, in Geography, the English name of one of the French departments, called La Manche. This is one of the five departments formed of Normandy, and the north part of Perche. It is bounded on the north by the Channel; on the cast by the Channel and the department of Calvados; on the fouth by those of Mayenne, and of Ille and Vilaine; and on the west by the ocean. Its superficies is about 1,323.9;2 fquare acres, or 675,713 hectares, and comprehends 6850 killiometres; its population confilts of about 528,912 perfons. It is divided into five communal districts, 48 cantons, and 669 communes. The general total of its contributions amounts to 5,314,741 francs, and the expences charged upon it are 370,112 france. Its chief town is Contances.

CHANNEL is also applied to divers arms of the fea, where the waters run within the land; or to certain narrow feas confined between two adjacent continents, or between an

island and a continent.

In this fenfe we fay, St. George's Channel, the British Channel, the Channel of the Black Sea, or Constantinople, &c.

CHANNEL, in the Manege, is used for that concavity in the middle of the lower-jaw of a borfe, where the tongue lies. This hollow being bounded on each fide by the bars, terminates in the grinders or maxillary teeth. The barbles grow in this channel.

CHANELLINGS. See FLUTINGS.

CHANNI Oudouc, in Geography, a town of Chinese Tartary, in the country of the Moguls. N. lat. 42° 51'. E. long. 114° 14'. CHANON, in Conchology. Adanfon calls the Linnwan

Mytilus Hirundo by this name.

CHANONAT, in Geography, a town of France, in the department of the Pûy de Dôme, celebrated for its mineral

CHAN-SAN-SHEN, a town of China, feated on the river Chen-tang-chaung, which at this place ceafes to be

CHANSCHENA POU, in Botany, Rheed. See Bau-

HINIA

CHAN-SI, XANSI, SHAN-SI, or SHAN-SEE, a province of Chira, bounded on the cast by Pe-che-li; on the west by Shen-fi; on the fouth by Ho-nan; and on the north by the Chinefe wall, which feparates it from Tartary. It extends from 1° to 6° 25' W. long, from Pe-king, or 115° 27' 30" E. long, to 110° 24' 30" E. long,; but frem north to fouth, from 34° 37' to 40° 50' of latitude. It is a tradition among the Chinefe, that this was the first inhabited province of the whole empire. The climate, though the country is mountainous, is mild and falubrious; of the mountains, some are lofty and rugged, and others are well cultivated, by means of terraces, cut from the top to the bottom, which produce plenty of corn and other grain. The plains are fertile, though not fo well watered as the other provinces. The vines yield excellent grapes, which, instead of being applied to the

purpose of making wine, are dried, and in this state fold in the other provinces. This province furnishes great quantities of musk, porphyry, marble, and jasper; it has also mines of iron-stone, which affords iron that is sabricated into a variety of utenfils. The mountains fupply an abundance of coal, which is pounded and mixed with water, and formed into finall cakes: these, though not very inflammable, afford a strong and lasting sire. The people are athletic in their frame, and obliging in their disposition; but illiterate: the women are much admired for their flender flupe and beauty. The number of inhabitants is estimated at 27,000,000; occupying an extent of territory of 55,268 square miles, or 35,371,520 acres. The revenue received into the royal treasury at Peking from this province, 3,722,000 tahels, or ounces of filver. Chan-fi contains five cities of the first rank, viz. Tay-ywen, the metropolis of the province; Ping-yang; Lu-nghan; Feven-chew; and Tay-fing; and 85 of the fecond and third rank.

CHANSON, French, a fong; a short lyric poem on familiar subjects, of love, wine, joy, forrow, &c., put to an eafy melody for focial occasions: at table, to a mistress, to friends, and even to yourfelf when alone, in order to drive away care, anxiety, low spirits in the rich, and to alleviate

A fong of this kind is totally diffinct from what is called an air in a mufical drama, which, as a poem when taken out of its niche, has neither beginning, middle, nor end. chiefly on love and wine, addressed by their votaries to

There are in France, likewife, numerous fatirical fange,

The ancient hilforians and poets of France mention their lege of leading off this kind of war whose usually appera great passion for these heroic songs, and, like our Alfred, not only had them collected, but knew them by heart. .However, the achievements of this victorious prince and his captains obliterated those of their predecessors, and gave birth to new fongs. One of these, in praise of Roland, the Orlando inamorato and furics of Boiardo, Derni, and Ariotto, was longer preferved than any of the reft. This, the was conferred for his strong and powerful voice. Here he that was flain in the onfet.

The fong upon Roland continued in favour among the with finging it at a time when there were no Rolands left, was answered, that Rolands would still be found if they had a Charlemagne at their head. But however popular this

melody of which all the first great contrapuntists composed maffes of the most elaborate kind; nothing is more probable than that the tune of this fong was the famous Cantilena Rolandi, or melody to the fong which the French armed champion used to fing at the head of the army, in honor of their hero

Roland, in advancing to attack an enemy.

CHANSONS de Gestes. Songs on heroic, historical, and chevalerefque subjects. This kind of song was called in England during the Norman dynasty, chant-royal; and Chaucer, in speaking of the musical talents of the poor Scholar Nicholas, in the Miller's Tale, fays:

> And after that he fong the Kinge's note; Full often bleffed was his mery throat.

The Chanson de Geste was dellinguished from common fongs, according to Alberic, by the title of Heroica Cantilena. These hillorical fongs or hallads must have been fung to very thort and timple tunes, fuch as our Chevy-Chace, or fuch as is used by the Improvifatori of Italy in accompanying their inspirations, which frequently amount, in length, to many hundred thanzas.

Though the rest of Europe is not partial to the music of France, the words of their fongs, from the time of the Troubadours to the prefent, mult be allowed to abound in wit, irony, badinage, and elegant, warm, and ingenious praifes of love and wine, more than those of any other country.

CHANSONETTE, French. The diminutive of chan-

fon, a little fong.

CHANT, in our cathedral fervice, bears very little resemblance to the canto fermo, or plain-chant of the Roman Catholics, which is chiefly pronounced, rather than fung by the prieft alone, without bafe; whereas our chants are short phrases of melody, sung antiphonally from side to side, in four parts, accompanied by the choir organ, except in the first verse and Gloria Patri. Some of our chants are as ancient as the reformation; and perhaps till more ancient, as they refemble, in length, facility, and counterpoint, those used in Italy during the middle of the XVIth century. Several composed by Palestrina and his contemporaries have been preserved in an ancient MS. procured in Italy, called Studii di Palestrina, and believed to be the autography of that father of ecclefialtical harmony.

CHANT, Ambrofian. See Ambrosian Chant. CHANT, Gregorian. See GREGORIAN Chant.

CHANT, French, is equivalent to melody, or the principal or treble part in a mufical composition. See CANTO; CAN-

CHANT, Cantus, is used for the vocal music of churches. In church history we meet with divers kinds of chant or fong: the first is the Ambrofian chant, established by St. Ambrofe.

The fecond, the Gregorian chant, introduced by pope Gregory the Great, who established schools of chanters, and corrected the church fong.

This is still retained in the church under the name of plain

fing: at first it was called the Roman fong.

The plain, or Gregorian chant, is where the choir and people fing in unifon, or altogether in the same manner.

See CHORAL Service.

CHANT fur le livre, French, is discant, or singing extempore in the plain fong in the cathedral fervice of the Romish Church; which is done by three or four fingers on the Gregorian notes, in the mass book on the desk in the middle of the choir, fo that, except the canto fermo in the miffal, which is generally fung by the tenor, the fingers have nothing to guide them. However, there are choral fingers, fo verfed in counterpoint, that they even lead off and pursue subjects of fugue and canon on this foundation, without confusion, or violating the rules of harmony. See DISCANT, CONTRA-PUNTO alla monte, or AL'IMPROVISO.

CHANTABOUN, in Geography, a fea-port town of the kingdom of Siam, on the frontiers of Camboja.

CHANTADA, a town of Spain, in the province of Galicia; 20 miles N. of Orenfe.

CHANTAGIR, a river of Siberia, which runs into the

Enifei; N. lat. 51° 50', E. long. 91° 34'.

CHANTELLE-le château, a town of France, in the department of the Allier, and chief place of a canton in the district of Gannat, three leagues N. of Gannat; the place contains 1334, and the canton 11,916 inhabitants: the territory includes 225 killiometres and 20 communes,

CHANTAUNAY, a town of France, in the department of the Lower Loire, and chief place of a canton, in the diftrict of Nantes; two miles west of it .- Also, a town of France, in the department of the Sarthe, and chief place of a canton, in the diffrict of Le Mans; 15 miles W.S.W.

CHANTER, French, to fing. We shall not go to France for instructions in this art; though Messrs. Framery and Ginguené have adopted and given in the Encyl. Meth, some very useful precepts from the Italian school, which we apprehend will not be generally received or put in practice by their countrymen for some time. We acknowledge, however, that Mr. Framery has discussed this subject with delicacy, discrimination, and good taste.

Rousseau's definition of the verb chanter, is clear and precife: it is, in its general application, the forming with the voice fuch founds as are appretiable. See MELODY. But it is more commonly understood to imply the producing, by vocal inflexions, a variety of fuch tuneable founds as are agreeable to the ear, and by intervals admitted in harmony, and confonant to the rules of modulation. A finger pleases in proportion as the voice is clear and well toned, the ear perfectly accurate, the organs flexible, the tafte well formed, and when instruction and practice have polifhed and improved the gifts of nature. To which, in imitative and theatrical music, should be added that degree of fensibility which impresses others with the sentiments which we affect From observations in hearing great vocal perto feel. formers, many rules have been formed for facilitating and perfecting a vocal student; but many discoveries still remain to be made on the most easy, short, and certain path to perfection in this difficult art.

CHANTEREAU-LE-FEVRE, Louis, in Biography, a learned antiquary of France, was born at Paris in 1588; and became eminent no less for the qualities of his heart than for those of his understanding. He distinguished himself by his knowledge of jurisprudence, history, politics, and belles-lettres, and was advanced by Lewis XIII. through successive posts to that of intendant of the finances of the duchies of Bar and Lorrain. He compiled from original records, "Historical Memoirs of the Houses of Lorrain and Bar;" the first part of which only was published at Paris, 1642, fol. He also published other works on detached parts of French history; and after his death, his fon published his "Treatife on Fiefs," 1662, fol. in which he maintains an opinion, which has been thought to be erroneous, viz. that hereditary fiefs commenced only after the time of Hugh Capet. He died at Paris in 1658. Nouv.

CHANTERELLE, French, the first string of a violin, tener, or violoneello.

CHANTIER, in Military Language, a square piece of wood, which is used for railing any thing upon, as, for instance, for ranging barrels of gunpowder on, or for proving cannon without the affiltance of gua-carriages.

CHANTILLY, in Geography, a town of France, in the

depart-

department of the Oife, and chief place of a canton, in the dillrict of Sculis. The prince of Condé had, before the re-volution, a magnificent palace in this place, with beautiful gardens, a managery, extensive park, and curious waterworks. The flable was reckoned superior to any in France, and the forest for the preservation of game extended many miles in circumference: 11 league W. from Senlis, and 4 S.S.E. from Clermont.

CHANTLATE, in Building, a piece of wood fastened near the ends of the rafters, and projecting beyond the wall, to support two or three rows of tiles so placed to prevent the rain-water from trickling down the fides of the

CHAN-TONG, CHAN-TUNG, SHAN-TONG, OF XAR-TUN, in Geography, a province of China, bounded on the west by part of Peche-li, Chan-si, and Honan; on the fouth, by Kiang-nan; on the east, by the Yellow Sea, and on the north, by the same sea and part of Pe-che-li. It extends from 34° 50' to 33° N. lat. and from 1° to 6° 25' of east longitude from Peking, or 117° 47' 30" to 122° 2' 30" E. long.; and it is reckoned one of the most fertile provinces and finest climates in China. One crop is faid to afford the inhabitants, who are not so numerous as those of fome other provinces, feveral years' fustenance. Besides the grand imperial canal, which traverses some part of this province, it has several lakes, evers, and brooks, which contribute to fertilize and enrich it; though it frequently fuffers from drought, as it feldom rains here. It is much infelted by locusts, wolves, and gangs of robbers, who beset travellers in the highways over the mountains, and often defcend to the plains, plundering and ravaging the villages and open towns. The inhabitants are strong and healthy, and are employed in manufacturing great quantities of filk: besides the common fort produced by the filk-worms, they find another fort upon trees and bushes in great plenty, which is spun by a kind of worm not unlike our caterpillars. This last kind, though coarse, is stronger than the other; and with this they carry on a great trade, by means of their rivers and canals. The barks that come from the fouthern parts to Peking pass along the imperial canal; and the tribute of the merchandize they thus convey has been computed to amount to a very large fum. Among other fruits produced in this province, they have one which is called Se-tle, a kind of figs, which ripen about the beginning of autumn, and being dried, contract a crust of candied fugar, that gives them a delicious flavour. This province is rendered particularly venerable among the Chinese by a tradition, that their great philosopher Kongsuntse, commonly called by us Confucius, drew his first breath in it. Chantong is divided into fix diffricts, which contain fix cities of the first rank, that are very populous and sourishing. These again include no less than 114 towns of the second and third rank, befides a great number of towns and villages, fifteen fortreffes, some of them very large, and all of them built to guard the entrances of their ports and the mouths of their rivers. There are likewise several islands scattered along the guif, extremely well peopled, affording convenient harbours for Chinese transports, and a quick and easy passage to and from Corea and Leao-tong. The cities of the first rank are Thinnan or Cinnan, the metropolis of the province, Yeng-chew, Tong-chang, Tfing chew, Ten-chew, and Luo-chew. The population of Chang-tong confifts of twenty-four millions, occupying a territory in extent 65,104 square miles, or 41.666,500 acres. The revenue of this province, transmitted to the treasury at Peking from the land, falt, and taxes, amounts to 3,000,000

tahels or ounces of filver, belides 3Co,000 meafures of rice

CHANTONICE, in Ancient Geography, a country of Afia,

CHANTONNAY, in Geography, a town of France, in in the diffrict of Fontenay-le-Comte; 4: leagues W. from and 15 communes.

CHANTOR, in the Jowish Antiquities. In the temple were four thousand singing men, with their heads and prefi-

The chantors and Levites who were employed in finging, playing upon instruments, and other functions of the Temin tunies of byflus, or fine linen. Josephus remarks, that in king Agrippa's time they obtained the favour from that prince of wearing a linen robe in the Temple, like the priefts. Agrippa believed it would be for the honour of his reign, to fignalize it by fo confid rable a change as this. the command of the pricits in the Temple, procured likewife commission to learn to sing, to the end that they might enjoy the same privileges with their brethren.

CHANTOR, or CHAUNTOR, a person who sings in the

choir of a cathedral.

All great chapters have chantors and chaplains to cafe

and affift the canons, and officiate in their absence.

St. Gregory first instituted the office of chantors, erecting them into a body, called felola cantorum: though Anastasius feems to attribute their rife to pope Hulary, who lived an hundred years before Gregory. But the word grows obsolete in this sense, and instead of it the word choir-man or finging-man is now used.

CHANTOR is used, by way of excellence, for the præcentor or mafter of the choir; which is one of the dignities of the

The chantor bears the cope and the staff at folemn festivals; and gives tune to the rest at the beginning of plaims ard anthems. At St. David's in Wales, where they have no dean, he is next in dignity to the bishop.

The ancients called the chantor, primicerius contorum. To him formerly belonged the direction of the deacons,

and other inferior ministers.

CHANTRIGNE', in Geography, 2 town of France, in the department of the Mayenne, and chief place of a canton, in the district of Mayenne; 2! leagues N. of it. CHANTRY, or CHAUNTRY. See CHAUNTRY.

CHAN-YN, a town of China, of the third rank, in the

province of Chan-si; 25 miles E.N.E. of Sou.

CHAO, one of the classes into which the late Mr. Muller arranged the islands between Kamtikatka and America; comprehending eight islands; viz. Immæk, Kiska, Tshet-ghina, Ava, Chavia, Tshagulak, Ulagabina, and Amtshigda, or the more distant Aleutans.

CHAOASES, an order of horse in the service of the grand fignior. These and the muteferriker were originally the guards of the fultans in Egypt, and their leaders were his two vizirs, that always accompanied him. They now

conflantly go out with the bashaw.

CHA CHA

The body of the chaoafes feems originally to have been the guard out of which the fultan used to fend persons to execute his orders.

CHAO-HING, a city of China, of the first rank, in the province of Tche-kiang; 673 miles S.S.E. of Peking. N. lat. 30° 10'. E. long, 120° 14'.

CHAO-IM, a town of Chinese Tartary; 8 miles S. of

CHAO-KEOUING, a town of China, in the province

of Chang-tong; 35 miles S E. of Tei-nghin.

CHAOLOGY, the history or description of the chaos.

Orpheus, in his Chaology, fets forth the different alterations, fecretions, and divers forms, which matter went through till it became inhabitable: this amounts to the fame with what we otherwife call cofmogony, or the creation of the world. See Cosmogony.

Dr. Burnet likewife gives us a chaology, in his Theory of the Earth. He represents the chaos, as it was at first, entire, undivided, and universally rude and deformed; or the tohu bohu: then shews how it came divided into its respective regions; how the homogeneous matter gathered itfelf apart from all of a contrary principle; and laftly, how it hardened, and became a folid habitable globe.

CHAO-MA-ING, in Geography, a town of Asia, in

Thibet; 10 miles N. of

CHAO-MA-ING-HOTUN, is a town of Thibet, 285 miles E. of Hami.

CHAOMANTIA, among the Enthufiaflical Chemists, is

the art of making prelages from observations on the air.

CHAON, in Ancient Geography, a mountain of the Peloponnesus, situated to the left of the route from Argos to Tegaa, the lower part of which was planted with fruit trees. Hence proceeded the river Erafinus, which supplied that of Stymphalus in Arcadia. Bacchus and Pan were honoured with facrifices at the fall of the water which formed the Erafinus, and a feaft was celebrated in honour of Bacchus, which was denominated tyrbe. Paufan. Corinth. 1. ii.

CHAONES, or CHAONII, the name of a people who had the fovereignty of the whole of Epirus before the Molossi, according to Strabo. Virgil (Æn. l. iii.) supposes that they were more ancient than the war of Troy; and in another place he fays that Ceres and Bacchus introduced the use of wheat instead of the acorn of Chaonia. It is more natural however to trace the descent of the Chaonians from the ancient Pelasgi than from the Trojans, as the greatest number of the people of Greece and its environs had originated from the Pelafgi; and Steph. Byz. reports that Chaonia in particular had been formerly called Pelafgide. Plutarch feems to have affigued the time of their establishment, and the chiefs of their colony, when he fays, that the historians related, that after the deluge of Deucalion, Phaeton, one of those who accompanied Pelasgus into Epirus, was the first king of the Thefprotii and Molossi, that is, of the Chaonians, the predeceffors of these people. If the establishment of the Pelafgi in Chaonia foon followed the deluge of Deucalion, this last event ferves to fix the origin of the Chaonians; for although we cannot precifely afcertain the period of this deluge, it is known that Deucalion lived 200 years before the flege of Troy, and that some of his descendants affilted at this fiege. The deluge happened about the close of his reign, and therefore could not have preceded the Trojan- war, more than about five generations, or 150 years; or, according to fir Ifaac Newton, four generations,

or about 133 years, reckoning with the ancients three generations to 100 years. The establishment of the Chaonians, which immediately followed the deluge, must therefore have taken place about three or four generations, or from 100 to 133 years, before the Trojan war. Upon this supposition, we may determine who was the Pelafgus that conducted the Chaonians into Epirus. He could not have been the ancient Pelafgus, who lived before the flood of Deucalion, according to the history of his posterity, traced out by Paufanias; but he had a grandfon of the fame name, who, according to the relation of Plutarch, conducted a colony to Epirus after the deluge of Deucalion. Steph. Byz. mentions a Pelafgus, the fon of Lycaon, and father of Thesprotus, and he also mentions his descendants, who inhabited Epirus. We have reason, therefore, to believe, that this is the Pelafgus to whom Plutarch refers, fince a period near the deluge of Deucalion corresponds to the time of a fon of Lycaon; and we learn from Apollodorus (l. iii. c. 8. § 2.) that Deucalion's flood occurred in the reign of Nyctimus, the successor of Lycaon. Moreover, Pausanias (l. viii. c. 3.) informs us, that the fons of Lycaon, amounting in number to not less than 24, dispersed themselves in Greece. The oracle of Dodona in Epirus was of Pelafgian origin; and fince the Pelafgi were not fettled in Epirus till after the deluge of Deucalion, this oracle could not have been eftabliffied at an earlier period, or till after the fettlement of the Chaonians, and hence we may infer that it was probably of Chaonian origin. Herodotus (l. ii.) assures us, that the ancient Pelasgi invoked the divinity in general, without ascribing to him those appellations which afterwards diffinguilhed the gods and goddeffes, whose worship was not yet introduced into Greece. This author adds, that the Pelafgi confulted the oracle of Dodona. The Pelafgi, according to Herodotus, were more ancient than the gods of Greece, and more ancient than the other Greeks, who, according to Strabo, cannot be traced to a higher antiquity than the Trojan war, fince Pelafgus, their chief, was a descendant in the 8th degree of those who assisted in this war, according to Pausanias. The scholiast of Arithophanes says, that the Chaones were descended from the Thracians; but Aristotle traces them to the Oenotrii, one of the most ancient nations of Italy.

CHAONIA, a country of Greece, the most northern part of Epirus, fo called from its ancient inhabitants the Chaones. It was bounded on the north by the Orestide territory and part of the country of the Penefles; on the fouth-welt, by the Mediterranean fea; on the fouth, by Thesprotia; and on the east, by the country of the Antitanes. The Acro-ceraunian mountains bounded it to the north. The most noted cities in this part of Epirus were, according to Ptolemy, Oricum or Oricus, Cassiopæa or Cassiope, Antigonia, founded by Antigonus, Phonice, Hecatompêdum, Omphalium, Elæus, and the firong town, or. as Pliny calls it, castle of Chimæra, much frequented on ac-

count of its hot baths. See EPIRUS.

CHAONIA, a town of Alia, in Syria, fituated at the confluence of two small rivers, S.W. of Zeugma. Ptolemy places it in Comagene, a country of Syria.

CHAONITES, a small country of Alia, in Assyria, E.

of the Tigris; more properly Chalonitis, which fee. CHA-OU-FOU, in Geography, a town of China, of the

first rank, in the province of Fokien; 775 miles S. of Peking. N. lat 22°. E. long. 11

CHAO PAI, a town of Chinese Tartary. N. lat. 42°

E. long. 124° 42'.

CHAO-PING, a town of China, of the third rank, in

the province of Quang-fi; 5 leagues S.E. of Yong-

CHAORA, one of the smaller Cape Verd islands.

CHAOS, among the Ancient Philosophers, was described a dark, turbulent kind of atmosphere; or a disorderly system, or mixture, of all forts of particles together, without any form or regularity; out of which the world was formed.

Chaos is every where reprefented as the first principle, ovum or feed of nature, and the world. All the ancient fophilts, fages, naturalits, philosophers, theologues, and poets, hold that chaos was the eldeft and first principle, 50

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The Barbarians, Phonicians, Egyptians, Persians, &c. all refer the origin of the world to a rude, mixed, confused mals of matter. The Greeks, Orpheus, Hefiod, Menander, Arithophanes, Euripides, and the writers of the Cyclic Poems, all speak of the first chaos: the Ionic and Piatonic philosophers build the world out of it. The Stoics hold, that as the world was first made of a chaos, it shall at last be reduced to a chaos; and that its periods and revolutions in the mean time are only transitions from one chaos to another. Laftly, the Latins, as Ennius, Varro, Ovid, Lucretius, Statius, &c. are all of the same opinion. Nor is there any fect or nation whatever, that does not derive their

The opinion first arose among the Barbarians, whence it Spread to the Greeks, and from the Greeks to the Romans,

Dr Burnet observes, that besides Aristotle, and a few other pseudo-Pythagoreans, nobody ever afferted, that our world was always, from eternity, of the fame nature, form, and ftructure, as at prefent: but that it had been the standing opinion of the wife men of all ages, that what we now call the terrestrial globe, was originally an unformed undigested mass of heterogeneous matter, called chaos; and no more than the rudiments and materials of the prefent world.

It does not appear who first broached the notion of a chaos. Moses, the eldest of all writers, derives the origin of this world from a confusion of matter, dark, void, deep, without form, which he calls tohu bohu; which is precisely the chaos of the Greek and Barbarian philosophers. Moses goes no further than the chaos; nor tells us whence it took its origin, or whence its confused state; and where Moses Itops, there precifely do all the reft.

Dr. Burnet endeavours to shew, that as the ancient philofophers, &c. who wrote of the cosmogony, acknowledged a chaos for the principle of their world; fo the divines or writers of the theogony, derive the origin or generation of their fa-

bled gods from the fame principle.

Mr. Whiston supposes the ancient chaos, the origin of our earth, to have been the atmosphere of a comet; which though new, yet all things confidered, is not the most improbable affertion. He endeavours to make it out by many arguments, drawn from the agreement which appears to be between them.

So that, according to him, every planet is a comet, formed into a regular and lasting constitution, and placed at a proper diffance from the fun, revolving in a nearly circular orbit; and a comet is a planet either beginning to be deltroyed, or re-made: that is, a chaos, or planet, unformed, or in its primæval state, and placed as yet in an orbit very eccentrical. See Cosmogons

CHAOS, in the phrase of Paracelfus, imports the air. It has also some other fignifications among the alchemitts.

CHAOS (redivivum) &c. of Linn. in the 12th edit. of Syft. Nat. is the Vibrio glutinis of Goeze and Gmelin.

CHAOURCE. in Geography, a town of France in the department of the Aube, and chief place of a canton in the diffrict of Bar-fur-Seine; 5 leagues S. of Troyes. The place contains 1630, and the canton 12,339 inhabitants: the territory comprehends 415 killiometres and 26 communes.

CHAP, in Orn:thology, denotes either of the mandibles of a bird's bill, which are diffinguished by the epithets upper and lower. The term mandible is most commonly that

CHAPALA, in Geography, a lake of North America, in Mexico, and the province of Guadelexara; 18 leagues

long and 5 broad: 15 miles S. of Gusdalaxara, CHAPARANG, or DSAPRONG, a town of Afin, in 140 miles N.N.E. of Sirinagur. N. lat. 33° 10'. E.

CHAPARRAL, a town of Spain in the province of Granada; 5 leagues from Antequera. CHAPE, the metalline part put on the end of a feab-

bard to prevent the point of the fword or bayonet from

CHAPEAU, in a general fense. See HAT.

CHAPCAU is fometimes also used to denote the cap, or coronet, armed with ermine borne by dukes; and of late frethe crest and coat are separated; it being a rule, that no

CHAPEAU, I'r. liverally means a hat; but in music it imflur, ; and by which a finge- understands that all the notes under or over this femi-circle or flur are to be fung to one fyllable; and in violin music to be played with one

CHAPEAU de Alineur. See the article CHASSES de ga-

CHAPEL, or CHAPPEL, a kind of little church, ferved by an incumbent properly under the denomination of a chaplain. The word chapel, according to fome, comes from καπηλιώ, little tents, or booths, fet up by traders in fairs, to shelter them from the weather. Papias derives it both from the Greek and Latin, quali capiens have or populum, vel laudem : others derive it from the chape, or cope, which ferved to cover the body: others, à pellibus caprarum; because these places were anciently covered with goat-skins. Rebuff derives it from cappa, St. Martin's cope, which the kings of France carried to war with them as their flandard, and preferred very carefully in particular tents, thence called chapels. There are two kinds of chapels, the one confecrated, and held as benefices: the other fecular, being of the nature of oratories. The first are built apart, and at a diftance from the parish church; being neither parishes, cathedrals, nor priories, but subfilling of themselves. These are called by the canonite fub dio, and by us charels of eafe; as being erected at a distance from the mother-church, where some of the parishioners who reside far off. They are served by fome inferior pallor, provided either by the rector of the parish, or by these for whose case and benefit they are intended, by prayers or preaching merely. Some of thefe are also parochial, having the parochial rights of christening and burying, and differing from a church only in the want of a rectory and endowment.

The fecond kind are frequently built in, or adjoining to a church, as a part thereof; having only a defk, &c. to

read prayers in; and in the Romith churches, an altar, &cc. to celebrate mais on; but without any baptiltery, or four. These the canonita call fib testo. They are generally ereched by fone confiderable person for the use of their own families; in ibidem familiaria sepularia shi constituant. The twenty-first enon of the council of Aqua, hed in 556, allows private persons the use of chapels; but with prohibition to all clerks to officiate in them without leave from the bishop.

CHAPELS, free, are those chapels of case which have a settled revenue for perpetual maintenance of a pallor. &c. by charitable donatives of lands, or rents beflowed on them: to as not to be any charge either to the rector, or the parishicners; and they are thus called because they are free from all

ordinary jurisdiction.

There are feveral collegiate churches in France, which they call faints chapelles, holy chapels; as those of Paris, Dijon, Bourges, Bourbon, &c. These are so denominated, from being repositories of certain relics.

Hence, all those places where relies were preserved came to be called chapels; and the persons who had the care of

them, chaplains.

CHAPEL is also a name given to a printer's workhouse; because, fay some authors, printing was suff actually performed in chapels, or churches; or, according to others, because Caxton, an early printer, exercised the art in one of the chapels in Wellminster Abbey. In this sense they say, the orders, or laws of the chapel, the secrets of the chapel, &c.

CHAPEL, knights of the, an order of knights inflituted by king Henry VIII. in his testament, to the number of thirteen; though these have been increased to the number of

twenty-fix: they are called poor knights.

These are not knights of the order of the Garter; but are, as it were, their affiliants or deputies, serving to discharge all their offices in the funeral services of the kings of England.

They are subject to the office of the canons of Windfor,

and live on pentions which the order affigns them.

They hear the blue or red cloak, with the arms of St. George on the left shoulder; but the cloak is only cloth, and they wear no fort of garter: which distinguishes them

fufficiently from the knights of the Garter.

CHAPEL Royal Establishment. We have an account of this establishment in the "Liber niger domus Regis," in the time of king Edward IV. in which there is likewife a list of the several musicians retained in that monarch's service, as well for his private amusement as for the duties of his chapel.

As this feems the origin of those establishments, of the chapt royal and king's band, which still subsit, we shall give the account of them, and their several employments, at full length from this ancient book, as well as from N° 20,3 of the Harl MSS, in the British Museum, and N° 1147, 2, 3, 11. of the Ashmol. Collect. Oxf. for Ordinances touching the King's boufehold, made in the time of

Edward II. as well as in that of Edward IV.

"Mintrelles thirteene, thereof one is Virger, which direceth them all fethyall dayes in their flatyones of blowings and pypyngs to fuch offyces as the offyceres might be warned to prepare for the King's meats and foupers; to be more redyere in all fervices and due tyme; and all thes fytying in the hall together, whereof fome be trompets, fome with the fhalmes and fmalle pypes, and fome are frange mene coming to this Court at five feaftes of the year, and then take their wages of Houshold, after iiijd, ob. by daye, after as they have byne prefente in Courte, and then to avoyd aftere the

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next morrows aftere the feathe, befydes theire other rewards yearly in the King's Exchequer, and clothinge with the Houfhold, wintere and fomere for eiche of them xxs. And they take nightelye amongefte them all iiij galanes ale; and for wintere feafone thre candies waxe, vj candles pich, iiij tale theids [fire-wood cieft and cut into billets]; lodging fuffyrvente by the Herbengere for them and theire horfes nighteley to the Courte. Aulfo having into Courte i fervants to bear their trompets, pypes, and other inftruments, and torche for wintere nightes, whilst they blow to suppore of the fente iiij ob. dayly, to warne the King's ridynge houshold that his houshold more may followe the more redyere aftere by the blowinge of their trompets. Yf any of thes two meffe of greate meate, one galone alc. They part not at no tyme with the rewards given to the Houshold. Also when it pleafethe the King to have if Minstrelles continuinge at Courte, they will not in no wife that thes Minstrelles be fo

" Children of the Chappelle viij, founden by the King's prime Cofferes for all that longeth to their apparelle by the hands and overlyghte of the Deane, or by the Masterof Songe affigned to teache them, which Maftere is appointed by the Deane, chosen one of the number of the fellowshipe of chappelle after rehearfed, and to drawe them to other Schooles after the form of Sacotte, as well in Songe in Orgaines and other. Thes Children eate in the Hall dayly at the Chappell bord, nexte the Yeomane of Uestery; taking amongste them for lyverye daylye for brekefalte and all nighte, two loves, one messe of greate mete, ij galons ale; and for wintere seafone inj candles piche, iij talfheids, and lyttere for their pallets of the Scriante Usher, and carryadge of the King's coste for the competente beddynge by the overfyghte of the Comptrollere. And among the them all to have one fervante into the court to truffe and bear their harneffe and lyverye in Court. And that day the King's Chappelle remoueth every of thes Children then prefent receaucth mijd, at the Grene Clothe of the Comptyng-house for horshire dayly, as long as they be jurneinge. And when any of thes Children comene to xviii years of age, and their uoyces change, ne cannot be preferred in this Chappelle, the numbere being full, then yf they will affente the King offynethe them to a College of Oxeford or Cambridge of his foundatione, there to be at fyndyng and fludye bothe fuffytyently, tylle the King may otherwife advance them."

In the Liber niger, there is likewife not only an account of the gentlemen and children of the chapel, but of the "Deane's person and establishment, with that of the xxiii] Chaplenes and Clerkes of the Chappelle by the Deane's electyone or denomynatione," &c.

The citablishment of cardinal Wolfey's chapel, and of Henry Algernon Percy, fifth earl of Northumberland, was

still more numerous and splendid.

Chaptel-in-the-Frith, in Geography, is a fmall town of Derbyshire, England. It stands on the side of a high convex hill, which rises from a contracted vale, formed by fome high mountains. The church was erected at the commencement of the fourteenth century. Here are some small cotton manufacteries which furnish employ to part of the lower class of inhabitants. This town is 166 miles N.W. from London, and has a small weekly market on Thursdays.

CHAPELAIN, John, in Biography, a poet and mon of letters was born at Paris in 1595, and having complete 1

his education under the best masters, became tutor to the l'Huillier, master of the accounts, and received his name from children of the marquis de la Trousse, grand marshal of France, and afterwards fleward to this nobleman. During an abode of 17 years in this family he translated "Guzman d'Alfarache," from the Spanish, and directed his particular attention to poetry. In this art he acquired reputation by a critique on the Adonis of the cavalier Marino, prefixed to a Paris edition of that poem, in 1623. By an ode addressed to cardinal Richelieu, a critique on the Cid, poem on the subject of Joan d'Arc, but when the first 12 books of his "Pucelle, on la France del vrée," appeared in 1656, ushered into the world with all the advantages of typography and engraving, and puthed by court influence through fix editions, in eighteen months, the expectations of the public were disappointed, and the author's same suftained a deadly blow, so that the name of Chapelain as a poet was regarded in France much in the fame manner with that of Blackmore in England. The harshness of the temptuous fatire; and Boileau, Racine, and la Fontaine are humorously said to have imposed upon themselves the penance, for committing any fault in language, of reading a certain number of pages of this poem. The learned Huet in vam endeavoured to vindicate and extol the Pucelle against the more effectual centures of Boileau and others: and thus the 12 additional books have ever fince remained in remained undiminished; and as his pensions were more ample than those of any other literary man, Beilean calls him "le mieux renté de tous les beaux-esprits." The lift of penfioners, recommended by Colbert to Lewis in 1662, was formed by Chapelain; and this diffinction fecured him a degree of homage which counterbalanced the failure of racter was held in high estimation; and though he was not wholly exempt from the charge of avarice, he was not ambear an honourable testimony to his morai qualities. died in 1674, leaving property which few poets of far fuperior merit have acquired. His works, belides those already noticed, are, a few odes, a "Dialogue on the reading of old Romances," and fome mifcellaucous pieces on literary fubjects. Nouv. Dict. Hot.

CHAPELET, in the Mange, a couple of flirrup-lea-thers, mounted each of them with a flirrup, and joining at top in a fort of leather buckle called the head of the chapeare used both to avoid the trouble of taking up or letting

branches of the fame metal, by means of which the noyau of the mould of a piece of ordnance is fattened to the chape. out of a wet or inundated foundation, where people are going to carry on maforry or other work.

CHAPELLE, CLAUDE EMANUEL L'HUILLIER, in Biography, a French wit and poet, was the natural fon of Francis

the village of La Chapelle, between Paris and St. Denys, the place of his nativity. His education was liberal, and he and his habits were those of a man of pleasure. His " Journey to Montpellier," written jointly with Bauchaumont, and confishing of a mixture of profe and verse, is a " model of that elevation." Without availing himfelf of his connection and interest in order to obtain any posts of honour or profit, he life of case and indulgence to the age of 70 years. He died at Paris in 1656. A new edition of his "Journey" was published by Le Fevre de St. Marc, in 1755, 2 vols. 12mo. To

CHAPELLE, JOHN DE LA, a member of the French acadepurchase the pott of receiver-general of the finances at Ro. chelle. Abandoning the career of business, he became a dramatic writer, after the manner of Racine, whom he fluowed their fuccels in a great degree to the acting of Baron, king on public affairs; and he gave evidence of his patriotifm and political knowledge in a feries of "Letters from a Swifs to a Frenchman, on the true Interests of the Powers at War," the object of which was to diffunde Europe from and in the chair at its public fittings, which he often occupied, he conducted himfelf to as to gain applaufe. Although he incurred the displeasure of Despreaux, who was a formijury; and his private conduct was such as to conciliate ge-Prince de Conti," printed in 1699; and the "Loves of Catellus and Tibullus," forming 2 feparate works, the basis of which are the facts and featinents detailed by those poets.

CHAPELLE Agnon, La, in Geography, a town of France, in the department of Puy-de-Dome; 5 miles N.

CHAPELLE d'Angillon, La, a town of France, ia the district of Sancerre; 16 miles N of Bourges. The place contains 531, and the cauton 4238 inhabitants; the territory includes 315 kiliometres and 5 communes.

CHAPELLE Aubry, La, a town of France in the depart-

CHAPELLE Buffe, La, a town of France in the department of the Lower Loire ; o miles N. E. of Nantes.

CHAPELLE-Egalite, La, a town of France, in the department of the Scine and Marne, and chief place of a canton

CHAPELLE la Erlrée, a town of France, in the department of the Ille and Vilaine, and diltrict of Vitré; 1½

league E. of Vitrée.

CHAPELLE fur Erdre, La, a town of France, in the department of the Lower Loire, and chief place of a canton in the diffrict of Nantes; 5 miles N. of Nantes. The place contains 1097 and the canton 7913 inhabitants: the terri-

tory includes 92% killiometres and 6 communes.

CHAPELLE de Guinchay, La, a town of France, in the department of the Spane and Loire, and chief place of a

department of the Saune and Loire, and chief place of a cauton in the diffrict of Mâcon; 2 leagues S. of Mâcon. The place contains 1376 and the canton \$176, inhabitants: the territory comprehends 77½ killometres, and twelve communes.

Chapelle la Moche, La, a town of France, in the department of the Mayenne; $4\frac{1}{2}$ leagues N.W. of Vilaine.

Chapelle fur Orenfe, La, a town of France, in the

department of the Youne; 2 leagues S. of Sens.

CHAPILLE St. Laurent, Ld, a town of France in the department of the Two Sevres; 11 miles N.W. of Parthanay

CHAPELLE St. Mefmin, La, a town of France in the department of Loiret, and chief place of a canton, in the diffrict of Orleans: 3 miles W. of Orleans.

CHAPELLE Tailliferet, a town of France, in the depart-

ment of the Creule ; 11 league S. of Gueret.

CHAPELLE La Thirvil, a town of France, in the department of the Two Savres, and chief place of a canton, in the didrict of Parthenay; 4½ leagues W.S.W. of Parthenay.

CHAPELLE en Fercors, La, a town of France, in the department of the Diôme, and chief place of a canton in the diffrict of Die; 13 miles N. of Die. The place contains 1326 and the canton 4834 inhabitants; the territory includes 155 killometres and five commignes.

CHAPELLING, in Seamenship, is bringing a ship to the same tack she was previously on, when in a light breeze of wind, and close-hauled, she had been taken a-back, either through a sudden shift of wind, or want of attention or skill in the person at the kelm. This is usually done, by instantly bracing sharp round the head fails, and keeping safe the iib and stay-fail sheets.

CHAPELNESS, in Geography, a cape of Scotland, on the coast of the county of Fife, in the Firth of Forth; 11/2

mile W. of Elicnefs.

CHAPELRY, Capellania, is used for a certain precinct belonging to a chapel, having the same relation to it that a parish has to a church.

CHAPERON, CHAPERONNE, Or CHAPEROON, properly fignifies a bonnet garnished with a fort of hood, or covering of the head, having a tail hanging down in a point behind, anciently worn both by men and women, the nobles, and the populace, and afterwards appropriated to the doctors; and licentiates in colleges, &c. It was worn of different stuffs divided into two colours. During the time of the famous league, which terminated with the accession of Henry of Navarre to the crown of France, the different parties made themselves known and distinguished by the colours of their Chaperons. And the same fort of distinction took place during the great disputes between the Dukes of Orleans, Bourgogne, and Armagnac.

Hence the name passed to certain little shields, and other funeral devices, placed on the foreheads of the horses that drew the hearses in pompous funerals, and which are still called chaperoons, or foasseroom; because such devices were originally fastened on the chaperons, or hoods, worn by

those horses with their other coverings of state.

Chaperon of a bit month, in the Manage, is only used for featch-mouths, and all others that are not cannon-mouths, fignifying the end of the bit that joins to the branch just by the banquet. In featch-mouths the chaperon is round, but in others it is oval: and the fame part that in featch and other mouths is called chaperon, is in cannon-mouths called fronceau. See Birr.

CHAPETE, or CHARPOTE, in Ancient Geography, a strong place of Asia, in Metopotamia.

CHAPETONES, a denomination diffinguishing these Spaniards who arrive from Europe to An erica, and who are the first persons in the country with respect to rank and power. As the Chapetones are raised to such preminence in America by the conspicuous predilection of the court, they look down with distain on every other order of men. The interior traffic of every colony, as well as any trade which is permitted with the neighbouring provinces, and with Spain itself, are carried on chiefly by the Chapetones who, as the recompence of their industry, amass immense wealth; while the Crecles, sunk in sloth, are fatisfied with the revenues of their paternal chaits.

CHAPITEAU d'une fice d'Artilleris, is composed of two small pieces of boards or planks joinest together in such manner, as to form the signe of a tent, or of a roof with a pitch, and serves to cover the vent or touch-hole of a piece of

Ordnance

CHAPITERS, in Archit.Sure, the crowns or upper parts of a pillar. See CAPITAL.

CHAPITERS with mouldings, are those which have no ornaments, as the Tutcan and Doric.

CHAPITERS with fealftures, are those which are adorned with leaves and carved works, the finest of which is of the Corinthian order.

Chapiters, in Lazo, were anciently a furmary of fuch matters as were to be inquired of, or prefented before juftices in eyre, justices of affize, or of the peace, in their feffions.

Chapiters are now taken for articles delivered by the mouth of the juftice, in his charge to the inqueft: though it appears from Bracton and Britton, they were formerly written exhortations given by the juftices for the good obfervation of the laws, and the king's peace; first read in open court, then delivered in writing to the grand inqueft: which the grand jury, or inqueft, were likewise to answer to upon their oaths, either affirmatively or negatively.

CHAPLAIN properly fignifies a perfon provided with a

chapel; or who discharges the duty thereof.

Chaptain is also used for an ecclesiastical person, in the house of a prince, or a person of quality, who officiates in their chapels, &c.

With us there are forty-eight chaplains to the king, who wait four each month, preach in the chapel, read the fervice to the family, and to the king in his private oratory, and fay grace in the abfence of the clerk of the clofet. While in waiting they have a table, and attendance, but no falary.

An archbishop may retain eight chaplains; a duke or a bishop, six; a marquis or earl, sive; a viscount, four; a baron, knight of the Garter, or lord chancellor, three; a duches, marchiones, countes, barones, the treasurer and comptroller of the king's house, the king's secretary, dean of the chapel, almoner, and master of the rolls, two each; the chief justice of the king's bench, one: all of whom may purchase a licence or dispensation, and take two benefices with cure of souls. Stat. 22 Hen. VIII.

Every judge of the king's bench and common pleas, the

chancellor and chief baron of the exchequer, the king's attorney and folicitor-general, may each of them have one, entitled to one benefice with cure, and non-refident. Stat.

25 Hen. VIII. c. 16.

And also the groom of the flole, treasurer of the king's chamber, and chancellor of the duchy of Lancatter, may retain each one chaplain. Stat. 33 Hea. VIII. c. 25. A chaplain must be retained by letters testimonial under hand and feal, or he is not a chaplain with the statute: and a chaplain thus qualified may hold his livings, though dismissed from attendance, during life; nor can a nobleman, though he may retain other chaplains in his family, qualify any of them to hold pluralities whilst the first are living.

The first chaplains are faid to have been those instituted by the ancient kings of France, for preserving the chape, or cape, with the other relies of St. Martin, which the kings kept in their palace, and carried out with them to the war. The first chaplain is faid to have been Cul. de Mesmes, chaplain to St. Louis. Previous to and at the last war can regiment had its chaplain. Regimental chaplains were afterwards reduced and put on half-pay during the war, There remained however on the chablishment, a chaplain general, who directed the performance of church service, throughout the army.

CHAPLAIN in the order of Malta, is used for the second rank, or class, in that order; otherwise called diaco. The knights make the first class, and the chaplains the second.

CHAPLAINS of the pope, are the auditors, or judges, of cautes in the facred palace; to called, because the pope anciently gave audience in his chapel, for the decision of cases fent from the several parts of Christendom.

He hither furmioned as affelfors the most learned lawyers of his time; and they hence acquired the appellation of

capellani, chaplains.

It is from the decrees formerly given by these, that the body of decreta's is composed: their number pope Sixtus IV, reduced to twelve.

Some fay, the firines of relies were covered with a kind of tent, cape, or capallat, i. e. little cape; and that hence the priests, who had the care of them, were called chaptains. In time thefe relies were reported in a little church, either contiguous to a larger, or figurate from it; and the fame name, capallat, which was given to the cover, was also given to the pine where it was lodged; and hence the priest who faperintended it came to be called chaptain.

· CHAPLET, or CHAPPLET, a firing of beads, ufed in the Romilli church, to keep account of the number of Pater-nofters and Ave-Marys, to be rehearled in honour of God and the Holy Virgin.

Chaplets are otherwife called Pater-niflere. A ROSARY

is a chaplet of fifteen deeds of Av. Mary.

Menage derives the word from chaptan, hat; because of the resemblance the thing bears to a hathand, or chaplet of roses, chaptan de roses. The modern Latins call it capalling; the Italia's more frequently consist.

Larrey and P. Viret aferibe the first invention of the chaplet to Peter the Hermit, well known in the hiltery of

the croifades.

There is a chaplet of our Saviour, confiding of 33 heads, in honour of his 33 years living on earth, instituted by father

Michael, the Camaldulian.

The Orientals have a kind of chaplets which they call chains, and which they use in their prayers, rehearing one of the perfections of God on each link or bead. The

great mogul is faid to have 18 of these chains, all of precious stones, some diamonds, others rubics, pearls, &c.

The Turks have likewife chaplets, which they bear in the hand, or hang at the girdle: but father Dandini observes that they differ from those used by the Remanits, in that they are all of the same bigness, and have not that diffinction into decads; though they confish of fix decads or 60 beads. He adds, that the music men have presently run over the chaplet, the prayers being extremely short, as containing only these words, Praife to Gall; or these, Glery to Gall; or each head.

Befides the common chaplet, they have likewife a larger one, confiding of 100 beads, where there is four distinction, as being divided by little threads into three parts, on one of which they repeat 30 times Scalban Allah, Chen let worthy to be praifed; on another, Ellamb Allah, Chen let Ond; and on the third, Allah, Chen let of three 30 times making only 30 to complete the number 100, they add other prayers for the beginning of the chapter.

He adds, that the Mahometan chaplet appears to have had its rife from the mea horacett, or hombed the different which the Jews are obliged to repect daily, and which we find in their prayer-hooks: the Jews and Mchometans having this in common, that they feldem do any thing without pronouncing fome laud or benediction.

CHAPLET, or CHAPLETT, in Archite Ture, a little moulding, out or carved into round Leads, pearls, olives, or the life.

A chaplet, in reality, is little else but a baguette en-

riched with foulpture. See BAGUETTE.

CHAPMAN, George, in Biography, an early English dramatic writer, and the find translator of all the works of Hemer, was born in 1557, and partly educated at Trinity College, Oxford, where he was chainguished for elassical cradition. From Oxford he removed at an early age to the Metropolis, and entitivated an acquaintance with the wits of that period, Shakespear, Spenser, Marlow, Daviel, &c. In 1595, he publichly commenced author, by priming a point entitled "Oxid's Banquet of Same," &c. Before this time he mult have been en aged in his translation of Horter, as his seven beneks of the lind appeared in 1596. Fifteen books were printed in 1600, and the whole poun, though published without date, appears by the dedication to prince Henry, not to have been her town 1603. Before this period he was a writer of comedy; and for several years he supplied the public with dramatic pieces, both tragic and comic, many of which were popular. He was a joint writer with Jonton, and rivalled him in fame. In 1614, he published his version of the Odyssey, and foon after completed his translation of all Homer's works by the Barrachyomaomachia and Hymns. He also translated Museus and Henoric of his laborious life, which terminated in 1634, at the course of the St. Gines's in the Fields, which terminated in 1634, at the cage of 77 years. A monument of Gracina architecture was erected to him by histricad, Inigo Jones, in the church of St. Gines's in the Fields, which was deflroyed with that chifice. Chapman was much element in his time, but for his poetred and moral character; and though he may now be ranked among our extracter; and though he may now be ranked among our entitled poet, though rude and incorrect, and rendered trasform by protrasted mealure of lines of 14 fyllables, are not decilious of spirit, and afford several examples of the naturalization of spirit, and afford several examples of the naturalization of

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the Homeric compounded epithets, which have been happily employed by his fucceffors. Waller, as Dryden fays, could never read Chapman's Homer without transport; and Pope has derived advantage from the attentive study of it. His critical additions furnish no favourable specimen of an accurate acquaintance with the Greek language. Biog.

CHAPMAN, EDMUND, an eminent furgeon, and accoucheur, had the merit of giving the first delineation and account of the obstetric forceps, invented by the Chamberlens, more than 60 years after their being first used by that family. Of this intelligent and ingenious practitioner, we have only been able to learn, that he was born about the end of the feventeenth, or the beginning of the last century, and after being well instructed in his profession, in some neighbouring county, where he is faid to have practifed a few years, he came to London, and foon diftinguished himself by his superior skill and adroitness, in conducting difficult labours. The management he adopted confilted in turning the child and delivering by the feet, when it presented any other part than the head to the uterine orifice, and in fome cales, when the head was the prefenting part; and in using the forceps in many difficult births, in which it had been usual before to

deliver with the crochet. The Chamberlens, to whom, by general confent, the invention of the forceps is attributed, guarded the fecret with so much caution, that they avoided calling it an inflrument, least it should lead to a discovery. " My father, brothers, and myself, Dr. Hugh Chamberlen says, (preface to his translation of Mauriceau's Midwifery) " have attained to, and long practifed a way of delivering women," &c. From Mauriceau we learn, that thefe fortunate deliver es were atchieved by means of an instrument, but of what kind he was not able to inform us, and it remained concealed, or at the least no account of it was given to the public, until Chapman published his " Treatife on the Improvement of Midwifery, chiefly with regard to the Operation, with Cafes," Svo. 1732, that is, nearly seventy years from the time they were first used by the Chamberlens. Chapman's Treatife is a work of confiderable merit. It contains a delineation and description of the forceps, in which he had made confiderable improvements, with an ample account of the cales, in which they might be advantageously employed. Sometimes, he tells us, he made use of a fillet, but on the whole, he prefers the forceps. He condemns the practice of pushing back the os coccygis, in difficult births, which was recommended by Deventer, as well as the opinion, fo ftrongly infifted on by that writer, that labour is frequently rendered tedious and difficult, by the uterus being placed obliquely in the pelvis. Chapman was also author of a small work, "A Reply to Douglas's fhort Account of the State of Midwifery in London," Svo. 1737, in which he ably defends the cause of the men-midwives (or mid-men, as Douglas calls them) against the severe strictures of their adversary. Hailer Bib. Chirurg

CHAPOTENSIS, in Writers of the Middle Age, a kind of coin. We do not find any certain account of its value. Du-Cange inclines to think it the fame as the CHATUS.

CHAPPAR, a courier of the king of Persia, who carries dispatches from court to the provinces, and from the provinces to the court.

The word, in the original Perfian, figuifies courier.

The poils, M. Tavernier tells us, are not established and regulated in Persia as among us: when the court sends out a chappar, the fophi's mafter of the horse furnishes him with a fingle horse, how long soever his journey be, and a man to run after him: when his horfe is weary, he takes that of the

first horseman he meets with, who dares not make the least refusal, and fends his own home by the man who follows

As for the mafter of the new horfe he has taken, he must run, or at least, fend after the chappar, to retake him, when the chappar difmounts fome other horfeman to chapge

CHAPPE, in Heraldry, the partition of an efcutcheon, by two lines drawn from the middle point in chief to the two bafe angles of the shield.

The fections of the fides are to be of a different colour

from the rest. Mackenzie calls it, A chief party per bend dexter, or finister, or both.

CHAPPE D'AUTEROCHE, JOHN, in Biography, a French astronomer, was born at Mauriac, in Upper Auvergne, in 1728. His parents, who were persons of rank and opulence, afforded him every advantage of education, and placed him first in the Jesuits' College at Mauriac, and afterwards removed him to the College of Louis le Grand at Paris. In his earlieft years he manifested a taste for mathematics and defign; and employed his leifure hours in drawing plans and making calculations. In acquiring the elements of mathematics and aftronomy, he was affifted by a Carthufian, named don Germain; and to the latter of these fludies he was fo ardently devoted, that he fpent a confiderable part of fuch nights as were favourable for his purpose in observing the heavenly bodies. Father de la Tour, who was then prefident of the college, conceived a high opinion of his talents and performances, and recommended him to M. Cassini, as a young person who deserved peculiar encouragement. Accordingly, this celebrated astronomer employed him in drawing a general map of France, and in the French translation of Halley's tables, which were published, with considerable additions, in 1752. In the following year, he was engaged by the French government in furveying the county of Bitche in Lorrain, and in afcertaining the true position of that town, in order to complete the local geography of the diffrict to which it belonged. Having accomplished this undertaking to the fatisfaction of his employers, he was elected a member of the Royal Academy at Paris, and in 1750, he was appointed affiltant aftronomer in the room of M. Lalande, who had been promoted to the rank of affociate. In 1760, he was occupied in making observations on the two comets, which then appeared, and in forming, by means of his observations, a theory of their orbits. He communicated to the academy at the same time, an account of the zodiacal light, and of the aurora borealis, which he had a favourable opportunity for Tobolik in Siberia, in order to observe the transit of Venus over the fun, which was to happen on the 6th of June, 1761; and after encountering many difficulties, and purfuing a route of about 800 leagues from Petersburgh, arrived at the deftined place of observation on the 1cth of April. M. Ifmaeloff, the governor of the town, to whom he prefented the order of the empress, received him with respect, and afforded him every necessary affiliance in accomplishing the object of his expedition. He lost no time in construct-ing an observatory, and in fixing and adjusting his instruments; and by means of a folar and lunar celipfe, he was ennabled accurately to fettle the longitude of the place. His observations of the trafit, which were made with great precition, in the prefence of M. Ismaeloff, count Poulchkin, and the archbifnop of Tobolik, were fpeedily transmitted both to Petersburgh and Paris. The severity of the climate, which injured the abbe Chappe's health, and other circumfited the mines at Catharineburgh, of which he has given an interesting account, he proceeded to Cafan, and at length, after a journey of much fatigue and danger, arrived at Peterfburgh. Declining the offer which the empress made him of the place that had been occupied by Mr. de Lifle, he returned to France in 1762, after an absence of two years. In the course of his peregrination to and from Tobolik, he availed himfelf of fuch opportunities as occurred for inveltigating tains, volcanoes, animals, and minerals; the manners and lars of information as might ferve to improve an acquaintance with the extensive empire of Russia. Upon his return he applied with diligence to the arrangement of the various materials which he had collected; and from thefe he formed a narrative of his travels, illustrated with charts and feveral which appeared in 1769, in 3 vols. 4to. He was no lefs industrious in the discharge of his official duties, as affirmant 1769, it was reaforably supposed, that it might be advantageously observed in the north-west part of Europe; but it was need flary to obtain a feries of observations to the St. Lucar. The abbé Chappe offered his fervices, and repairing to Cadiz, fet fail in a fmall veffel manued by eight persons only, for Vera Cruz; and from thence proceeded to Mexico, and reached California 19 days before the computed day of observation. At this time an alarming difposed to make his observations, and he was advised to remove out of the reach of danger. But his zeal for the promotion of science was such, that before his departure from France, he replied to those who apprized him of the the day after making the proposed observation, that assurance should not deter him." Accordingly, he determined to remain at the village of St. Joseph, where he completed his observations in the most satisfactory manner. Three days after the transit, he was attacked with the disorder, which had before feized his companions; but his refolution was inbe in a flate of convalcfeence, he infilled on fitting no to observe a lunar eclipse, and this occasioned a relapse. the fatal criffs, whill he deciared his conviction that he fhould not furvive, he also expressed his fatisfaction, that the object of his million had been accomplished before his death, which happened August 1th, 1700, in his 42d year. His papers were transmitted by M. Pauli, a French younger Callini. 'The Abbé Chappé was of a lively, cheerhis conduct: devoted to the purfuit of feience, and in a great degree regardless of all confiderations of private interest. The brief hiltory above given evinces his unconquerable firmness and intrepidity.

CHAPPEL, OF CHAPFL. See CHAPEL.

CHAPPEL, WILLIAM, in Biography, a pious and learned prelate, was born in 1582 at Lexington in Nottinghamshire, and educated at Christ's college, in the university of Cambridge, of which he became fellow in 1007. Having no prospect of advancement, he continued at college and devoted himself to the business of tuition, for which his talents, disposition, and general character peculiarly qualified him. As a disputant he was skilful and formidable; and it is faid that

on occasion of an act performed when king James visited the university in 1624, he pushed his respondent, Dr. Roberts of Trinity college, fo hard, that, unable to maintain the contest, he fainted away. The king attempted to support happy that so redoubtable a champion was at the same time in 1634. Subfervient to the views of government in oppofed, he was promoted, in 16,8, to the bishopricks of Cork, for fome fmail bishopic in England. In 1641, articles of impeachment were exhibited against him before the lords, from the circumflance of his having for his two warmelt adverfaries primate Uther and Dr. Mallers, bishop of Meath, Land and Wentworth. At length he obtained leave of the ship in which most of his property and his books were retired to his native county; and having afterwards fixed his refidence at Derby, he died there in 1649. Although he was a man of acknowledged learning, his publications were few. His "Methodus Concionandi," was printed at "The true Method of preaching," appeared in 1656. His other works were "The Ule of Holy Scripture," Lond. 1653, Svo., and his own life "Vita Gulielmi Chappel,"

CHAPPEL HILL, in Geography, a post-town of America, in Orange county, N. Carolina, feated on a branch of Newhole creek, which discharges itself into the N.W. branch of Cape Fear river. This spot has been scheded for the seat of the university of North Carolina, which was opened for sudents in 1796. This town is placed on a beautiful cminence, and commands an extersive prespect of the surrounding country; 12 miles S. by E. of Hilliborough, and 472 S.W. of Philadelphia. N. lat. 35° 40′. W. long.

CHAPPES, in Geography, a town of France, in the department of the Aube, and dilltict of Bar-Sur-Seine; 10 miles S.E. of Troves.

Chappes, or Chapes, in Military Language, are barrels that are made use of for covering others filled with powder, the better to preserve it, and to prevent any of it from being lost by passing or sinding its way through between the staves of the barrels containing it when they are moved, shaken, or joited. The name of chappe or chape, is also given to a plaistering of cement, which is spread all over the vaults of souterrains, bomb-proofs, and magazines, to prevent any moisture or humidity from penetrating. This appellation is likewise given to a composition of carth, horse-dung, and hair, that is employed for covering the mould of a cannon or mortar.

CHAPPOY, in Geography, a town of France in the department of Sura; 21 leagues S.S.E. of Salins.

CHAPRARAL, a town of South America, in the country of Cheli, and jurisdiction of Coquimbo.

CHAPTALIA, in Botany, Ventenat. See PERDICIUM. CHAPTER, Capitulum, a community of ecclefialtics belonging to a cathedral, or collegiate church.

The chief or head of the chapter, is the dean; the body

confiits of canons, or probendaries, &c. See DEAN. The chapter has now no longer any share in the admini-

'Aration of the diocese, during the life of the bishop; but fucceeds to the whole episcopal jurisdiction during the va-

The origin of the chapters is derived from hence, that anciently the bithops had their clergy residing with them in their cathedrals, to affift them in the performance of facred offices, and the government of the church; and even after parochial fettlements were made, there was still a body of clerks who continued with the bishop, and were indeed his family, maintained out of his income. After the monaftic life grew into requelt, many bishops chose monks rather

than feculars for their attendants.

Thefe bodies, either of monastics or feculars, then had the fame privilege of chusing the bishop, and being his council, which the whole clergy of the diecele had before; but, by degrees, their dependence on the bishop grew less and less; and then they had diffinet parcels of the bishop's estate affigned them for their maintenance; till at laft, the bishop had little more left than the power of vifiting them. On the other hand, thefe capitular bodies by degrees also loft their privileges; particularly that of chuling the bishop, for which the kings of England had a long struggle with the pope: but at last Henry VIII. got this power velted in the crown; and now the deans and chapters have only the shadow of it.

The fame prince likewife expelled the monks from the cathedrals, and placed fecular canons in their room; those he thus regulated, are called deans and chapters of the new foundation; such are Canterbury, Winchester, Worcester, Ely, Carlifle, Durham, Rochester and Norwich : fuch also are the chapters of the four new fees, of Peterborough,

Oxford, Gloucester, and Bristol.

CHAPTER is also applied to the affemblies held by religious and military orders, for deliberating on their affairs, and regulating their discipline.

Papias fays they are fo called, quod capitula ibi legantur. The establishment of general chapters of religious orders is owing to the Ciftercians, who held the first in 1116, and were foon followed by the other orders.

CHAPTER is also used for a division of a book; contrived for keeping the matters treated thereon more separate, clear,

and distinct.

The ancients were unacquainted with the division of books into chapters and fections. Papias fays, the name chapter, caput, arose hence, quod sit alterius sententia caput, or quod capiat totam fummam. St. Augustine compares chapters to inns, inafmuch as these refresh the reader, as those the

The division of the Bible into chapters is attributed by fome to Stephen Langton, archbishop of Canterbury, in the reigns of king John and Henry III. But it was really done by Cardinal Hugo, who stourished about the year 1240, the author of the first Scripture Concordance, with a view of rendering this work an useful index to the Scripture. See BIBLE and CONCORDANCE. The chapters were again fubdivided, not into verses, but by the letters A, B, C, D, E, F, G, placed in the margin at an equal diltance from each

other, according to the length of the chapters. In fome, all the feven letters were used; in others fewer, as the length of the chapters required. In 1445, Rabbi Nathan, a famous Rabbi among the Wellern Jews, finished a Concordance to the Hebrew Bible, in the manner of Hugo's above mentioned; and introduced the division of the Hebrew Bible into chapters: he also in proved on his plan, by using the ancient division into veries, and by numbering them, fixing the numerical letters in the margin at every fifth verfe. Athias, in his edition of the Bible, 1661 and 1667, introduced the Indian figures, and placed them at every verfe. Vatablus published a Latin Bible, in which the face kind of division was adopted; though some say this division and diffinction by numbers were first used in R. Ste-phens's Latin Bible, published at Paris, 1557. R. Ste-phens made the same division of the chapters of the New Tellament into verses, for the sake of a concordance to the Greek Testament, which was printed by his fon H. Stephens.

CHAPTERS, the three, is a phrase famous in Ecclesiastical History, fignifying a volume published by Theodoret, an adherent of Neftorius, against St. Cyril; confisting of a letter of Ibas prieft of Nedessa, to Maris a bithop of Persia; of extracts from the works of Diodorus of Tarfus, and Theodore of Mopfueltia, wherein the fame doctrines were taught. that were contended for by Neftorius; and of two pieces of Theodoret, the one against the council of Ephefus, the

other against the anathemas of St. Cyril.

These make the famous three chapters; which were first condemned by an edict of Justinian, A. D. 544. and fince by various councils, and many popes.

CHAPTREL. See IMPOST.

CHAPUZEAU, SAMUEL, in Biography, a native of Geneva, who became preceptor to William III. king of England, and afterwards governor of the pages of George, duke of Brunfwick-Lunenburg, in which fituation he died "old, blind, and poor," at Zell, in 1701. Of his various works in hillory, politics, and belles lettres, we shall mention his "Defeription of Lyons," 1656; "As Account of Savoy;" "L'Europe vivant," or political state of Europe, in 1666; "Present State of the electoral House of Bavaria," 1673; "Le Theatre Francois," 1674; feveral comedies under the title of "La Muse enjouée, ou le Theatre comique." His arrangement and publication of Tavernier's voyages and travels, first printed in French, 1675, 4to, may be reckoned among his most useful labours. 1694, he published the plan of an "Historical, Geographical, and Philosophical D. ctionary," to which he had devoted 15 years; but it never appeared. He complained that Morei had made great use of his MSS. in compiling his own dictionary. Gen. Biog.

CHAQUILON, in Geography, a town of Persia, in the province of Segestan, now in ruins; 90 miles N.E. of Za-

CHAR, a town of Arabia; 140 miles N.W. of Mecca. -Alfo, a river of France, which runs into the Boutonne, near St. Jean d'Angeli.

CHAR, in Ichthyology. See SALMO alpinus, and CHARR,

OF CHARRE.

CHAR de Neptune, in Natural History, one of the numerous lynonymous names of MADREPORA muricata, which fee. CHAR of lead, denotes the quantity of thirty pigs.

CHARA, in Astronomy, the name of one of the CANES

CHARA, in Botany, (supposed to be fancifully derived from χαιρω, because, says Professor Martyn, it is the joy or delight of the water; or rather, if it be worth while to add one uncertain conjecture to another, because it delights in water.) Linn, gen. 567. Schreb. 1397. Juff. 18. Vent. vol. 2. 71. Giert. 528. Clafs and order, cryptogamia algo, Linn. Sp. Pl. Monacia monachia, Linn. Syit. Nat. Monacia monagonia, Smith Flor. Brit. Nat. Ord. Inundate, Linn. Maister 100. Allishta Filies Vent.

Gen. Ch. Male. Gal., none. Cor., none. Stam. Filament one; auther globular, projecting before the germ, and placed rather beneath it, at the outfide of its calys, one-celled, not opening. Female. Cal. Perianth four-leaved; leaflets awl-finaped, unequal, permanent; fometimes none. Cor., none. Pipl. Germ top-flaped, fpirally flitated; flyle none; fligmas five, fimple. Per. Berry ovate-oblong, fpirally flirated, one-celled, containing the fleets within a very flender cont. See See Several very first, (wherea J. Schub.)

cruit. Seeds feveral, very final, spherical. Schreb.

Eff. Ch. Male. C.d. and Cor., none; anther before the
fire, beneath. Fem. Cal. four-leaved. Cor. none. Stigmas
fire. Whole both conflantly immerfed in water.

Obf. Authors are much at variance with respect to the what use, inquires the latter author, can be a cellular anther but mult inflantly rife to the furface of the water? It is therefore fufficiently evident, that these globules are not real anthers; but are either more air-vellels defigned to enable its anther and pollen be obscure; but he has not a doubt performed within the frem, by a clandelline communication between the anther and germen, and that the five leaves the female flower, and which are fometimes wanting, are no none. Anther feffile. Style none. Berry with many feeds. See Eng. Bot. 35%, and Flor. Brit. vol. 1. p. 4. Gærtner " Pericarp, a nut cloathed with a membranous integument, shell ovate-globular, craitaccous, brittle, rather thick confidering the fize of the nut. Seeds bedded in a pale, friable, herbaceo fleshy substance, which fills the whole cavity of the nut." But from this defeription the fruit is properly a

Sp. 1. C. culgaris, Linn. Sp. Pl. 2. Lam. 1. Mart. 2. Hedwig Theor. tab. 32,33. Eng. Bot. tab. 336. Lam. Ill. Pl. 742. fig. 1. (Equifetum futidum fub aqua repens; Bauh. Prodr. 25. Ger. emen. 1115.) "Stem without prickles, firiated; leaves awl-fiaped, jointed." Whole herb feetid, brittle. Stem a foot long, thread-fiaped, twifted. Leaves about eightim a whoil, erect-fipreading, acute, compound, channelled above, bearing the flowers. Auther naked, feffile, depressed, fielhy,

in its decay cracking into chinks. Germ furrounded by four of calcareous earth deposited from the water, which is never found on plants growing in clay-pits or any pure grounds. The plant in its natural flate is fraooth and of a bright green Chara minor caulibrs & folis tenuifilms of Ray's Synoptis. The figure in English Botary was crawn from a fpecimen covered with the calcareous crast. 2. C. Spida, Lam. III. Pl. 7-2. fig. 3). (Equifetum f. Hippuris mufcoffie; Plick, Alm. (ab. 19), fig. 6.) "Priciales on the item capillary, crowded." Linn. "Stem; and leaves fpinous-hitpid." Lam. "Stem turrowed; leaves awl-flaped, jointed; flexed." Dr. Smith. Habit of the former, but larger; with a prickly chiefly on its upper part. Flowers fimilar to those of C. vulgaris. 3. C. tomentoja, Linn. Sp. Pl. 1. (Equisetum egg-shaped." The English plants which have been referred We have specimens now before us, gathered many years that we will not venture to pronounce it specifically diffinet from C. hifpida. 4. C. flexilis, Linn. Sp. 4 Lam. 4. Mart. 4. Eng. Bot. tab. 1070. minor. Lam. III. Pl. 742. fig. 2. broader upwards." Linn. "Without prickles, even, tranf-Dr. Smith. Whole plant fmooth, not striated. There are two varieties figured by Vaillant (Act. Paris. 1719, tab. 3, fig. 8, 9.) one larger and the other finaller. Specimens of both are before us, both gathered, we believe, in some part of Yorkshire; and it appears to us that Linnwus formed his specific character from the former; Dr. Smith his, from the latter. All the species are annual, and grow in ponds and flow ditches, flowering in July and August.

CHARABASA, in Ancient Geography, a town in Africa

CHARABAUN, or TSIERIDON, in Gography, a feaport town on the north coalt of the island of Java, fituated in a country which produces abundance of rice, fugar, coffee, pepper, cotton, &c. which is purchased by the Dutch at a low price: about 130 miles east of Batavia. N. lat. 6° 5'. E. lang, 100° 4'.

CHARABE, or CARABE, is formetimes used for aml.r, which see): as also for the juice of the popular-tree.

CHARABEY, in Geography, a town of Perfia, in the province of Mazanderan; 60 miles W. of Alterabat.

CHARACENE, in Ancient Geography, a country of Afia, being the fouthern ditrict of Suffana. According to Ptolemy, it was the territory of the town of Charan, which fee.

CHARACENI, a denomination given by Pliny to the inhabitants of Charax, on the fouthern coaft of the Tauric Cherfonefus.

CHARACINA, a fmall country of Afia in Cilicia, in which Ptolemy places the town of Fluviopolis.

3

CHARAC-

CHARACITANI, in Ancient Geography, a people of Spain, placed by Plutarch in the Tarragonnese district. He adds, that they inhabited deep caverns, near the Tagus, into which they retired when they were pillaged by their neigh-

CHARACOMA, a town of Laconia, fituated on the road that paffes from Arcadia to Sparta, and to the north

of that city.

CHARACOMA, a name given by Ptolemy to a town of Arabia Petræa. Some have denominated it Characomba.

CHARACTER, in a general fehfe, fignifies a mark or figure, drawn on paper, metal, stone, or other matter, with a pen, graver, chiffel, or other instrument, to fignify, or denote any thing. The word is xxxxxxx; formed from the verb xaçasouv, insculpere, to engrave, impress, Sc.

The various kinds of characters may be reduced to three heads, viz. literal characters, numeral characters, and abbre-

CHARACTER, literal, is a letter of the alphabet, ferving to indicate some articulate found, expressive of some idea, or

conception of the mind. See ALPHABET.

These may be divided, with regard to their nature and use, into nominal, real, and emblematical. Nominal characters are those we properly call letters; which serve to express the

names of things. See LETTER.

Real characters are those that, instead of names, express things and ideas. Emblematical, or fymbolical characters, have this in common with real ones, that they express the things themselves; but they also have this further, that they in fome measure personate them, and exhibit their form: such are the hieroglyphics of the ancient Egyptians. See HIE-

CHARACTERS, literal, may be again divided, with regard to their invention and use, into particular and general, or uni-

verfal.

Particular characters, are those peculiar to this or that nation; or that have been fo: fuch are the Roman, Italic, Greek, Hebrew, Arabic, Gothic, Chinese, &c. characters. See each of these articles.

Universal characters, are also real characters, and make

what some authors call a philosophical language.

The diversity of characters used by the several nations to express the same idea, is found the chief obstacle to the advancement of learning: to remove this, feveral authors have taken occasion to propose plans of characters that should be universal, and which each people should read in their own language. The character here is to be real, not nominal; to express things and notions; not, as the common ones do, letters, or founds: yet, to be mute, like letters, and arbitrary; not emblematical, like hieroglyphics.

Thus, the people of every nation should retain their own language, yet every one understand that of each other, without learning it; only by feeing a real or universal character, which should fignify the fame thing to all people; by what founds foever each expressed it in their particular

idiom.

For instance, by seeing the character destined to signify to drink, an Englishman should read to drink; a Frenchman, laire; Latin, bibere; a Greek, www; a Jew, 720; a German, trincken; and so of the rest: in the same manner as feeing a horfe, each people express it after their own manner; but all mean the same animal. This real character is no chimera; the Chinese and Japanese have already something like it. They have a common character which each of those nations understand alike in their several languages; though they pronounce it with fuch different founds, that

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they do not understand a tittle of the speech of one ano-

The first, and most considerable attempts for a real character, or philosophical language, in Europe, are those of bishop Wilkins, and Dalgarme: but these, with how much art foever they were contrived, have yet proved ineffectual.

M. Leibnitz had fome thoughts the fame way: he thinks those great men did not adopt the right method; and adds, it was probable, indeed, that, by this means, people, who do not understand one another, might easily have a commerce together; but that they have not fixed on true real characters

According to him, the characters should resemble those used in algebra: which, in effect, are very simple, yet very expressive; without any thing superfluous or equivocal; and contain all the varieties required.

The real character of bishop Wilkins has its just applause: Dr. Hook recommends it, on his own knowledge and experience, as a most excellent scheme; and, to engage the world to the study of it, published some fine inventions of his own

relating to it. See LANGUAGE.

M. Leibnitz tells us, he had under confideration an alphabet of human thoughts; in order to a new philosophical language, on his own scheme; but his death prevented this

from being brought to maturity.

M. Lodwick, in the Philosophical Transactions, gives us a plan of an univerfal alphabet, or character of another kind: this was to contain an enumeration of all fuch fingle founds, or letters, as are used in any language; by means whereof people should be enabled to pronounce truly and readily any language; to deferibe the pronunciation of any language that should be pronounced in their hearing; so that others accustomed to this language, though they had never heard the language pronounced, should at first be able truly to pronounce it : and, lastly, this character is intended to serve as a standard to perpetuate the founds of any language. Abridgm. vol. iii. p. 373.

In the Journal Litteraire, an. 1720, we have a very ingenious project for an universal character: the author, after obviating the objections that might be mide against the feafibleness of such schemes in the general, proposes his own: his characters are to be the common Arabic, or numeral figures. The combinations of these nine are sufficient to express distinctly an incredible quantity of numbers, much more than we shall need terms to fignify our actions, goods, evils, duties, paffions, &c. Thus is all the trouble of framing and learning any new characters at once prevented; the Arabic figures having already all the universality required.

The advantages are immense: for, 1. We have here a stable, faithful interpreter; never to be corrupted or changed, as the popular languages continually are. 2. Whereas the difficulty of pronouncing a foreign language is fuch as ufually gives the learner the greatest trouble, and there are even fome founds which foreigners never attain to; in the character here proposed, this difficulty has no place: every nation is to pronounce them according to the particular pronunciation that already obtains among them. All the difficulty is, the accustoming of the pen and the eye to affix certain notions to characters that do not, at first fight, exhibit them. But this trouble is no more than we find in the fludy of any language whatever.

The inflexions of words are here to be expressed by the common letters: for instance, the same character shall express a fully or a colt, a horse or a mare, an old horse or an old mare, as accompanied with this or that distinctive letter, which shall shew the fex, youth, maturity, or old age: a letter is

allo to express the bigness or fize of things; thus, v. g. a man with this or that letter, to fignify a great man, or a lit-

tle man, &c.

The use of these letters belongs to the grammar, which, when once well understood, would abridge the vocabulary exceedingly. An advantage of this grammar is, that it would only have one declention, and one conjugation : those numerous anomalies of grammarians are exceeding troublefome, and arife hence, that the common languages are governed by the populace, who never reason on what is best: but in the character here propoled, men of fenle introducing it, would have a new ground whereon to build regularly.

The difficulty, however, is not in inventing the most simple, cafy, and commodious character, but in engaging the feveral nations to use it; there being nothing they agree less in than the understanding, and pursuing of their common interest. The consideration of an universal language, with respect to the mode of its formation, as well as its advantages and practicability, will be refumed under the article

LANGUAGE

CHARACTERS, literal, may be again divided, with respect to the nations among whom they have been invented, and used, into Greek characters, Roman characters, Hebrew charaders, &c.

The character now ordinarily used throughout Europe, is the Latin character of the ancients, which was formed from the Greek, and that from the Phænician, which Cadmus

brought into Greece.

The Phoenician character was the same with that of the ancient Hebrew, which subsisted to the time of the Babylonish captivity; after which they used that of the Assyrians, which is the square Hebrew, now in use; the ancient being only found on some Hebrew medals, commonly called 66 Samaritan Medals."

Postellus and others shew that, beside the Phænician, the Chaldee, Syriac, and Arabic characters were likewise

formed from the ancient Hebrew.

The French were the first who, with the Latin of St. Gregory, admitted the Latin characters. And in a provincial fynod, held in 1091, at Leon in Spain, the use of the Gothic characters invented by Ulfilas was abolished,

and the Latin ones established.

Medallists observe, that the Greek character, confishing only of majuscule letters, has preserved its uniformity on all medals as low as the times of Gallienus; there being no alteration found in the turn of the character, notwithstanding the many confiderable ones both in the use and pronunciation. From the time of Gallienus, it appears fomewhat weaker and rounder: from the time of Constantine to Michael, the space of 500 years, we find only Latin characters; and after Michael, the Greek characters recommence, but from that time they began to alter with the language, which was then a mixture of Greek and Latin.

The Latin medals preserve both their character and language as low as the translation of the feat of the empire to Constantinople. Towards the time of Decius, the character began to alter, and to lofe of its roundness and beauty: fome time after it retrieved itself, and sublisted tolerably till the time of Justin; when it fell into the last barbarity mentioned under Michael; though it afterwards grew worfe, and degenerated into the Gothic: fo that the rounder and better formed the character is on a medal, the greater pretence it

has to antiquity.

CHARACTERS, numeral, are those used to express numbers. Numeral Characters are either letters, or figures, otherwise called digits. The kinds now chiefly in use, are the Common and the Roman : to which may be added the Greek,

and another called the French character; as also the letters of other alphabets which have been made use of to express numbers. The common character is that ordinarily called the Arabic, as supposed to have been invented by the Arab altronomers; though the Arabs themselves call it the Indian character; as if they had borrowed it from the people

The Arabic characters are ten, viz. 1, 2, 3, 4, 5, 6, 7, 8,

0, 0; the last is called cipher.

The Arabic character is used almost throughout Europe, and that on almost all occasions; in commerce, in measuring, in aftronomical calculations, &c.

The Roman character, consists of the majuscule letters of the Roman alphabet: whence probably its name: or, perhaps, from its being used by the ancient Romans on their coins, and in the inscriptions of their public monuments, erested in honour of their gods and great men; on their

sepulchres, &c.

The numeral letters that compose the Roman character are in number feven, viz. I, V, X, L, C, D, M. The I denotes one, V five, X ten, L fifty, C a hundred, D five hundred, and M a thousand. The I, repeated twice, makes two, II; thrice, three, III; four is expressed thus, IV, I before V or X, taking an unit from the number expressed by each of those letters. To express six, an I is added to a V, VI; for seven, two, VII; and for eight, three, VIII: nine is expressed by an I before X, IX; agreeably to the preceding remark.

The like remark may be made of the X before L or C, except that the diminution is by tens, not units: thus, XL fignifies forty, and XC, ninety; an L followed with an X, fixty, LX, &c. The C before D or M, diminishes each by a

hundred.

Besides the letter D, which expresses sive hundred, that number may also be expressed by an I before a C inverted, thus, ID; and thus, in lieu of the M, which fignifies a thoufand, is fometimes used an I between two C's, the one direct, the other inverted: agreeable to this, fix hundred may be expressed IDC; and seven hundred, IDCC, &c.

The addition of C and D before, or after, railes CID by tens, thus, CCIDD, 10000; CCCIDDD, 100,000, &c.

This is the common way of notation, formerly used by the Romans; who also expressed any number of thousands by a line drawn over any numeral less than a thousand; e.g. V, 5000; LX, 60,000: fo likewife M is 1,000,000; MM

is 2,000,000, &c.

Besides which, (I.) certain liberties or variations have been admitted, at least by some modern writers; e. g. IIX, 8; IICIX, 89. (II.) And certain characters have been used, which seem to have been derived from the letters; e. g. M, by which they express (Mille) 1000, was formed from CXO, or CIO; half of which, viz. IO, flood for 500. (III.) And for the casier writing of these characters, 1. 1) feems to have been altered into D; 2. IDD into A, or

V; 3. CID into 00 or 4; whence 4 T, 1000;

1 Roman inscriptions, we meet with the characters 1 and co, used to express a thousand. The usual note of a thousand, is either I between two CC's (direct and reversed) thus, CID; or elfe X, thus, CXD. The former figure, when closed at top, exactly resembles an ancient M, thus, D; and the latter, when that up, the figure of 8, inclined

We also find in some inscriptions, the character , which is X between two CO's, but closed on all sides. But the learned Dr. Taylor feems to suspect the accuracy of the

copy of the infeription from whence this character is taken. See Phil. Tranf. Nº 482. 6 2.

As to the origin and use of the character X, so often met with on the coins, utenfils, and manuscripts of the an-

cients ; fee X.

Greek numerals. The Greeks had three ways of expressing numbers. (I.) The most simple was, for every single letter, according to its place in the alphabet, to denote a number from a I to w 24; in which manner the books of Homer's Iliad are diffinguished. (II.) Another way was by dividing the alphabet into, (1.) S Units: α 1, β 2, &cc. (2.) 8 Tens: 10, 220, &c. (3.) 8 Hundreds: p 100, \$ 200, &c. N. B. Thousands they expressed by a point, or accent under a letter, e. g. a 1000. β 2000, &c. (III.) A third way was by fix capital letters, thus, I [ix for mix] I, Π [σεντε] 5, Δ [δεκα] 10, Η [Η ΕΧ ΧΤΟΝ] 100, Χ [χιλια] 1000, M [utsiz] 10000: and when the letter II inclosed any of these, except I, it shewed the inclosed letter to be five times its own value, as | \(\Delta \) 50, |H| 500, |X| 5000, M 50000.

N. B. 6,90,900 are expressed by the character n. Hebrew numerals. The Hebrew alphabet was divided into 9 units: \$\cdot 1, \] 2, &c.—9 tens: \$\cdot 10, \] 20, &c.—9 hundreds: \$\cdot 100, \] 200, &c. \] 500, \$\cdot 600, \; 700, \] 800, \$\cdot 900.—Thousands were denoted, 1. By two points, or acute accents, marked above the letters, which, without fuch points, would express unities; e. g. N or N 1000, 2 2000, 7 4000, 1 10,000, 7 100,000. 2. By the letter & with two points marked above it, which letter & is an abbreviation of the word אוֹר or בים אוֹן, fignifying one thousand or thousands, to which other letters were prefixed, expressing the number of thousands at pleasure: e. g. N 1000, NI 2000, 87 4000, 81 10,000, 87 100,000. From thefe complete or round numbers, if they may be so called, they formed compound numbers, as in the following table:

8,	II	כני	110
יב	12	קל ד	134
2"	13	שמח	348
7,	14	סנב	652
כה	25	רסח	868
לר	36	701	987
110	47	818	1001
נה	58	NYN	1071
ממ	69	מקפב	1162
עב	72	דאר	4004
פד	84	קאעד	100074
13	96	מראח	64008
קיא	IOI	מוכן	1727

It is to be observed, that the number 15 was never expressed by 7, according to the above mode of notation, fignifying to, and 7 5, because they reckoned it indecorous to use one of the names of the deity for a number; but they denoted 15 by 10; I being 6 and to o, the fum of which is 15. For the same reason, 10 9 and 7 is used instead of 7, 10 and 6, to express 16.

The 22 Hebrew letters express numbers as far as 400; and the 5 remaining hundreds, under one thousand, are expressed

by different forms of 5 of the letters, which feem to have been invented on purpose to express them.

It has been above observed, that five letters of different forms, called the final letters, were invented in order to affift or complete the Hebrew numeration. This scarcely admits of a doubt, when it is confidered, that as 5, and only 5, of the feveral hundreds wanted each a fingle letter, and as 5, and only 5, of these different forms were invented; therefore these forms were invented to express those remaining hundreds. The different forms of these 5 letters have been used at the end of words, perhaps, ever since their first invention. It is therefore probable, that if we could fix the age of these final letters, we might then fix the time, when the Bible numbers were expressed by fingle letters. These finals are not known to the Samaritans, and as they are not at all wanted to express words, and yet are used in the Bible, we may hence conclude, that they were first introduced into the Bible for the purpose of numbers. This is the use made of them by the lews in their own writings; and indeed they are admitted, even now, into the Jewish Commentaries, as printed with the Hebrew text. See H. S. Jarchi on Gen. xxv. 8. As the age of these finals tends to fix the age of these numeral letters; it may be observed, that the final Mem is mentioned in the Talmud of Babylon; and that the authors of both Talmuds speak of the five finals as of great antiquity, even in their time. St. Jerom also, in his preface to the book of Kings, mentions the finals as equally in use with the 22 letters; and as his Hebrew MSS. might be 200 years old, if the finals were in his MSS. it follows, that they must have been used soon after the time of Christ. If, therefore, we may infer from Jerom, that the finals were used in the Hebrew MSS. at the latest, about 200 years after Christ, we may infer from the Greek version, that they were not used in the Hebrew MSS. till about 100 years before Christ. Dr. Hody tells us, that the book of Jeremiah was translated into Greek about 130 or 140 years before Christ, and from this version of Jeremiah, (ch. xxxviii. 8.) it seems clear that the finals were not then in the Hebrew text. For in that verfe the 7 letters שול (which are here 2 words, and properly fignify er aulois tulkos) are rendered in all the copies of the Greek version is soeln. But such a rendering, being the proper Greek of July, which is one word only, thews that the my was not then () mem final fince the final would have divided the letters into two words, and prevented fuch a wrong translation. Dr. Kennicott has applied these observations to the purpose of accounting for the corruption of the Hebrew text in its numeral letters. See his fecond differtation on the state of the printed Hebrew text, &c. p. 212.

CHARACTER, French, fo called, because invented, and chiefly used by the French, is more usually denoted, character

of account, or finance.

It confifts of fix figures; partly taken from the letters of the usual current hand, and partly invented by the contriver; the fix characters are j, b, κ , L, C, γ . The j confonant flanding for one, the b for five, the κ for ten, the L for fifty, the C for a hundred, and the last character y for a thousand.

This character is only an imitation of the Roman character; and in its use in most respects the same, particularly in what relates to the combination of certain letters, which placed before or after others, diminish or increase their value. Indeed it has these things peculiar in it, that when several things occur successively, only the last is expressed. 2dly, That ninety, and the following numbers to one hundred,

are expueffed, thus, jijj xxx, ninety; jijj xxxi, ninety-one; and it feems to have been first used by Stifelius in his arith*ijij* ××ij, &с.

It is principally used in the chambers of accounts, in the accounts given in by treasurers, receivers, farmers, and other persons concerned in the management of the revenue.

CHARACTERS, in Printing, denote the letters or types, by the various arrangement whereof are composed forms; whence impressions are taken, by means of a press, on paper. For the method of casting these Characters, sec Letter FOUNDERY. For other characters in Printing, fee CORRECTION.

CHARACTER, is also used in several of the arts, for a symbol, contrived for a more concife, immediate, and artful con-

vevance of the knowledge of things.

In this sense of the word, Paulus Diaconus refers the invention of characters to Ennius; who, he fays, contrived the first eleven hundred. To thefe were many more added by Tyro. Cicero's freedman, and by Philagyrus, Fannius, and Aquila, freedmen of Mæcenas.

Lally, L. Annæus Seneca made a collection of them, reduced them into order, and increased their number to five thousand. Tyro's notes may be seen at the end of Gruter's

inscriptions.

Valerius Probus, a grammarian, in the time of Nero, laboured to good purpose in explaining the notes of the ancients. P. Diaconus wrote an ample treatife of the explication of the characters in law, under the reign of the emperor Conrad I.; and Goltzius another for those of medals.

Characters, or lymbols, are now chiefly affected in the feveral parts of mathematics; particularly in algebra, geometry, trigonometry, and aftronomy: as also in medicine, chemistry, The principal of each kind we shall here submusic, &c.

CHARACTERS used in Arithmetic and Algebra.

a, b, c, and d, the first letters of the alphabet, are the figns or characters that denote given quantities; and z, y, x, &c. the last letters, are the characters of quantities fought. Some for the former, use consonants, or large letters; and

vowels, or fmall ones, for the latter.

Stifelius first used the capitals A, B, C, &c. for the quantities, unknown or required. Afterwards, Vieta used the capital vowels A, E, I, O, U, Y, for quantities, unknown or required, and the confonants B, C, D, &c. for klaswn or given numbers. Harriot changed Vieta's capitals into the small letters a, e, i, o, u, for unknown, and b, c, d, &c. for known quantities. And Des Cartes changed Harriot's vowels for the latter letters z, y, x, &c. and the confonants for the first letters, a, b, c, d, &c.

Note, Equal quantities are denoted by the same cha-

racter.

For the method of expressing the powers of quantities.

See ALGEBRA.

m, n, r, s, t, &c. are characters of indeterminate exponents, both of ratios and powers; thus xm, yn, z', &c. denote indeterminate powers of different kinds; mx, ny, rz, different multiples, or submultiples of the quantities x, y, z, according as m, n, r, are either whole numbers or fractions.

+ the fign of addition, is called the affirmative, or pofilive fign, and is read plus, or more; thus 9 + 3, is read 9 plus 3; or 9 more 3: that is, the fum of 9 and 3, equal

to 12.

When this character is fet before any fingle quantity, it denotes that it is an affirmative or politive quantity; when it is fet between two or more quantities, it denotes their fum, shewing that the latter are to be added to the former. It is not easy to ascertain when, or by whom, this fign was first introduced; but we owe it probably to the Germans,

metic printed in 1544. The early writers on algebra used the word plus in Latin, or piu in Italian, for addition; as they used minus, or meno, or merely the initial m, for subtraction: and thus these operations were denoted in Italy by Lucas de Burgo, Tartalea, and Cardan, while the figns + and - were employed much about the time in Germany by Stifelius, Scheubelius, and others, for the same opera-

- Before a fingle quantity, shews the quantity to which

it is prefixed to be a negative quantity.

Between quanticies, it is also the fign of subtraction, and is read minus, or less; thus 14 - 2, is read 14 minus, or abating 2; that is, the remainder of 14, ofter 2 has been subtracted, viz. 12. This fign first occurs in Stifelius.

= Is the fign of equality: thus, 9 + 3 = 14 - 2; fig-

nifies 9 plus 3, to be equal to 14, minus 2.

This character was used by Robert Recorde, and after him by Harriot: Des Cartes in lieu of it uses 20.

Wolfius, and fome other authors, use the same character, =, for the identity of ratios; or to denote the terms to be in a geometrical proportion; which most authors express

x Is the fign of multiplication, denoting the quantities on either fide to be multiplied into one another, and was introduced by Oughtred; thus, 4 × 6, is read 4 multiplied by 6; or the factum, or product of 4 and 6 = 24; or the rectangle between 4 and 6.

Ordinarily, however, in algebra, the fign is omitted, and the two quantities put together: thus b d expresses the product of the two numbers denoted by b and d, which suppose 2 and 4, the product whereof is 8, fignified by

Wolfius, and others, make the fign of multiplication a Hot (.) between the two factors: thus 6.2 fignifies the product of 6 and 2 = 12.

Where one or both the factors are compounded of feveral letters, they are diffinguished by a line drawn over them : thus, the factum of a + b - c into d, is wrote $d \times a + b - c$.

Guido Grandio, and after him Leibnitz, Wolfius, and others, to avoid the perplexity of lines, in lieu thereof diftinguish the compound factors, by including them in a pa-

renthefis, thus (a + b - c) d.

The parenthefis (), as a vinculum, was invented by Albert Girard, and used in such expressions as these $\sqrt[3]{(72 + \sqrt{5}120)}$, and B (B q + Cq), both for universal roots, and multiplication, &c. The straight-lined vinculum ---- was used by Vieta for the same purpose: thus A - B in B + C.

. Is the character of division, and was introduced by Dr. Pell: thus, a = b denotes the quantity a to be divided

Indeed, ordinarily, in algebra, the quotient is expressed fraction-wife; thus, $\frac{a}{L}$ denotes the quotient of a divided

Wolfius, &c. make the fign of division (:) thus, 3:4

denotes the quotient of 8 divided by 4 = 2.

If either the divisor or dividend, or both, be composed of feveral letters, v. g. a + b, divided by c; inflead of writing the quotient fraction-wife, thus, $\frac{a+b}{c}$, Wolfius, &c. include the compound quantities in a parenthesis; thus, (a + & : c), or (a + b) : c.

@ Is the character of involution, or of producing the fquare of any quantity, by multiplying it by itfelf.

& The

CHARACTERS.

· le The character of evolution, or of extracting the roots out of the several powers, the reverse of G. Both these characters were used by Dr. Pell.

7 Is the fign of majority, or of the excess of one quan-

tity beyond another: some use this [, or this].

∠ Is the fign of minority. These two characters were first introduced by Harriot, and have been since used by Wallis and Lamy. Other authors use others; some this

The fign of fimilitude, commended in the Miscellanea Berolinentia, and used by Leibnitz, Wolfius, and others;

though the generality of authors use none.

The same character is used by other authors for the difference between two quantities, while it is yet unknown which is the greater. It was introduced for this purpofe

of denoting a general difference by Dr. Wallis.

/ Is the character of radicality, and shews that the root of the quantity, to which it is prefixed, is extracted, or to be extracted: thus 1/25, or 1/25, denotes the square root of 25, viz. 5; and 2'25, the cube root of 25. This fign is derived from the initial R or r of radix or root, which was used at first by Paciolus, Cardan, &c. The character of seems to have been first used by Stifelius in 1544, and by Robert Recorde in 1557: At first they used the initial of the name after it, to denote the feveral roots: as \(\frac{1}{2} \) the quadrate or fquare root, and \(\frac{1}{2} \) the cubic root. But the numeral indices of the root were prefixed by Albert Girard, just as they are now used, viz. 2/, 3/, 1/, the 2d, 3d, or 4th root. See Root.

This character fometimes affects several quantities dillinguished by a line drawn over them, thus, $\sqrt{b+d}$, denotes

the fquare root of the fum of b and d.

Wolfius, &c. in lieu hereof, includes the roots composed of feveral quantities in a parenthefis, adding its index : thus, $(a+b-c)^2$ denotes the square of a+b-c, ordinarily written $a + b - c^2$.

: Is the character of arithmetical proportion disjunct; thus, 7.3:13.9, intimates 3 to be exceeded by 7, as

much as 9 by 13; viz. by 4.

:: This is the character of identity of ratio, and geometrical proportion disjunct; thus, 8:4:: 30: 15, expresses the ratio of 30 to 15, to be the same with that of 8 to 4; or that the four terms are in geometrical proportion, viz. 8 to 4, as 30 to 15. This character was introduced by Oughtred.

Wolfius, in lieu hereof, uses the character of equality =; which he prefers to the former, as being more scientifical

and expressive.

... The character of geometrical proportion continued, implying the ratio to be carried on without interruption : thus, 2, 4, 8, 16, 32, ... are in the same uninterrupted proportion. This mark was introduced by Oughtred.

When one or more terms in an equation are wanting, their places are usually marked with one or more afterisms;

ALGEBRA and ARITHMETIC.

CHARACTER of Decimals. See SEPARATRIX.

CHARACTERS used in Astronomy.

H Herschel, or Georgian Q Venus. 8 Mercury. planet.

h Saturn. O The Sun. (The Moon. 24 Jupiter.

Mars.

The Earth, or 3.

or Aries. - Libra. & Taurus. 111 Scorpio. # Sagittarius. II Gemini. S Cancer. W Capricornus.

A Leo. Aquarius. my Virgo. * Pifces.

The characters for the Sun, Moon, Mars, Mercury, Jupiter, Venus, and Saturn, are used to denote the days of the

week, viz. Sunday, Monday, &c.

With regard to the mythological fignification of these characters, we may observe, that antiquaries and astrologers, according to whose opinion the planets were first diftinguished by them, considered them as the attributes of the deities of the same name. The circle, in the earliest periods, among the Egyptians, was the fymbol of divinity and perfection, and feems with great propriety to have been chosen by them as the character of the fun; especially as, when furrounded by small strokes projecting from its circumference, it may form fome representation of the emission of rays. Some have thought, however, that the character of the fun, O, is the picture of a buckler; the middle point of which reprefents the umbo or boss; and it is observed, that the bucklers of the ancients used to be bright, in order to dazzle the eyes of their enemies, (vid. Plautum, art. i. fc. 1.) Hyde, (de Rel. Vet. Perf. p. 106.) informs us, that the Perlians often call the fun by a word which fignifies a buckler; and in MSS, the character is often a buckler, feen in a fide view: often a cone, which was facred to the fun, (Porphyr. ap. Euseb. Præp. Evang. p. 98.) A circle is mentioned as an Egyptian character of the sun, by Clemens of Alexandria, (Strom. l. v. p. 657. ed. Potteri). The semicircle is, in like manner, the image of the moon, the only one of the heavenly bodies that appears under that form to the naked eye; and accordingly it is thus mentioned by Clemens, (ubi fupra.) As to the characters of the planets, the common opinion is, that they were taken from the fymbols of those deities whose names they bear: thus, the character of Mercury & is his caduceus or wand, with ferpents twifting round it; that of Venus 2, a looking-glass, with a handle; that of Mars &, a lance and buckler; that of Jupiter 24, his thunderbolt; or, as others more generally agree, the first letter Z of his name in Greek, with a stroke through it, as a mark of abbreviation; and that of Saturn b, a fickle or feythe. (Riccioli, Almag. vii. c. 1. vol. x. p. 480.) Salmasius, (Plin. Exercit. p. 1237,) supposes, that all the characters are the initial letters of the Greek names of the planets. Kircher, fomewhat fancifully, (Œdip. Egypt. t. ii. pars 2. p. 402.) compounds the characters of the planets out of O and D, a cross +, the mark used for the four elements, and \(\gamma \), the character of Aries, which, he fays, denotes fruitfulnefs.

CHARACTERS of the Aspetts, Nodes, &c. S or of Conjunction. Bq Biquintile.

Semifextile. Vc Quincunx. Sextile. 8 Opposition.

& Scorpion's head, or af-Quintile. Quartile, or quadracending node.

8 Scorpion's tail, or descendture. Tridecile. ing node. Trine.

CHARACTERS of Time.

A. M. (ante meridiem) or M. morning. O. or M. noon.

P. M. (post meridiem) or A. afternoon. CHARACTERS, Chemical. The reasons that have chiefly led to the invention and use of chemical characters, are the two following; namely, their concileness, and the facility which they afford of concealing from the uninitiated the knowledge of valuable or curious facts. The latter reason is that by which the ancient chemists were for the most part influenced; the former is that which has induced fome modern chemits to their adeption.

In the early ages of chemistry, or rather of alchemy, this science was intimately connected with astrology; and, being cultivated chiefly by the Alexandrian Greeks, and the Saracens after their conquest of Egypt, it is no wonder (especially when the supposed importance of the study is taken into confideration) that hieroglyphics should be adopted, to express both the substances of experiment, and the pro-

ceffes to which they were subject.

The extensive destruction of chemical books in Egypt, by order of Dioclefian, and the combustion of the Alexandrian library by the Arabs, in all probability occasioned the lofs of many curious facts and processes, and the characters in which they were recorded: the utter incomprehenfibleness also of many of the early manuscripts on these subjects that are yet extant, (especially those written in Greek or Arabic), has confiderably diminished the number of characters which it is at all worth while to be at the trouble of reprefent-

In the table of ancient chemical characters, Plate Chemistry, are comprehended all that are to be found in the printed works of chemifts, from the time of Roger Bacon to Bergman. It is obvious, even on a curlory inspection, that some of these are borrowed from the science of astronomy; that others are mere arbitrary figns; and that others are rude types or hieroglyphics: the whole being deflitute of any uniform fystem, and very little applicable to the use of

chemittry, after it had affumed a scientific form.

Bergman, being aware of the uselessness of the old signs, has rejected all except those employed to denote chemical fubiliances: to thefe he has added others to represent those bodies which were unknown to the older chemilts; and has formed the whole into a fystem, capable of expressing in a tabular form, with brevity and clearness, the results of single and compound affinity, which was the only purpose to which they were applied by this eminent chemist.

When Lavoisier had invented the system of chemistry which is at prefent received, and had reformed the nomenclature in conformity with it, two of his countrymen, Messirs. Haffenfratz and Adet, chose to employ themselves in the formation of a species of stenography to correspond with the terms of the new lyllem; but the good fenfe of the age being convinced that to add to the necessary difficulties of the most comprehensive of all fciences was wholly needless, has fo unanimously rejected the fetters which these gentlemen have taken the trouble to forge, that any criticism upon the fubject would be entirely superfluous.

CHARACTERS in Commerce th . Pound weight. Do Datto, the fame. C. or 9 Hundred weight, or Nº Namero, or number. 112 pound. Fo Folio, or page. 97 Quarters. R' Recto, } folio. Per, or by. As p ann. Fo Veilo, 1 by the year. a cent. I. or f. fterling, Pound by the hundred, &c. R. Rixdollar. tterling. D' Ducat. Shillings. Pence, or Deniers. P. S. Poltscript.

CHARACTERS in Geometry and Trigonometry.

Is the character of parallelism; implying two lines or

planes to be equidifiant from one another. See PA.

A triangle. See TRIANGLE.

Equality of fides. < An angle. L. A right angle. O A circle. Equality of angles. Equality of angles. A perpendicular. A degree; thus, 75° implies 75 degrees.

A minute, or prime; thus, 50' implies 50 minutes. ", ", "", See. the characters of feconds, thirds, fourths, &c. of a degree; thus, 5", 6", 18"". 20"", denote 5 feconds, 6 thirds, 18 fourths, and 20 fifths.

Note. The fame characters are fometimes used, where the progression is by tens, as it is here by fixties.

CHARACTERS in Grammar, Rhetoric, Poetry, &c. ' Apoltrophe. Comma. ' Emphasis, or accent. : Semicolon.

Breve. : Colon. " Dialysis. . Period.

^ Caret, and circumflex. ! Exclamation. ? Interrogation. " Quotation. () Parenthelis. † and * References.

[] Crotchet. & Section, or Division. - Hyphen. Paragraph.

LL. D. Doctor of Laws, or of the Civil and Canon Law. SS. T. D. Sacro-Sanctæ Theologiæ Doctor, or D. D. i.e. Doctor in Divinity.

J. V. D. Doctor of Civil and Canon Law.

M. D. Doctor in Physic.

V. D. M. Verbi Dei Minister, Minister of the Word of

A. M. Artium Magister, Master of Arts. A. B. Artium Bac alaureus, Bachelor of Arts. F. R. S. Fellow of the Royal Society. F. A. S. Fellow of the Antiquarian Society.

CHARACTERS used in the Arithmetic of Infinites.

The character of an infinitefimal, or fluxion; thus, 200 &c. express the fluxions, or differentials of the variable quantities x and y; two, three, or more dots, denote fecond, third, or higher fluxions. See FLUXION.

This method of denoting the fluxions, we owe to fir Isaac Newton, the inventor of fluxions: it is adhered to by the English; but foreigners generally follow M. Leibnitz, and in lieu of a dot prefix the letter d to the variable quantity; on pretence of avoiding the confusion arising from the multiplication of dots, in the differencing of differentials.

d The character of a differential of a variable quantity, thus, dx is the differential of x; dy the differential of y. The character was first introduced by M. Leibnitz; and is followed by all but the English. See CALCULUS Differen-

CHARACTERS among the Ancient Lawyers, and in Ancient Inferiptions

Paragrapho. P. P. Pater Patrix. Francour Paragrapu. C. Code. E. Extra. CC. Confules. S. P. Q. R. Senatus Popu- T. Titulus, &c.

lufque Romanus. P. P. D. D. Propria pecunia BAV. Bonis avibus, or Bonis dedicavit.

D. D. M. Dono dedit Monu-Scto. Senatusconfulto. mentum.

CHARACTERS in Aledicine and Pharmacy. R Recipe. 3 A Drachm.

ā, āā, or ana, of each alike. D A Scruple. Ho A Pound, or pint. gr. Grain.

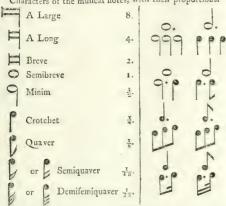
3 An Ounce. & or of. Half of any thing.

Cong.

CHARACTERS.

S. A. According to art. Cong. Congius, a gallon. Coch. Cochleare, a spoonful. Q. S. A sufficient quantity. Q. pl. As much as you please. M. Manipulus, a handful. P. P. Pulvis Patrum, or Je-P. A pugil. fuit's Bark. P. Æ. Equal quantities.

CHARACTERS used in Music. Characters of the mufical notes, with their proportions.



* Character of a sharp note. This character at the beginning of a line or space, denotes all the notes in that line or space to be taken a semitone higher than in the natural feries. And the same affects all their octaves, above and

below, though not marked.

When the character is prefixed to any particular note, it shews that note alone to be a semitone higher than it would be without fuch character.

D. Character of a flat note. This character, at the beginning of a line or space, shews, that all the notes in that line or space are to be taken a semitone lower than in the natural feries; affecting, in like manner, all the octaves, both above and below. When it is prefixed accidentally to any note, it shews that note alone to be a semitone lower than it would otherwise be.

Character of a natural note. Where, in a line or feries of artificial notes, marked at the beginning for either sharps or flats, the natural note happens to be required, it is denoted by this character.

Character of treble clef. Mean clef. Base clef. CHARACTERS of Time.

2, or \(\frac{2}{4}\), or \(\frac{4}{8}\), characters of common or duple time, fignifying the measure of two crotchets to be equal to two notes; of which four make a femibreve.

Characters that diffinguish the movements in common time; the first implying flow, the second brisk, third, very quick.

3, 3, 4, 8, 16, characters of the fimple triple time, whose measure is equal either to three semibreves, or to three mi-

nims, &c.

 $\frac{6}{4}$, or $\frac{6}{8}$, or $\frac{6}{16}$, characters of mixed triple time, where the measure is equal to fix crotchets, or fix quavers, &c.

2, or 3, or 76; 2, or 2, characters of compound triple

12, or 12, or 12; or 12, or 12, characters of the fourth species of triple time; called the measure of twelve times.



CHARACTERS on Tomb-flones.

S. V. Sifte, Viator; Stay, Traveller.

M. S. Memoria Sacrum; Sacred to Memory.

D. M. Diis Manibus.

IHS. Jefus.

XP. A character found on ancient monuments, about the meaning whereof authors are not agreed. See CATACOMB. CHARACTERS, in Secret Writing. See CIPHER.

CHARACTERS, in Swift Writing, or short-hand. See

STENOGRAPHIA.

CHARACTER is also used for a certain manner, air, or assemblage of qualities, refulting from feveral particular marks, which diftinguish a thing from any other, fo as it may be known thereby.

Thus, we fay, the character of Achilles; generofity and greatness of mind formed the character of the Romans; Cicero had a character of politeness, which is wanting in Demosthenes; every passion has its peculiar character.

The writers of characters are, Theophrastus, whose fragments are still extant; Du Moulin, in his Exemplar Morum; Paschal, in his Characteres Virtutum & Vitiorum; M. de la Chambre, in his Characters of the Passions: and De la Bruyere, in his Characters and Manners of the Age.

The drawing of characters is one of the most splendid, and, at the same time, one of the most difficult ornaments of historical composition. For characters are generally confidered as professed exhibitions of fine writing; and an historian, who feeks to shine in them, is frequently in danger

of carrying refinements to excefs, from a defire of appearing very profound and penetrating. He brings together fo many contrasts, and subtile oppositions of qualities, that we are rather dazeled with sparkling expressions, than entertained with any clear conception of a human character. A writer, who would characterife in an instructive and masterly manner, should be simple in his style, and should avoid all quaintness and affectation; at the same time not contenting himfelf with giving us general outlines only, but defcending into those peculiarities which mark a character, in its most striking and distinctive features. The Greek historians fometimes give eulogiums, but rarely draw full and professed characters. The two ancient authors who have most laboured this part of historical composition, are Sallust and Tacitus. In describing characters, as well as in relating transactions, the historian should always shew himself to be on the fide of virtue. To appear neutral and indifferent with respect to good and bad characters, and to affect a crafty and political, rather than moral turn of thought, will, befides other bad effects, derogate greatly from the weight of historical composition, and will render the strain of it much more cold and uninteresting. See HISTORY.

CHARACTER, is a term in common with all the arts, implying fomething peculiar and original. In Music, perhaps more than in any other art, this term is wanted; as a movement or composition, faid to be of a distinct cast or character, implies invention. Without some specific stamp or impression, to awaken in the hearer the idea of some passion, affection, or fensation, it is of no character, but refembles Shakespeare's "Fellow without mark or likeli-

It is but in modern times that this kind of stamp has been aimed at or expected. Neither Corelli nor Geminiani stamped the melodies of their movements with any thing but a kind of wafer feal, regularly barred indeed. Pure and fweet harmony, masterly fugues, and pleasing effects are produced in most of their productions; but that innate and ftriking cast of melody, which is instantly felt, which distinguishes a movement from all others, and which, without learned modulation, studied combinations, or ingenious arrangement of the parts, feizes the attention, impresses itself on the hearer's memory, never to be effaced, is wanting.

Handel has choruses of every species of character, and more fongs than any composer of his time. " Return, O God of Hofts," is a fublime supplication. " He was despifed and rejected," is impressed with a deep and dignified forrow. " He shall feed his slock like a shepherd," has a

true paftoral caft.

Pergolefi, Jomelli, Piccini, and Sacchini, have produced airs of character so frequently, that it is now formed into a principle by men of original genius, fuch as Paeliello, Cimarofa, and Sarti in Italy, and Emanuel Bach, Haydn, and Mozart in Germany, who have feldom let a movement go out of their hands ere they have affixed their feal fince, in that cafe, one prevailing on one occasion, and anoto it.

Gluck produced great effects by harmony, energy, and bold modulation; but his melodies have feldom any peculiar

mark of pathos, grace, or novelty

CHARACTER, in Poetry, especially the epopea and drama, is the refult of the manners, or that which each perfon has peculiar and fingular in his manners, whereby he is diftinguished from others. In the drama characters are chiefly displayed by means of sentiments and passions; but in the epopea, or epic poetry, which comprehends a greater compals of time and action, and which therefore allows a more full display of characters, they are displayed chiefly by means of actions.

As it is the business of an epic poet to copy after nature, and to form a probable interesting tale, he must study to give all his personages proper and well supported characters; fuch as display the features of human nature. This is called by Arittotle giving manners to the poem. It is by no means necessary that all his actors be morally good; imperfect, nay, vicious characters may find a proper place; though the nature of epic poetry feems to require, that the principal figures exhibited should be such as tend to raise admiration and love, rather than hatred and contempt. But whatever the character be which a poet gives to any of his actors, he must take care to preserve it uniform, and confiftent with itself. Every thing which that person says or does, must be fuited to it, and must serve to distinguish him from any other. Poetic characters may be divided into two kinds, general and particular: the former are fuch as are wife, brave, and virtuous, without any farther distinction; the latter express the species of bravery, of wisdom, of virtue, for which any one is eminent; they exhibit the peculiar features which diffinguish one individual from another, which mark the difference of the same moral quality in different men, according as it is combined with other dispositions in their temper. In drawing such peculiar characters, genius is chiefly exerted. In this part Homer has particularly excelled; Taffo approaches the nearest to Homer; and Virgil has been the most deficient.

It has been the practice of all epic poets to felect fome one personage, whom they diftinguish above all the rest, and make the hero of the tale. This is confidered as effential to epic composition, and is attended with several advantages. It renders the unity of the subject more sensible, when there is one principal figure, to which, as a to centre, all the rest refer. It tends to interest us more in the enter-prise which is carried on; and it gives the poet an opportunity of exerting his talents for adorning and displaying one character with peculiar splendour. It has been asked, who then is the hero of Paradife Loft? The Devil, it has been answered by some critics; and in consequence of this idea, much ridicule and cenfure have been thrown upon Milton. But these critics have midaken that author's intention, by proceeding upon a supposition that, in the conclufion of the poem, the hero mult needs be triumphant. Whereas Milton followed a different plan, and has given a tragic conclusion to a poem, otherwise epic in its form. For Adam is undoubtedly his hero; that is, the capital and most interesting figure in his poem. Blair's Lectures on

The poetical character, Boffin observes, is not properly any virtue or quality in particular; but it is a composition of feveral, mixed and combined in various, degrees, accordaction. All the simple qualities that enter this compound, must not have the same rank, nor be equal to each other: ther on another, the character will appear changeable; and the poem, as well as the hero, will feem animated with feveral fouls.

There mult, therefore, be one to reign over all the reft; and this must be found in some degree in every part : just as the fame hero, in feveral paintings, should have the fame lines and features, how different foever his postures and paf-

tions may be.

This first quality in Homer's Achilles, is wrath; in Ulyffes, diffimulation; and in Virgil's Alineas, mildrefs: each of which may, by way of eminence, be called the character of those heroes.

These are never to go alone, but always are to be accom-

panied

panied with others, to give them the greater lustre; either by hiding their defects, as in Achilles, whose anger is palliated by great courage: or by making them center in some folid virtue, as in Ulysses, whose dissimulation makes a part of his prudence; and Æneas, whose mildness is chiefly employed in a submission to the will of the gods.

These secondary qualities of courage, prudence, and submission, make the goodness of the characters of those heroes,

and even of the poems.

Boffu adds, that the quality of courage must always have a share in the character of a hero, to serve as a support to the rest: the heroic character, therefore, he makes a compound of three kinds of qualities. Those of the first kind are necessary and essential to the fable; those of the fecond are the supplements, or embellishments of the first; and courage, which sustains the other two, makes the third.

The first, which is the chief, is to be some universal quality, to have place on all occasions, and to distinguish the

hero wherever he is found.

For the unity of character, we have Horace's express command, Sit quodvis simplex duntaxat Sumum. Bollu adds, that the character is not less the soul of the hero, and the whole action, than the sable is of the poem; and of confequence the unity must be as exact in the one as the other: which accordingly we find observed both by Homer

and Virgil.

The unity of character is fomewhat different from that of the manners: in the latter, the unity or equality conflits in not giving contrary fentiments to the fame perfon; which is not fufficient to the unity of character: but to this mult be added, that the fame fpirit mult always appear on all occasions, whether contrary or otherwise: thus, Æneas shewing great goodness in the first part of the poem, and much valour in the second, but without discovering any of his former piety, and gentleness; there had been no offence against the evenness of the manners, but much against the unity of the character.

So that besides the qualities which have their particular place on different occasions, there must be one to have place throughout, and to reign over all the others. Without this there is no character: as would be the case, should a poet give his hero the piety of Æucas, and the courage of Achilles, without considering the severity of the one, and the

mildness of the other.

A hero, it is true, may be made as brave as Achilles, as mild, or pious, as Æneas, and, if the writer thinks proper, as prudent as Ulyffes; but it would be a mere chimera to imagine a hero, with the particular courage of Achilles, the picty of Æneas, and the prudence of Ulyffes, at the fame time.

The unity of character is not only to be kept in the hero, and the feveral other persons of the piece; but also in that of the poem itself: that is, all the characters, how opposite foever, must center and re-unite in that of the hero; and be fo swayed by it, as that this alone may feem to govern throughout the whole. Thus Homer makes wrath prevail throughout the whole Iliad; and artifice and diffimulation throughout the Odysfey; the hero's character is perceived every where, has its full fway, and is favoured by the fimilitude of the characters of some of the other persons. Virgil had a great difficulty to grapple with to preserve his unity; because of the direct opposition between the humours of his hero, and those of some other of his persons, as Turnus, Mezentius, Dido, &c. He therefore takes care not to carry those opposite characters to their full length, but moderates and restrains them: and as that moderation could not flow naturally from the persons themselves, it is produced either by some passion, as in Dido; or some dependence, as VOL. VII.

in Turnus and Mezentius. To this artifice he adds epifodes, accommodated to the general character, by which he interrupts the particular actions, which require an opposite character.

Claudian's conduct, in this respect, is unpardonable; from the horrible characters of Pluto and the Furies, with all the terrors of hell, he passes to the gaiety and pleasures of the Graces, gilded palaces, flowery fields, &c. He has as many different prevailing characters in his three books, as Homer and Virgil in their fixty. See Drama and Eropea. For the characters in Comedy and Tragedy; see these articles.

CHARACTER is also used for certain visible qualities, which claim respect or reverence to those who are vested with them.

The majetty of kings gives them a character which procures respect from the people. A bishop should sustain his character by learning and solid piety rather than by worldly luttre, &c.

Character is also used among Divines, especially those of the Romish church, for an indelible mark, or impression, which certain sacraments are supposed to leave behind them in those who receive them. The facraments that leave this character are incapable of being repeated. The character is generally supposed to be something physical. The sacraments of baptism, confirmation, and ordination, in particular, leave such indelible character.

CHARACTER, in Natural History, is fynonymous with the

definition of the genera of animals, plants, &c.

CHARACTERISTIC, in the general, is that which characterizes a thing or person, i. e. constitutes its character, whereby it is distinguished from all others.

CHARACTERISTIC is peculiarly used in Grammar, for the principal letter of a word; which is preserved in most of its tenses and moods, its derivatives and compounds.

The characteriflic frequently thews its etymology; and ought conflantly to be retained in its orthography; fuch is

the letter r in course, fort, &c.

The characteritties are of great use in the Greek grammar, especially in the formation of the tenses; as being the same in the same tenses of all verbs of the same conjugation, excepting in the prefent tenfe, which has feveral characteristics; and the future, the agriftus primus, the preterperfect, and the plusquam perfect tense of the fourth conjugation, which have two characteristics. The characteristics of the conjugations in the Hebrew grammar are the letters prefixed to, or inferted between, the radical letters: e.g. of Niphal, and of Hiphil, of Hopbal, and of Hithpahel. Thefe technical terms have obtained fuch long possession in Hebrew grammar, that it would be difficult, and perhaps improper to expel them, or to substitute others in their room. The chief inconvenience attending them is, that they reprefent only the polition or fituation of the letters in the different modes or voices, but give no intimation of the meaning conveyed by these modes.

CHARACTERISTIC of a Logarithm, is its index or exponent. This term was first used by Briggs in his Arithmetica Logarithmica, to denote the integral or first part of a logarithm towards the left hand; and this expresses on less than the number of integer places or figures in the number corresponding to that logarithm, or how far the sirst figure of this number is removed from the place of units: thus, o is the characteristic of all numbers from 1 to 10; 1 the characteristic of all from 10 to 100; 2 of all from 100 to

1000, &c. See LOGARITHM.

CHARADE, is the name of a new species of composition, or literary amusement. It owes its name to the Idler

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who invented it. Its subject must be a word of two syllables, each forming a distinct word; and these two syllables are to be concealed in an enigmatical description, first separately, and then together. The exercise of charades, although it may not be very instructive, is innocent, and amusing; and may serve to try the inventive talents of children,

and to occupy their intervals of kifure.

CHARADRA, in Aucient Geography, a town of Greece, in the Phocide, according to Herodotus. It was feated on an eminence, below which flowed the river Charadrus, about 20 stadia from Lilea, according to Paulanias. Notwith-standing the vicinity of this torrent, the inhabitants were in frequent want of water.—Also, a place of Greece, in Epirus, stuate, according to Polybius, near the gulf of Ambracia.—Also, the name of one of the towns founded by Pelops, according to Strabo, situate in Messenia.

CHARADRIUS, in Ornithology, a genus of the gralla order, in which the bill is roundith and obtufe; nothrils li-

near; feet three-toed, and formed for running.

Species.

HIATICULA. Breast black; front blackish, with a white band; crown susceptible pale yellow. Linn. Fa. Succ. Pluvialis torgusta minor, Briss. Gavia littoralis, Klein. Iaticula cetti. Petit pluvier à collier, Buss. Sea lark, Albin, Willughby, &c. Ringed plover, Penn. Lath. Donov. &c.

The length of this bird is from fix to feven inches; the bill is of an orange colour; at the base, and at the tip, or anterior half, black; the upper mandible is also black at the base, and a black space extends from thence through the eyes to the ears; the forehead is white, and behind this is another mark of black. The chin, throat, and broad collar extending backwards from thence are white, and beneath this is another collar of black, encircling the neck behind. Its breath and under parts are white; back and wing-coverts pale brown; quills dusky; the two middle feathers of the tail are greyish brown, becoming almost black towards the ends, the three next on each fide the fame, but having the tips white, the last but one white, with a brown band, the outer one white, marked with a fingle fpot. The plumage of the male inclines more to ash colour, and the white on the forehead occupies a greater space than in the female.

These birds inhabit Europe and America: they migrate into England in the spring, and leave us in autumn. They lay four eggs an inch and an half in length, and of a pale ath-colour, spotted, and blotched with black, upon the ground under some shelter, for they make no nest. They run very salt, sometimes taking short slights, and twittering loud at the same time, then alight and run again, and, if still dilutubed, will either sly away, or secrete themselves in some

holes till the danger is over.

A variety of this bird, β , is described as an inhabitant of Spain; the plumage is greyish, with the collar and abdomen white. Another, γ , is mentioned as a native of America; the colour of this is greyish-ash, the front and collar white; lower half of the tail black, tipped with ferruginous. This

last kind was brought from Owhyhee.

PLUVIALIS. Body black, spotted with green; beneath whitish; legs cinereous. Linn. Fn. Suec. Pluvialis viridis, Raii. Pluvialis aurea minor, Briss. Gavia viridis, Klein. Piwiere, Cetti. Kleiner braach vogel, Wirsing. Le pluvier dorés, Bust. Golden or green plover, Albin. Penn. Lath. Donov. &c.

This species inhabits almost every part of the world. On the European continent they are met with chiefly in hilly or mountainous fituations, in Sweden, Denmark, Laplandz Iceland, and as far south as Aleppo. It breeds on several of the unfrequented mountains of Britain, and especially in the heathy hills of the Scottish islands. In America, it appears on the coast of Labrador and Hudson's bay, and from thence to New York, as low as Carolina. It has been observed in China, and in some of the islands of the South Seas; and a supposed variety of it, pluvialis dominicensis aurea of Brisson, is mentioned as a native of St. Domingo. The length of this bird is ten inches and a half; the bill is about one inch, and of a dusky colour; the irides dull red. The upper part of the plumage is dufky, spotted with greenish yellow; round the eyes and the chin almost white; fides of the head and body, together with the neck, same as the upper parts, but paler; middle of the belly dusky yellow; the greater quills are dusky; tail barred, dusky, and dull yellow; legs black. In fome individuals the belly is black, in others black and white. The male and female differ very little. In young birds the spots are not of a full yellow colour, as in the adults, but incline more to grey. The supposed variety before noticed as a native of St. Domingo, has the body blackish, varied with yellowish, and beneath white; and the lower part of the neck and breast pale grey; tail brown, having the margins of the feathers spotted with yellowish

RUBIDUS. Red, varied with black fpots, and fprinkled with white; two middle tail-feathers fuscous, with ferruginous margins, the rest whitish, Lath, Gmel. Ruddy plover,

Lath.

Inhabits Hudfon's bay. The bill of this bird is straight and black; the head, neck, breast, and scapulars, with the wing and tail-coverts, of a ruddy colour, spotted with black, and powdered with white; the outer webs of the first sour quills are brown; the inner white, tipped with brown; the rest white above and brown beneath; legs black; toes divided at their origin. At Hudson's bay it is known by the name of Misschaychekiskawsshifts.

HIMANTOPUS. White; back and wings black; bill black, and longer than the head; legs red, and very long Scopoli, &c. Charadrius himantopus, Linn. Charadrius au tumnalis, Haffelquift. Himantopus, Briff. L'Echaffe, Buff.

Long-legged plover, Penn. Lath. Donov. &c.

This lingular bird is distinguished by the remarkable disproportion of the legs, compared with the body, the former being nearly eighteen inches in length, while the body, measuring from the tip of the bill to the extremity of the tail, is only thirteen inches. The bill is two inches and a half long, stender, and black; irides red; the forehead, round the eye, and all the under parts are white; the crown of the head, back, and wings, glossy black; the hind part of the neck marked with dusky spots; rump white; tail the same, inclining to grey, the outer scathers quite white; legs red; the outer and middle toes connected at the base. The species inhabits the fouth of Europe, Africa, Asia, and America; rarely visits England. Donov. Brit. Birds.

Calibras. Bill and legs black; lores and rump greyih; body beneath white, and without spots, Georg, It. Calidris grifea minor, Briss. Le fanderling, Buss. Sanderling, or

Curwillet, Penn. Lath.

The fanderling inhabits Europe, Afia, and America. In England it inhabits the fea-coafts of Cornwall chiefly. The length of this bird is eight inches. The bill one inch long, and black, the fore part of the head, fides under the eyes, and beneath, from the chin to the vent, white; through the eyes a greyith fireak; the upper part of the head, neck, and body streaked with black; back and feapulars brownish grey, edged with dirty white; wing-coverts and quills dusky; tail ash-colour, with pale margins; legs black. The plumage of the female is paler in some parts than the male.

A variety

A variety of this species is found in Newsoundland, which has the upper parts of a brownish ash-colour, mixed with brown, and streaked with black; forehead and under parts cinereous white; lesser and middle wing-coverts black, fringed with ash-colour; the greater cinereous with whitish edges; quills and tail dusky; legs black.

Apricarius. Breast and abdomen black; body dotted with fuscous, white, and pale yellow; legs cinereous, Lath, Charadrius apricarius, Linn. Pluvialia aurea freti Hudfonis, Briss. Le pluvier doré à gorge noire, Buss. Spotted plover, Edwards. Alwargrim plover, Arct. Zool.

Size of the golden plover. The plumage above black,

Size of the golden plover. The plumage above black, footted with orange; at the base of the upper mandible the feathers are black; front, eye-brows, lower eye-lid, flawks, and vent white: wings and tail with brown and black bands; legs black. This inhabits the northern parts of Europe, as Sweden, Denmark, Iceland, and Greenland.

RUBRICOLLIS. Cinereous; body beneath white; head and neck black, with a large, fquare, rufous-chefnut fpot on each fide, Lath. Charadrius rubricollis, Gmel. Red-necked

plover, Lath.

This inhabits the South Seas. The bill is fleth-coloured, at the tip black; the upper part of the plumage is aft-colour, with a flight mixture of white, the breaft and under parts are white; quils and tail dufky; legs fleth-colour. Length about feven inches and a half.

ALEXANDRINUS. Fuscous; front, collar behind, and abdemen white; lateral tail feathers on each side white; legs black. Lath. Pluvialis torquata, Briss. Le Pluvier à collier, Buss. Alexandrine Plover, Lath. Gen. Syn. Inhabits Egypt near the Nile. This is the size of a lark;

Inhabits Egypt near the Nile. This is the fize of a lark; the bill is black; forehead white, puffing backwards in a flreak over the eye; from the base of the bill a streak of black runs through the eye and reaches behind to the ears; top of the head, back, and wings brown; round the neck a collar of white; belly white; quills blackish grey; four middle tail feathers dusky brown; tail much rounded; legs black.

The Linnman Charadrius egyptius is considered as a variety of this species. This is distinguished by having a black band on the breast; eye-brows white; tail-seathers with a black band, and white tip; and legs blue. This bird inhabits the summy plains of Egypt, and feeds on insects. Another variety, called the red-eyed plover, has the crown of the head black, and the legs red.

PHILIPPINUS. Fuscous; region of the eyes, collar, and tail black; front, body beneath, and tip of the tail-feathers white. Petit Pluvier à collier de Luçon, Sonnini, &c. Size

of the last, and is a native of the Philippines.

Nove Selaidle. Green-ash, face and collar black; annular stripe on the head, band on the wings, and body beneath white. Charadrius Nove Seelandie, Gmel. New-Zealand plotter, Lath. Inhabits New-Zealand. It is known in Queen Charlotte's Sound by the name of Doodooroa alloo, Tris is rather larger than the ringed plover; the bill is of a red colour tipped with black; legs red.

GREGARIUS. Cinercous, beneath white; breast with a black semicircle, on the hind part rusous; tail-seathers white, with a black band. Charadrius gregarius, Pallas.

Gregarious Plover, Lath.

Deferibed by Pallas as being common in the fields about the Volga, Jaick, and Samara, where it appears in flocks; it is not feen farther north than 54 degrees; and is by some called the "Hen of Steppes." This is the fize of a lapwing. The bill in shape and fize the same as in that bird; crown of the head brown, mottled with white; forehead white, passing in a streak over each eye es the hind head; through the eyes a black streak. The body, is of an alla-

colour, fomewhat approaching to that of the turtle; tail even at the extremity; legs furnished with an imperfect back toe.

ASIATICUS. Greyish fuscous; front, eyebrows, throat, and abdomen white. Charadrius Afiaticus, Pallas. Afiatic

plover, Lath.

Inhabits the falt lakes in the deferts of Tartary; and is a rare and folitary bird. In fize it rather exceeds the ringed plover. The crown of the head, back, and wings are grey-ith afth-coloured brown; tail brown, with the feathers whitiful at the edges, and tipped with black; legs red.

TARTARICUS. Collar cinereous; breaft ferruginous; band on the chin and breaft black; abdomen white; wings and tail fuscous. Pallas. &c. Observed near the salt lakes of sonthern Tartary. Supposed by some to be a variety of

the dotterel.

Mongolus. Cinereous fuscous; front beneath white; throat and breast ferruginous; chin with a black femicircle. Pallas, &c. Mongolian plover, Lath. This inhabits the falt lakes about the Mongolian country in tolerable plenty. It is the fize of the common dotterel.

VOCIFERUS. Bands on the breaft, neck, and front of the cheeks black; tail pale yellow, with a biack band; legs yellow. Gmel. Linn. Pluvialis virginiana torquaia, Briff. Le Pluvier à collier de Virginie, Briff. Kilder Buf. Chattering plover or kill-deer, Catefby. Noify plover, Arct. Zool.

The length of this bird is nine inches and three quarters. Bill an inch long and black; eye-lids red; the forehead is white: between the eyes, across the head, a bar of black paffing on each fide to the hind head : the chin and fore part of the neck white: at the lower part of the neck, the white encircles it like a ring, and is accompanied by a bar of black all round; on the breaft is another black bar, and, except those, all the under parts are white. The hind part of the head, neck, and upper part of the body and wings, are dufky brown; rump and tail rufty orange; the latter much rounded in shape, tipped with white, and barred near the end with black; legs pale yellow. This species inhabits America; it is a clamorous and restless bird. In Virginia it is called the kill-deer, from its note resembling the pronunciation of that word. There is a variety of this species which has the breast varied with black; front white; crown and collar black; bill and legs bluish; three outer tail feathers tipped with white. This is the Charadrius torquatus of Linnæus, and Pluvier à collier de St. Domingue, Buff. Pl. Enl.

JAMAICENEIS. Dufky fuscous, beneath white; breaft spotted black and white; tail varied with whitelfth, rusous, and black; bill black; collar and legs white. Gmel. Pluvialis jamaicensis torquata, Briff. Large grey snipe, Brown.

Collared plover, Lath.

Size rather lefs than that of the noify plover; length eight inches; bill an inch long, and black; upper part of the head, neck, body and wings, dull brown; throat, fore part of the neck, belly, thighs and vent, white; at the lower part of the neck the white paffes round as a collar; quills dull brown: tail whitifit, varied with rufous and blackifh. Inhabits Jamaica, where it frequents the banks of rivers.

MORINELLUS. Breast ferringinous; band over the eyes, and line on the breast white: legs black. Charadrius Morinellus, Linn. &c. Petit Pluvier, on le Guignard, Bust.

Dotterel, Penn. Albin. Lath. &c.

The Dotterel is from nine to ten inches in length. The bill an inch long, and of a black colour: the forchead as intermixture of dufky and grey: over the eyes is a white band which bends downwards, and paffes to the hind head; the fides of the head and throat are white: the hind part of the neck, the back and wings, greyilh brown; the feathers margined with pale ferruginous, but those of the lower part

3 Q 2

of the back and rump incline to grey; fore part of the neck cinereous olive mixed with a little white next the throat; the lower part of the neck is bounded with a line of black, beneath which is another of white; the breast and sides are of a pale dull orange; middle of the belly black; lower parts and thighs rufous white; tail olive brown, with a black band, and white tip; the two outer feathers edged with white; legs black. The female differs in being rather larger, in having the black on the belly mixed with white, and the

general colour of the plumage more obfcure. These birds are common in the northern parts of Europe, where they may be supposed to breed. Linnaus fays they are very frequent in Dalecarlia and the Lapland Alps, and that they viit Sweden in May. They are known to breed in the north of Russia and Siberia. In England, they occur in greatest plenty in the counties of Cambridgeshire, Lincolnshire, and Derbyshire. With us they are migratory appearing in flocks of eight or ten in number the latter end of April, and flay till the end of May or June, when they are very fat, and are much esteemed for the table. It is fupposed they breed in the mountains of Cumberland and Westmoreland, as they appear there in May, and are not observed there after the breeding feason. We are informed in the Flora Scotica, that they breed on feveral of the Highland hills. The manners of the Dotterel prove it a filly bird. There is a variety of this bird which has the crown varied with white, grey brown and yellowish mixed with white, with the two middle tail feathers brown, and the lateral ones

FALKLANDICUS. Brown-clouded; front, neck beneath, and abdomen white; annular stripe on the head ferruginous; breast and band on the crown black. Lath. Rusly-crowned Plover, Portlock Voy.

This species, which is about seven inches and a half in length, inhabits the Falkland islands. The bill and legs are biackish; body beneath white; stripe encircling the head of the male refembling a crown.

SIBIRICUS. Front varied with black and white; crown barred with blackish; breast brown, terminated by a white band; belly ferruginous. Lepech. It. Charadrius Sibiricus, Gmel. A native of Siberia.

OBSCURUS. Black, beneath ochraceous; front and chin whitish; collar dusky with pale strize. Gmel. &c. Dusky Plover, Lath.

This was found by the English circumnavigators in Dusky Bay, New Zealand, where the natives call it Hapoho-èra. In point of fize, it rather exceeds the common fnipe. The bill is black; forehead pale reddish white; plumage on the upper part dusky, edges of the feathers paler; chin and fore part of the neck dufky white; lower part of the neck, breaft, and under parts, dufky yellow ochre colour, with a tinge of red; neck marked with pale and dufky streaks, and transversely mottled on the fides with narrow lines; legs bluish ; claws black.

Fulvus. Above blackish, the feathers edged with tawny: beneath whitish; breaft fulvous spotted with black; wings with a white band. Charadrius Fulvus, Gmel. Fulvous Plover, Lath.

This bird inhabits the shores and marshy places of Otaheite. The fize is rather lefs than that of the lapwing; the bill is dusky; irides bluish black; its forehead and throat are dulky white; belly dulky white spotted with black; wing coverts black, spotted with fulvous, the lower order brown black, tipped with white; quills brownish black, with white shafts; tail brown, with whitish bands; legs blue; claws black and blunt. A variety of this bird, in the late Leverian Museum, had the bill brown, legs yellowish, and the wings destitute of the white band. This was probably

a young bird, the length being only eight inches; while that before described measured twelve inches and a half; the plumage on the upper part was brown, and had the feathers margined with golden yellow; the under part of the body was white, except the breaft, which was of a dufky pale brown: the quills were brown, having the end half of the fhafts white: the fecondaries as long as the quills, and both of them reaching to the end of the tail and concealing it : the tail was two inches long, brown, and marked with obfeure pale brown spots on each fide of the webs : legs about two inches long, and of a pale yellow colour. The native place of this variety could not be afcertained.

LEUCOGASTER. Fuscous: body beneath, front, white line above and beneath the eyes white; legs pale blue. Gmel.

&c. White bellied Piover, Lath.

Described from a specimen in the late Leverian Museum. The length fix inches; bill one inch; the plumage on the upper part dirty brown; fecondaries and prime quill feathers of equal length; fome of the first white for half their length from the base, with white shafts; fix of the middle tail feathers brown, the next white at the tip and base, the three exterior ones white, the last but one with a brown spot on the inner web near the tip, and the third black at the extremity. Native place unknown. Lath. &c.

Spinosus. Quill feathers, breaft, and legs black : hind head crafted; tail feathers half white; fpurious wing armed with a four. Lath. Charadrius Spinefus, Linn. Pluvialis Senegatenfis armata, Briff. Le Pluvier a aigrette, Buff. Spur-

winged Plover, Lath.

This corresponds in fize with the golden plover; the bill is an inch long, and black; irides red; crown of the head and throat are black, passing a little way down the neck before. The back part of the neck, and upper part of the body and scapulars are grey; sides of the head, and all the under part from the throat to the vent yellowish white, except a crefcent of black on the breaft, the convex part uppermost. The leffer wing-coverts are black, the middle ones grey, the greater yellowish white. On the fore part of the wing just within the bend, is a slightly incurvate black spur, about half an inch in length. The tail is yellowish white, tipped with black, and legs are black. This fingular bird inhabits the marshy places of Lower Egypt. Sonnini, speaking of the natural productions of Rofetta, tells us the most numerous and generally diffused of all the aquatic birds in this part were the spur-winged plovers; "roify animals (adds this writer) which might likewife be called mannerly, for they have a halty and almost continual movement of the head and neck, drawing them up brifkly, and then quickly firetching them forward almost as if they were making hasty and eager bows." Hasselquist acquaints us it inhabits the marshy places of Lower Egypt in the month of September, and that it is also found in other parts of the neighbourhood, and is called Dominican, the neck being black, with white fides, and not inaptly refembling the collar part of the habit of that order of religious.

A variety of the spur-winged plover found in Russia, and which is frequent near Aleppo, about the river Coic, is of a chefnut-colour above, with the neck and lower part of the belly white; and the breaft, wings, and tip of the tail black. This is the black-breafted Indian plover of Edwards, p. 47. The spur-winged plover of Edwards, pl. 280, is supposed to be the female. Another kind of spur-winged player, Le pluvier armé de Cayenne, is inserted by Dr. Latham in his General Synopsis as a variety of this bird; and also appears as fuch in the Gmelinian edition of the Systema Naturæ. In Latham's Ind. Ord. this is, however, deferibed as a diftinct species, under the title of Charadrius Cayanus.

CAYANUS. Head, back part of the neck, and pectoral

band black; annular band on the hind-head, fore part of the Naturf. Gef. vii. p. 463. Gmel. &c. A native of Cuneck, belly, and base of the tail white; spurious wing armed

with a fpur. Lath. Ind. Orr.

This is a native of Cayenne. Its length is nine inches; the bill an inch long, of a dufky colour; back part of the head and nape of the neck white mixed with grey; the fore parts and fides black, paffing back to the nape, and occupying all the hind part of the neck, and thence extending forward on the fore part above the breaft; fpace between this and the chin white; the middle of the back and wings are rufous grey; fcapulars and quills black; under 'parts from the breast white; legs yellowish.

PILEATUS. Crelled; front carunculated; body above rufous grey, beneath white; crown, chin, and tip of the wings, and tail black, Lath. Charadrius pileatus, Gmel. Pluvier coiffe du Senegal, Buff. Hooded plover, Lath.

The length of this bird is ten inches and a half; the bill is yellow, red towards the end, and black at the tip. forehead is covered with a carunculated yellow membrane paffing round the eyes; the head and just the contiguous part of the neck is black. The hind-head is furnished with a few short pointed feathers, pendent like a small crest, beneath which the hind-head is white. Above the plumage is rufous grey, all the under parts are white, with a few dufky dashes down the fore part of the neck; the quills and end of the tail black; legs red. This inhabits Senega'.

CORONATUS. Fuscous, head above black, circle on the crown, belly, greater wing-coverts and tail white; the last with a broad black band near the tip. Charadrius coronatus, Gmel. Pluvier couronné du cap de Bonne Esperance, Buff.

Wreathed plover, Lath.

This bird inhabits the Cape of Good Hope. Its length is twelve inches. The bill is reddish, and dusky towards the point; the hind part of the neck, and upper part of the body are brown, gloffed with greenish purple; as far as the neck the breast is grey; belly white; quills black; legs rustcolour.

BILOBUS. Rufous grey; eve-brows, abdomen, and band across the wing white; crown of the head, and bar on the wings and tail black; front with a pendent wattle. Charadrius bilobus, Gmel. Le pluvier a lambeaux, Buff. Le pluvier de la côte de Malabar, Pl. Enl. Wattled plover. Lath.

This bird, which inhabits the coast of Malabar, is the fize of the golden plover. The bill is yellow; on the forehead is a bare skin hanging down in a pointed slap on each side of

the jaw; and the legs are pale yellow.

Melanocephalus. Cærulean grey; head, hind part of the collar, and back black; eye brows, neck in front, and breaft pale rufous. Lath. Charadrius melanocephalus, Gmel. Le pluvian du Senegal, Buff. Black-beaded plover, Lath.

A native of Senegal. The length is feven inches. The bill black, and an inch in length; upper part of the head black; all the tail-feathers, except the two middle ones, marked with black near the ends, with the extreme tips white. The under parts from the chin pale rufous, deepest on the breaft, where it is mottled with transverse dusky markings, and towards the vent nearly white; legs cinercous grey; claws black.

INDICUS. Brown, beneath white; breast with two brown bands; tail-feathers white at the base. Lath. Le petit plu-

vier des Indes, Briff. Indian plover, Lath.

Inhabits India; and is about the fize of the common

CURONICUS. White; bill blackish; band on the nape and frontal lunate mark black; cap cinercous; ocular band waved with blackish; back, wings, and tail cinercous; legs Charadrius curonicus, Beseke, Sch. der Berl. reddish.

Nævius. Above varied with cinercous, black, and white; beneath white; band below the eye dotted with black; bill and legs blackish. Naturf. Ges. vii. p. 464. Native place unknown.

Gmelin describes two other birds as species of the charadrius genus, namely, paliicus, and coromandelicus, both which are referred by Dr. Latham in his Ind. Orn. to the new genus curforius, those having the bill roundish, incurvated at the tip, and terminating acutely, besides differing in other generical particulars from the charadrius. See Cursorius.

CHARADRUS, in Ancient Geography, a river of Greece, which pailed near the town of Charadra, and foon after difcharged itself in the Cephissus, according to Pausanias .-Alfo, a river of the Peloponnesus in Messenia .- Alfo, a torrent of the Peloponnesus in the Argolide, in the route from Argos to Mantinæa. It ran fouth of Hylia, and flowed into the Argolic gulf. Another torrent of the same name passed N. W. of Hylia, and discharged itself into the river Inachus.-Alfo, a torrent of Achaia, the course of which was from fouth to north. Its mouth was near the promontory of Rhium. The waters of this stream were faid to aid the females of animals that drank them in the act of conception, and therefore they were brought from a great diftancefor this purpose.-Also, a torrent of Arcadia, which ran at a small distance to the north of Orchomene, and discharged itself into a lake not far distant towards the east. - Also, a ftrong and ancient place of Afia in Cilicia; fituate on the feacoast, in the vicinity of mount Cragus, according to Strabo.

CHARAG, the tribute which Christians and Jews pay to the grand fignior.

It consists of ten, twelve, or fifteen francs per ann. according to the estate of the party. Men begin to pay it at nine, or at fixteen years old; women are dispensed with, as also priefts, rabbins, and religious.

CHARAGIO, in Geography, a town of the island of Corfica, or department of Golo, two miles S. of Cervione.

CHARAIMS, a fect of the Jews in Egypt. They live by themselves, and have a separate synagogue; and as the other Jews are remarkable for their eyes, so these are for their large nofes, which run through all the families of this fect. Thefe are the ancient Effenes. They ftrictly observe the five books of Mofes, according to the letter, and receive no written traditions. It is faid that the other Jews would join the Charaims, but those not having observed the exact rules of the law with regard to divorces, they think they live in adultery.

CHERAMOKOTAN, in Geography, one of the small Kurile islands in the Northern Pacific Ocean. N. lat. 49°

50'. E. long. 154° 54'. CHARANCY, a town of France, in the department of the Moselle, and district of Longwy; 31 leagues W.S.W.

CHARANDAS, in Ancient Geography, a place of Asia, fituate on the Bosphorus of Thrace, and called also Delphinus.

CHARANDRA, a gulf of the Red Sea, in which Ptolemy Philadelphus built a town, called Arsinoe, which see. CHARANTIA, in Botany, Dod. See Momordica

Balfamina.
CHARAS, Moses, in Biography, early diftinguished by his skill in chemistry and pharmacy, was born at Uzes, a town in Upper Languedoc, about the year 1618. He first settled at Orange, but at the end of a few years, in the hope of being able to exhibit his talents to more advantage, be removed to Paris. In this expectation he was not disappointed, as he was foon fixed on to read the lectures on chemiffry,

miltry, at the Royal Garden there. This office he filled for nine years, until October 1685, when having embraced the doctrine of Luther, he was obliged, by the revocation of the edict of Nantes, which took place at that time, to quit France. He came thence to London, and was received by our king Charles II. with great kindnefs. After refiding five years in England, he went to Holland, rook his degree of doctor in medicine at Leyden, and at length, on the preffing folicitation of the Spanish envoy, he went to Madrid, invited thither to undertake the care of the health of the king of Spain. What fuccefs he had with his patient, we are not told; it was probably not confiderable, as he suffered him to be imprisoned in the Inquisition, where he was detained four months, and did not escape, until he had made a full recantation of his errors. He was now upwards of feventy-two years of age. He then returned to Paris, and was admitted a member of the Royal Academy. At Paris he continued until January 17th, 1698, when he died, aged

eighty years.

In 1668, he published, in 8vo. " A Chemical Analysis," of the famous electary; the "Theriaca Andromach," with an account of each of the ingredients entering the composition of that heterogeneous compound. He had the good fense to attribute its salutary powers to the opium and spices contained in it, and therefore, contrary to the then received opinion, determines that age impairs, and not improves its efficacy. "Nouvelles Experiences fur la Vipere, les effets de fon venin," &c. 1669, Svo. Paris. A drop of the oil of tobacco instilled into a wound inslicted on the viper, kills it immediately. He gives a neat anatomical description of the viper, and even defcribes the bag, the repository of the poifon, but infifts the liquor only becomes poifonous when the animal is irritated; contrary to the experiments of Sig. Redi, who had shewn that the liquor taken from a dead viper, and instilled into a wound through a quill, is as malignant as when inferted by the bite of the enraged animal. Redi defended his experiments, and was answered by Charas in 1672, who still retained his opinion. The same year he published, "Pharmacopea royale galenique, et chemique," which, as well as his other works, have passed through se-veral editions. Haller Bib. Med. Eloy Dict. Hist.

CHARASM, in Geography. See KHARASM.

CHARATZAISKA, a fortress of Siberia, on the con-

fines of China; 84 miles S.W. of Silengisk.

CHARAVARI. This appellation is given by the Poles to a fort of very large breeches, which take in the tails and greatelt part of all their clothes, when they fet out on horfeback on a long journey or march, or when it rains, or the roads are bad and dirty. These are buttoned over the flomach, and reach quite down to their heels. This fort of culotte forms an effential part of the attire or dress of a Hulan.

CHARAVEND, a town of Perlia, in the province of

Irak-Agemi; 120 miles S.E. of Ispahan.

CHARAUNI, or CHAURANCEI, in Ancient Geography, a people of Scythia, on the other fide of the Inrus. Pto-lemy afligns to them a town called Carauna. They correspond to the Kauria or Karia of the pielent times.

CHARAX, CHARA-CAIA, a promontory of the Tauric Cherfonefus, N.E. of Criumetopon, and W. of the promontory Corax, mentioned by Ptolemy and Pliny.—Alfo, a commercial port, placed by Strabo in Africa Propria, and called by Ptolemy Pharax.—Alfo, a town of Afia Minor in Caria, faid by Steph. Byz. to have been cailed, in his time, Traillis.—Alfo, a town of Afia, fituate in the interior, and between the mountains of the Leffer Armenia, according to Ptolemy.—Alfo, a town or burgh of Afia in Parthua, according to Ptolemy.—Alfo, a town or burgh of Afia in Parthua, in Bithynia, placed by Steph. Byz. in the gulf of Nicomedia.—

Alfo, a promontory of the isle of Crete.—Alfo, a place of Asia Minor in Phrygia, placed by Nicetas, cited by Ortelius, between Lampis and Grasogala.—Alfo, a town of the island of Corsica, mentioned by Strabo.—Alfo, a town of Susiana, situate between the Tigris and the Eulaus, upon the banks of a canal which connected these rivers.

CHARAX, in *Ielthyology*, a name given by Ælian, Appian, and many other Greek writers to the fift called by later writers Caraffius. *Cyprimus Caraffius* of Linnæus, who diffinguishes it by having ten rays in the anal fin, and the lateral

line straight. See Cyprinus Caraffius.

CHARAX dorfo leviter convexo, finna ani radiis 31, is the name and character given by Gefner to the Bimaculated Sal-

mon, Salmo bimaculatus, which fee.

CHARBANUS, in Ancient Geography, a mountain of Asia, in Media, which, according to Priny, lay in the road from Babylon to Echatana. It is supposed to have been a part of mount Zagrus.

CHARBON, in the Manage, fignifies that little black foot or mark that remains after a large foot, in the eavity of the corner teeth of a horse. About the seventh or eighth year, when the eavity fills, the tooth being smooth and equal,

it is faid to be raifed.

CHARBONNIER, in Zoology, the name under which Buffon describes the Brant-fox, Canix Alopee of Gmelin. It is diffinguished by having the tail straight, and tipped with black. The species inhabits Europe, Asia, and Chili in South America.

CHARBONNIERE, in Ornithology. The Great Titmouse or Ox-eye of English writers is described by Busson under the name of Charbonniere and Grosse Mélange. See Parus major. Busson also describes the Colemouse under the name of Petite Charbonniere. See Parus ater.

CHARBUISOOKA, in Geography, a river of Kamtfchatka, which runs into the Penzinskoi gulf; 70 miles

S.S.W. of Tigilskoi.

CHARCAS, Audience of, a province of South America, regarded before the grand alteration in 1778, as a dependency of Peru, is equal in the extent of its jurisdiction to that of Lima, but with this disadvantage, that many parts of it are not fo well inhabited; fome abounding with immenfe defarts and impenetrable forests, while others are full of extensive plains, which are intercepted by the stupendous heights of the Cordilleras. The denomination of Charcas formerly included many populous provinces of Indians, whom the Inca Capai Yupanque subjected to his empire; but he carried his arms no farther than the provinces of Tutyras and Chaqui, where he terminated his conquetts towards Callafuyo. On the death of this monarch, his fon Inca Roca, the fixth in the fuccession of those emperors, pushed his conquests farther in the same part, till he became sovereign of all the intermediate nations to the province of Chuquifaca, where was afterwards founded the city of Plata, at prefent the capital of the whole province of Charcas. See PLATA. The jurisdiction begins on the north fide at Vilcanota, belonging to the province of Lampa, in the diocefe of Cufco. and reaches fouthward to Buenos Ayres. Eathward it extends to Brafil, being terminated by the meridian of demarcation; and westward, part of it reaches to the South Sea. particularly at Atacama, the most northern part of it; on this fide the remainder of Charcas borders on the kingdom of Chili. There valt tracts of land give one archbishop, and five hishops his fuffragans, viz. the archbishop of Plata, and the bishops of La Paz, Santa Cruz de la Sierra, Tucuman, Paraguay, and Buenos Ayres. See thefe articles.

CHARCHA, or BETH SOLOCE, KARR, or ESKI-BAG-DAD, in Ancient Geography, a town of Alia, feated on the

left bank of the Tigris; S.E. of Birtha.

CHARCOAL

CHARCOAL, in Chemistry. Under the article CARBON are mentioned the chemical properties of charcoal; nothing further therefore remains to be described except the method of preparing the substance and a few other particulars intimately dependent upon it.

Charcoal is prepared either by burning or diftillation; of these the first is the simplest, most ancient, and usual

method, on which account we shall begin with it.

The bufiness of charcoal burning takes place during the whole of the fummer months, and is for the most part carried on in the woods to fave the expence of carriage. Two or three families commonly unite for this purpole, dwelling in tents or temporary huts during the time in which they are thus employed for the convenience of being near their businels. After they have felled the timber, and it is become fufficiently dry, the process of converting it into charcoal is begun by raising a plot of ground a little higher than the furrounding furface, and bringing it to a flightly convex form by beating it, and thus forming a hard, dry, and folid floor. In the center of this area is placed a circle of flicks adjoining each other and composing a vertical hollow cylinder from three to four inches in diameter, and about fix feet high. Round this interior cylinder are ranged fucceffive concentric circles formed by truncheons from one to ten inches in diameter, care being taken that the truncheons in any one circle are of the same diameter, and that one built of the largest wood be always succeeded by one of the fmallelt wood, in order that there may be as few interstices as possible. The outermost circle is composed of brush-wood. When the pile measures from twenty to thirty feet in diameter, it is sufficiently large; a coating is now laid on of turf, the graffy fide next to the wood, and dry earth is heaped up round the bottom of the pile, and well rammed in order to prevent the admission of air. Three or four fcreens formed of large hurdles well stuffed with brushwood, are also prepared in order to protect the pile from the violence of the All the preparations being now completed, the pile is kindled by dropping lighted chips down the hollow cylinder in the center, which, in proportion as they are confumed, are supplied by others during the first three or four days, at the end of which period, the kindling of the pile is completed. The top of the cylinder is now closed, and a row of holes, each about two inches in diameter, is pierced at the

base of the pile, by which the requisite quantity of air is supplied, and a passage is afforded for the smoke and vapours. When the smoke nearly ceases to issue from these holes, a fecond row is opened, about fix or eight inches above the first, which are now closed; in this manner the fire is conducted to the top of the pile in about a fortnight; at which time the pile is covered up with earth as accurately as polfible, till the fire is completely extinguished. Those pieces that are found not to be fufficiently charred are called brands, and are employed as fuel for the next fire.

Although charcoal prepared by the above method is fully adequate to all the purposes of fuel to which this substance is applied, yet in the manufacture of gunpowder, and for fome other uses, it is of effential importance to procure a charcoal of greater purity than common. This was formerly done by felecting the items of willow, alder, and some other of the aquatic trees, and charring them in the usual manner, but with peculiar care. Of late, however, a confiderable improvement in the preparation of the finer charcoal has taken place, by charring or distilling the wood in closed iron cylinders. For this purpose a large cylinder of call iron fixed in masonry over a grate, and furnished at one end with a door capable of being accurately closed, and terminating at the other in a curved pipe, is filled with the chips of any kind of wood; the door being then closed, and a fire lighted in the grate, the empyreumatic acid and all the other volatile parts of the wood are driven off by the heat, which is increased till the contents of the cylinder are red hot. The fire is then withdrawn, the cylinder is allowed to cool, and a black shining and remarkably pure charcoal (in greater proportion also to the quantity of wood employed than by the usual way) is procured, admirably fitted for the use of the gunpowder-makers, and apparently possessed of the same qualities from whatever kind of wood it is made.

The proportion of charcoal yielded by particular woods is liable to be so materially affected by the age, and the dryness of the wood, as to render it almost impossible to obtain any correct result in the great way. The following table, from experiments in the small way by Mr. Mushet, will, however, be found to be interesting, as all the woods before being charred were thoroughly dried and prepared, as nearly

as possible in the same circumstances.

IC	o Parts of	Parts of Lignum vitæ afforded			26.0	of	Ch	arco	al	of a greyish colour resembling coak
		Mahoga	ny -		25.4		99			
		Laburnu	m -		24.5		20			velvet black, compact, very hard
		Chesnut		-	23.2		-			
		Oak		90	22.6					black, close, very firm
		Holly		-	19.9					
		Sycamor	e -		19.7		-	-		fine black, bulky, moderately firm
		Walnut	-	-	20,6		-			dull black, close, firm
		Beech	de		19.9			_		dull black, spongy, firm
		Norway	pine	-	19.2		_	-		fhining black, bulky, very foft
		Elm	• .	-	19.5		-	-		
		Sallow		-	18.4			-		velvet black, bulky, loofe and foft
		Afh			17.9					fhining black, fpungy, firm
		Birch		-	17.4					velvet black, bulky, firm
		Scottish	pine		16.4		-			tinged with brown, moderately firm

ties observes, that in making charcoal, men accustomed to the business cut and cord in wood in the winter, and burn during the fummer feafon. The minutiæ of the process of which are there, he fays, thefe. The fite, or hearth, being determined upon, the sward is pared off, and the fods

The author of the Rural Economy of the midland coun- laid on one fide. The wood usually about the cord is then laid in a ring, fomewhat wider than the intended hearth; beginning on the outer circumference of the ring with the fmallelt of the round-wood, laying the larger pieces of topwood, and the cloven roots, or but-ends, towards the center. With these last, some of them nearly as large as bushelblocks, blocks, they begin to make their pile, leaving a kind of chimney in the middle, (a vertical aperture, from a foot to eighteen inches wide, and round this core of roots fet up the top-wood, (which has previously been cut at the time of cording, in such a manner, that no forkedness or other awkward crookednesses are left; or, if not cut in this manner, or cut improperly, it is prepared by the colliers themselves, previous to laying it ready for fetting), joining the blocks, or rather fitting them in, as close to each other as possible; placing the convex fide of the logs outward, forming the pile in the shape of an inverted bowl, nearly semiglobular. The pile being formed, it is covered over with fods, which are pointed, to keep in the heat the better, and the feams are filled up with fine pulverifed mould. The chimney is now filled with fhort pieces of dry wood; near the top a live coal is put; over this one layer more of dry pieces; and upon these a close cap of fod is placed: nevertheless, this one coal, not larger than the fift, and excluded from the open air, is fufficient to fet the whole pile on fire. As the pieces in the chimney burn away, they are replaced by fresh ones: thus feeding the fire with fresh fuel. Paled hurdles are placed on the windward fide of the heap, to prevent the fire from act-

ing partially. When the fire begins to work itself out, at the outward ·skirts of the bottom of the pile, it is known that the coal is fully burnt, (or rather the wood fufficiently charred), which it will be, in a pile of ten cord, in fine dry weather, in feven or eight days. The fire, during the whole time, is carefully kept from breaking out, by throwing mould or aftes upon the weak parts: fo that, though the fire paffes through every part of the wood, little or none of the matter of heat escapes. It is observable, he says, that notwithstanding the intense heat, no part seems to be consumed; not the bark only, but even the mofs upon it, comes out as entire as when it went in : the only apparent change is, in its being rendered friable and of a black colour. Wood that is charred, feems, he fays, to be only very highly dried. It fhrinks confiderably during the process of charring; but there is no visible derangement of parts. One of the smaller pieces, which is not broken in the drawing, appears as entire when it comes out as when it went into the pile. The brittleness after charring, however, shows that the texture of the wood is altered by the action of the fire. As foon as the fire is out of the coal, on the outlide of the heap, the workmen begin to draw; which is done by running a peel between the coal and the hearth, raifing up the coal in fuch a man-ner as to let the mould and ashes of the sods fall through between the pieces, upon the inward parts, still full of fire. If this makes its appearance in any particular spot, a peel full of ashes is immediately thrown against it. Having got fufficiently near to the fire, the coals raifed by the peel are raked off with long, wide-toothed, iron rakes; the teeth about a foot long, and standing about fix inches a-part; the handle and head of wood, except a plate of iron on the back, with which the small coal is gathered together. No fieve, nor any rake with finer teeth than the above, is used. The coal being light, it is readily brought to the furface of the aftes and dirt; and, when there, is eafily collected with the back of the rake. The fide, thus drawn, being rounded up and secured with ashes, another, the coolest part, is drawn in the same manner. The drawing is an infernal bufiness: the men working among fire and heat enough to fuffocate Satan himfelf. Such pieces as still retain fire, after they are drawn, are quenched with water; which the workmen have in plenty standing by them, in pails. If a large piece contain much fire, (which hides itself chiefly in the

chinks of the large pieces), it is plunged bodily into the water. If the heap itfelf prove too refractory to be kept under by the afhes alone, a fufficient quantity of water is thrown upon it, to keep the fire under. Such large pieces as are fufficious are laid on one fide, in order that those which take fire may be the more readily discovered. A waggon attends to take away the coal as fast as it is drawn: for, if it take fire, or get wet in the hands of the burners, it is at their risk; and, while in the waggon, it is at the risk of the waggoner. Every particle burnt is so much entire waste.

The quantity of ashes arising from a charcoal hearth, he fays, is considerable. There were four cart loads taken up from two small hearths, and a load or two more still remained.

The dust of charcoal has been found, by repeated experience, to be of great benefit to land, especially to such foils as are stiff and four. It is to be used in the same manner as foot and wood-ashes. See Ashes and Soot.

And the author quoted above observes, that charcoal ashes are in good esteem in the midland districts as a manure, particularly for turnips, and for fining grass land. They arise principally from the fods used in covering, but in part from the bits of coal which break off in raking it out of the ashes. There cannot be any doubt but that all the refuse of charred materials that become reduced into a powdery state during the process of drawing the coal, is highly beneficial, when applied on the more still and heavy forts of land as a manure, as much advantage has been derived from it in the experience of different cultivators.

The microfcope difcovers a furpriling number of pores in charcoal: they are difpofed in order, and traverfe it length-wife; fo that there is no piece of charcoal, how long foever, but may be easily blown through. If a piece be broken pretty fhort, it may be feen through with a microfcope. In a range the eighteenth part of an inch long, Dr. Hook reckoned one hundred and fifty pores; whence he concludes, that in a charcoal of an inch diameter, there are no lefs than five millions feven hundred and twenty-four thousand pores.

It is to this prodigious number of pores that the blackness of charcoal is owing: for the rays of light, striking on the charcoal, are received and absorbed in its pores, instead of being reslected; whence the body must of necessity appear black, blackness in a body being no more than a want of reslection.

Mathematical inftrument makers, engravers, &c. find charcoal of great use to polish their brass and copper plates, after they have been rubbed clean with powdered pumiceflone. Mr. Boyle says, that the more curious burn it a second time, and quench it in a convenient fluid. Plates of horn are polishable the same way, and a gloss may be afterwards given with tripoly.

Charcoal and foot-black are the two most durable and useful blacks of the painter, and the varnish-maker. Those of the former kind are used both as pigments and pencils; and charcoal crayons prepared from the willow are preferred on account of their fostness. See concerning them Lewis's Commercium Phil. Techn. p. 536.

Charcoal tinges glass in suffor yellow, reddish, &c., and by baking stains it yellow. See ibid. p. 628. See also his observations on the differences of different charcoals, &c. and of the manner of distinguishing between the vegetable and animal, ibid. p. 336. and seq.

Charcoal was anciently used to distinguish the bounds of estates and inheritances; as being supposed incorruptible, when let very deep within the ground. In essent, it pre-

ferves

in the ancient tombs of the northern nations.

M. Dodart fays, there is fometimes found charcoal made of corn, probably as old as the days of Cafar: he adds, that it has kept fo well, that the wheat may be full diftinguished from the rye; which he looks on as a proof of its incorruptibility.

CHARCUON, in Geography, a town of Persia, in the province of Farfiltan; 70 miles S.E. of Schiras

CHARD, an ancient town of Somersetshire, England; is fituated in the fouthern part of the county, and confilts of 248 houses, which are disposed in two flreets interfecting each other. This place was anciently denominated Cerdie, which name, according to Mr Collinfon, it obtained from Cerdie, a Saxon chief, who was repeatedly engaged against the Britons in this part of the island. Two or three springs rife in the immediate vicinity of the town, and this part of the county is fo high, that the streams of water may be turned either north into the Briftol channel, or fouth into the British channel. Chard, in the reign of Edward I. was made a free borough, and fent members to parliament nine times; but it afterwards loft this privilege. A market was formerly kept here on Sundays, but the market day is now Monday, and is well supplied with corn, and valt quantities of potatoes. Collinson's Hiltory

of Somersetshire, 4to. vol. ii.

CHARDIN, JOHN, in Biography, the fon of a jeweller at Paris, of the Protestant persuation, who distinguished himfelf as a traveller. He was born at Paris in 1643, and followed the profession of his father. At the age of 21, he fet out on his travels, and remained for a confiderable time in Persia. After his return in 1670, he printed at Paris an account of the coronation of Soliman III. king of Perfia, together with the principal events that introduced his reign. In the year 1671 he again departed for the east, and having Spent several years in Persia and the East Indies, he collected various particulars of curious information concerning the state of those countries, which he published after his return to Europe. In 1681 we find him in London, where he was knighted by Charles II. and appointed his majesty's jeweller. He married the daughter of a French refugee in London, and died in this city in the year 1713. A collection of his travels was published in 10 vols. 12mo. in 1711, and in 4 vols. 4to. in 1735, at Amfterdam. They were translated into English, German, and Flemish; and as they contain authentic and valuable information, with regard to the religion, manners, products, and commerce, &c. of the countries he vifited, they obtained an extensive circulation. Among other curious particulars, he records feveral medical facts; and particularly an account of his own cafe, when he was attacked with a dangerous fever at Gombron, and cured by the country physicians, who employed the repeated affufion of cold water. This fact has suggested an useful hint to · modern practitioners.

CHARDIN. See JARDYN.

CHARDOGNE, in Geography, a town of France in the department of the Meuse, and district of Bar-le-Duc; 4 miles N. of it.

CHARDON, in Conchology. The French diffinguish a species of ray by this name, the Raja fullonica of Linnæus,

which fee.

CHARDON pour monter a l'affaut, in Military Language. When the use of crampons (creepers or cramp-irons) was not at all known, the foldier, to avoid flipping down in mounting the breach, or to the affault, took off one shoe. At present he makes use of a crampon, or charden of iron, which is fastened with a strap and buckle, or by means of a ferew to the heel of the shoe. But this last method does not Vol. VII.

ferves itself to long, that there are many pieces found entire feem to be sufficiently firm or folid, particularly for assaults of much danger.

> CHARDONS, points of iron, like those of darts, placed on the top of a grate, or the coping of a wall, to prevent any perfon's getting over them.

> CHARDONNERET, Chardonneret jaune, &c. in Ornithology, the name under which Buffon and other French authors describe Fringilla triflis, which see .- Called by Pen-

nant and Latham the American Goldfinch.

CHARDS, in Gardening, is a term which is applied to different parts of different forts of vegetables after they have undergone a fort of blanching, and are become tender by being tied up or covered in some way or other. Thus in the artichoke they are the leaves, which have been wrapped up during the autumn and winter with firaw bands, the tops of the plants being only just left out. And in the white best they are the downy shoots of the tops of such plants as have been covered with long dry dung during the winter feafon.

CHARE CULLOU, in Geography, a town of Afia, in

the province of Cabul; 42 miles S.W. of Cabul.

CHARENTE, a river of France, which rifes in the department of the Upper Vienne, passes by, or near to, Civray, Ruffee, Verteuil, Mansle. Angoulesme, Jarnac, Cognac, Saintes, Rochefort, &c. and discharges itself into the sea, about eight miles below Rochefort, opposite to the isle of Oleron.

CHARENTE, department of, a district or division of France, taking its name from the river Charente, which passes through it, and formed of Angoumois, and a part of Saintonge. It is bounded on the north by the departments of Upper Vienne, and the Two Sevres; on the east by those of Upper Vienne and Dordogne; on the fouth by those of Dordogne, and Lower Charente, which bounds it also on the well. It's length from N.E. to S.W. is about 56 miles, its average breadth 30 miles, its territorial extent about 63 to kiliometres, or about 1,153,684 square acres, and its population about 321,477 persons. It is divided into five communal diffricts, which comprehend 28 cantons, and 455 communes. Its capital is Angoulême. This department, in the 11th year of the French æra, contributed 2,978,069 francs, and was charged with an expence towards the support of administration, justice, and public instruction, of 279,619 francs, 66 cents.

CHARENTE, Lower, department of, is tituated on the feacoalt, north of the river Gironde, and takes its name from the river Charente, which croffes it near its center: it is composed of Aunis and a part of Saintonge. It is bounded on the north by the departments of La Vendée, and the Two Sevres; on the east, by a part of that of the Two Sevres, and by that of Charente; on the fouth, by the departments of Dordogne and Gironde; and on the west by the ocean. Its length is somewhat more than 80 miles, and breadth unequal, being towards the fouth about 10 miles, towards the north about 20, and in some parts nearly 40. Its territorial extent is 7247½ kiliometres, or about 1,404,460 fquare acres, or 716,814 hectares: its population confifts of about 402,105 perfons: it is divided into fix communal districts, comprehending 37 cantons, and 506 communes; its contributions amount to 4,105,014 francs, and it is charged with expences to the administration, justiciary, and public instruction, amounting to 331,035 francs, 66 cents. The capital is Saintes.

CHARENTENAY, a town of France, in the depart-

ment of the Yonne, 7 miles S. of Auxerre. CHARENTON, JOSEPH NICHOLAS, in Biography, a French Jesuit, was born at Blois in 1650; and having spent 15 years as a mislionary in Persia, settled at Paris, and purfued his studies till his death in 1735. Besides a translation of two devotional pieces of Thomas a Kempis, he also published " The General History of Spain, by Father Mariana,

translated into French, with historical, geographical, and cri- terms charge precipitée, and charge a volonté. The charge tical notes, medals, and maps," 5 vols. 4to. Paris 1725; to which he has added a valuable preface. This work is held in confiderable estimation.

CHARENTON, in Geography, a town of France, in the department of the Cher, and chief place of a canton, in the diffrict of St. Amand; 5 miles E. of it. The place contains \$148, and the canton 5307 inhabitants; the territorial extent comprehends 255 kiliometres, and 11 communes .- Alfo, a town of France in the department of the Seine, and chief place of a canton, in the district of Secaux. The place contains 826, and the canton 7773 inhabitants: the territorial

extent includes 6878 kiliometres, and 11 communes. CHARERA, La, a town of the island of Cuba; 5

miles W. of Havanna.

CHARERI, a town of the kingdom of Naples, in the province of Calabria Ultra; 9 miles S. of Girace -Alfo, a river of Naples, which runs into the fea 10 miles S.S.E. of Girace.

CHARES, in Biography, a famous statuary, was a native of Lindus, and a disciple of Lysippus; and his name is transmitted to us as the fabricator of the Rhodian Colossus of the Sun, which was a metal statue of an immense bulk. See Cornesus.

CHARES, in Ancient Geography, a river of Peloponnefus, in the Argolide, near which, according to Plutarch, was fought a fevere battle between Aratus and the tyrant of Argos.

CHARGE, in Electricity, in a strict sense, denotes the accumulation of the electric matter on one furface of an electric, as a pane of glass, Leyden phial, &c. whilst an equal quantity passes off from the opposite surface : or, more generally, electrics are faid to be charged, when the equilibrium of the electric matter on the opposite surfaces is destroyed, by communicating one kind of electricity to one fide, and the contrary kind to the opposite side; nor can the equilibrium be restored till a communication be made by means of conducting substances between the two opposite surfaces. And when this is done, the electric is faid to be discharged. The charge properly refers to one fide, in contradiffinction from the other; fince the whole quantity in the electric is the same before and after the operation of charging; and the operation cannot fucceed, unlefs what is gained on one fide be lost by the other, by means of conductors applied to it, and communicating either with the earth, or with a fufficient number of non-electrics. In order to facilitate the communication of electricity to an electric plate, &c. the oppofite furfaces are coated with fome conducting fubstance, ufually with tin-foil, within fome distance from the edge; in confequence of which the electricity communicated to one part of the coating is readily diffused through all parts of the furface of the electric in contact with it; and a difcharge is eafily made by forming a communication with any conductor from one coating to the other. If the opposite coatings approach too near each other, the electric matter forces a passage from one surface to the other, before the charge is complete. And some kinds of glass have the property of conducting the electricity over the furface, or of being permeable to it, so that they are altogether unfit for the operation of charging and discharging. Mr. Canton suppoles that this quality of glass is owing to its unvitrified parts. If, indeed, the charge is too high, and the glass plate or phial too thin, the attraction between the two oppolite electricities forces a passage through the glass, and makes a spontaneous discharge, and the glass becomes unfit for farther use. See Conductors, Electrics, Leyden Phial, &c.

CHARGE, in Military Affairs, has chiefly these three meanings, viz. an attack, an acculation, and a load or quantity of powder. The French make use of it technically in the first of these general meanings, in two different fenses, using the precipitée is given when the four times are precifely marked, as chargez vos arms, un, deux, trois, quatre; and is chiefly applicable to the drill. The charge a volonté is executed in the fame manner as the charge precipitée with this difference only, that the foldiers do not wait for the specific words.

It was a maxim with most of the ancients to charge with vast shouts, mixed with their martial music. The Gauls, the Germans, the Parthians, and all the barbarians in general, observed this custom. The Turks have preserved it, and march towards the enemy with the most terrible howlings: they believe, and not without reason, that these howlings animate the foldier, divert his thoughts from the dangers which furround him, and strike a terror into the enemy. The Romans, and some of the Grecians, such as the Argians, the Mantinæans, and the Macedonians, did the fame; but they did it by rule; fo that what was among the Barbarians, no better than a confused noise, excited by an impetuous motion, was among the others a matter of discipline. As soon as they came in light of the enemy, they gave a general shout before they advanced nearer to him; and this shout was called "the shout of battle;" and it was from the manner in which it was given, the general formed his judgment of the disposition of his troops. The Samnites and the Etrurians had the fame custom as the Romans. In an engagement between the latter and the Samnites, which terminated in the retreat of both, they kept looking at each other a long time, before either gave the shout; neither being willing to give it first. Crassus, as we are informed by Plutarch, after being haraffed by the Parthians during a whole day, refolved to charge them with all his forces. He ordered the shout of battle; but he could perceive, by the feebleness with which it was given, that his foldiers were not in spirits; and that, therefore, he could entertain but little hope of fuccefs; accordingly, he was entirely defeated. The first shout used to be given by a signal from the trumpets, which foon after founded to charge; the troops then put themselves in motion; and ran up to the enemy, exciting each other from time to time with repeated shouts. The Romans at the same time thruck their javelins, or fwords, against their targets, which still augmented the noise, and carried with it a very terrible air. If they happened to be repulfed, they fet up a new shout every time they returned to the charge, but it was never given by the party which attacked. The fecond line, when it did not charge with the first, kept its shout till its turn for fetting off came; as did likewife the referve. These troops gave louder and louder shouts, in proportion as they redoubled their efforts. Some of the Greeks did not shout in charging, but only fung a kind of air, which they called "the hymn of battle." We still find traces of this custom among the Arnauts, inhabitants of Macedonia, at prefent subject to the Turks. These people, flout and bold like their ancestors, engage with a rapid pace: the chief fings, and his troops answer, while they press forward with an accelerated velocity. These hymns should be short, and consist of short verses, fet to a lively air. Horace speaks in one of his odes of a poet called Tyrtæus, who, in the wars of Messina, animated by his verses the Lacedæmonians to such a degree, that they thereby gained a complete victory. The Lacedæmonians, however, did not always follow this custom. In the time of Thucydides, they marched, in filence, to the found of flutes, and by its cadence regulated their fleps, the better to preserve their ranks. This, without doubt, suggested to marshal Saxe the first idea of marching to time, which much contributed to the perfection of the military art. Although the step of the Romans was not only regulated, but animated by the found of warlike instruments, they thought the shout

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necessary at the time of their charging the enemy. As they charged running, the rapidity of their motion, joined to the noise of their own shouts, and of the trumpets and horns, inflamed them, and filled them with a fort of fury, which their leaders nevertheless knew how to moderate by the exactness of their discipline. Plut. in Crassum. Livy, l. x. c. 22. Cæfar de Bello Civili, lib. iii.

CHARGE de mine, or Charge of a mine, is the quantity of powder that is put into its chamber for the purpose of

fpringing it, or making it explode.

CHARGE of powder, in Artillery Matters, is the quantity of powder put into a piece of ordnance for faluting, scaling, proving, or rejoicing; or for propelling, projecting, or throwing from it thot, bullets, thells, grenadoes, &c.

Various charges of powder are best adapted to the different uses to which artillery is applied, as field service, battering in breach, garrifon-fervice, firing en ricochet, &c. &c.

The charge of powder for proving guns is equal to the weight of the ball; but for service the charge is one-half, or one-third of the weight of the ball, or even less; and, indeed, in most cases of service, the quantity of powder is

too great for the proposed execution.

In the British navy, the allowance for thirty-two pounders is but feven-fixteenths of the weight of the bullet. a late author is of opinion, that if the powder in all ship cannon whatever was reduced to one-third weight of the ball, or even less, it would be a considerable advantage, not only by faving ammunition, but by keeping the guns cooler and quieter, and at the same time more effectually injuring the veffels of the enemy. With the prefent allowance of powder, the guns are heated, and their tackle and furniture thrained, and this only to render the bullet less efficacious. For a bullet which can but just pass through a piece of timber, and lofes almost all its motion thereby, has a much better charge of rending and fracturing it, than if it paffed through with a much greater velocity. See Robins's Tracts, vol. i. p. 200, 201.

Professor Euler concludes, from certain calculations, by means of which he has formed a table, representing the charges for the greatest velocity, that those affigned by Mr. Robins are much too great. See True Principles of Gunnery investigated and explained, &c. 1777. p. 129. 266.

Mr Robins observes, that the charge is not to be determined by the greatest velocity that may be produced; but that it should be such a quantity of powder as will produce the least velocity necessary for the purpose in view; and if the windage be moderate, no field-piece should ever be loaded with more than 1, or at the utmost 1 of the weight of its bullet in powder; nor should the charge of any battering piece exceed \(\frac{1}{3} \) of the weight of its bullet. Tracts, &c. vol. i.

p. 266, &c.

Different charges of powder, with the fame weight of ball, produce different velocities in the ball, which are in the subduplicate ratio of the weights of powder; and when the weight of powder is the same, and the ball varied, the velocity produced is in the reciprocal subduplicate ratio of the weight of the ball: and this corresponds both to theory and practice. See Dr. Hutton's paper on Gun-powder, in the Phil. Trans. for 1778, p. 50. and his Tracts, vol. i. p. 266. This, however, is on a supposition that the gun is of an indefinite length; whereas, on account of the limited length of guns, some variation from this law occurs in practice, as well as in theory; in confequence of which it appears, that the vel-city of the ball increases with the charge only to a certain point, which is peculiar to each gun, where the velocity is the greatest: and that, by farther increasing the charge, the velocity is gradually diminished, till the bore is quite full of powder. By an easy fluxionary process, it

appears, that, calling the length of the bore of the gun L. the length of the charge, producing the greatest velocity,

ought to be 2.718281828, or about 3 of the length of the

bore; where 2.718281828 is the number whose hyperbolic logarithm is i. But for feveral reasons, says Dr. Hutton, in practice, the length of the charge, producing the greatest velocity, falls fhort of that above mentioned, and the more fo as the gun is larger. From many experiments, he has found the length of the charge, producing the greatest velocity, in guns of various lengths of bore, from 15 to 43 calibres, as follows :

Length of bore in ca ibres. Length of charge for greatest velocity.

20 30

See CANNON.

CHARGE, in Gunnery, implies not only the quantity of powder put into a piece of ordnance for firing it with, but also the shot, shells, grenadoes, &c. with which it is loaded.

The fuccess of a campaign, of a siege, or defence, often depends on the skilful and judicious application of artillery. But in almost every application of it, there is more powder than is either proper or necessary made use of; and our pieces of ordnance have in general by far too much windage.

CHARGE, in Military Language, denotes an attack either

of infantry or of cavalry.

CHARGE bayonet, is a word of command given to infantry to rush on the enemy and attack them at the point of the bayonet.

CHARGE, to found a, is a fignal given by found of trum-

pet for cavalry to commence the attack.

CHARGE, in Military or Martial Law, is the specification of any crime or offence, for which a commissioned officer, noncommissioned officer, or foldier, is tried by a court-martial. In all charges of this nature, the time and place, or when and where the crime or offence was committed, must be fet

forth with accuracy and precision.

CHARGE, in Heraldry, is applied to any figures or things which occupy the field of a fhield of arms, and are placed either throughout the whole superficies of the escutcheon, or elfe in some special part of the same, whether it be animal, vegetable, or any other matter. Anciently, arms were fimple and plain, confifting of few figures, diffinctly placed in the field: the heralds of those times, as we find by their writings, being of opinion, that the lefs that appeared in a coat, the more honourable it was. As coats of arms increafed in number, a deviation from their original plainness foon became unavoidable; and a conspicuous variation from each other was absolutely requilite, in order to their making a due armorial diffinction between families. This was at first effected, either by a repetition, on the same escutcheon, of some one or other of those particular figures, which had before been used as charges, or by placing in the field two or more diffinet bearings. This mode, however, was foon found to be inadequate to the purpole; f r the continual multiplication of arms had exhaulted all the variations that could be made with respect to the figures then used in heraldry, and required additional marks of diffinction. Hence was introduced, from time to time, fuch a multitude of new charges, that there is scarcely any thing, either natural or artificial, that either is not, or hath not been, represented in the coat-armour.

Charges peculiar to the art and ulage of armory, as the cross, chief, pale, fesse, &c. are called proper charges; and frequently ordinaries.

Bloom reftrains the term charges to those additions, or re-3 R 2

wards of honours, frequently placed on eleutcheons, as cantons, quarters, girons, flafques, &c.

CHARGE, in Law, denotes the inftructions given to the grand jury with respect to the articles of the inquiry, by the

judge who prefides on the bench.

CHARGE, also fignifies a thing done that bindeth him who doth it; or that which is his to the performance of it; and DISCHARGE is the removal of that charge. Lands may be charged in various ways; as, by grant of rent out of it, by statutes, judgments, conditions, warranties, &c.

Lands in fee-fimple may be charged in fee; and where a man may dispose of the land itself, he may charge it by a rent, or statute. Lit. fect. 648. Moor. Ca. 129. Dyer 10. If one charge land in tail, and land in fee-simple, and die, the land in fee only shall be chargeable. Bro. Cha. 9. Land intailed may be charged in fee, if the estate-tail be cut off by recovery: if tenant in tail charge the land, and afterwards levy a fine or fuffer a recovery of the lands, to his own use; this confirms the charge, and it shall continue. I Rep. 61. If one join-tenant charge land, and afterwards release to his companions, and die, the survivor shall hold it charged; but if it had come to him by survivorship, it would be otherwise. 6 Rep. 76. 1 Shep. Abr. 325. 'He that hath a remainder, or reversion of land, may charge it; because of the possibility that the land will come into possession, and then the possession shall be charged. But where one leases land for life, and grants the reversion or remainder over to A. B. who charges the land, and dies, and the tenant for life is heir to the fee; in this cafe he shall hold it discharged, for he had the possession by purchase, though he had the fee by descent. Bro. 11, 16, 1 Rep. 62.

If a rent be issuing out of a house, &c. and it falls down, the charge shall remain upon the foil. 9 E. IV. 20. But when the estate is gone upon which the charge was grounded, then, generally, the charge is determined. Co. Litt. 349. And in all cases where any executory thing is created by deed, then, by consent of all the parties, it may be, by

deed, defeated and discharged. 10 Rep. 29.

CHARGE, in the Manege, a fort of unguent, made of oil, honey, greafe, turpentine, and fometimes of lees of wine, and other matters, applied externally to a horse, &c. for the cure

of strains, bruifes, and swellings.

CHARGE, a military term for a few detached passages for trumpets, fide-drums, and kettle-drums, performed when on the point of charging or attacking the enemy. "Sound the charge" is the command given to the trumpets; "Beat

the charge" to the drums.

CHARGE, Fr. loaded, crowded with parts. This is faid of Music, when the subordinate parts are so loud and busy that the principal melody cannot be heard through them. See CARICATA, which has the fame meaning in Italian. Rameau and Gluck have been accused of this redundance of notes in their operas; the former from a systematic determination to give to every base its full harmony; the latter, perhaps, from a defire to please the French in their own way, by purfuing the method of Lulli and Rameau, but he likewife gratified his own tafte in manifelling his ingenuity by giving to each part a different subject in the accompaniment, and also in giving way to the force and fire of his own genius. Piccini, in his early productions, put the inflrumental performers in his operas to hard labour by giving them fo many notes to execute, that he has been faid at Naples, " to put the orchestra in flames." But this was in his comic operas, full of quarrels and imbroglios. The Buona figliuola maritata required more rehearfals than any opera that was ever performed in this country. But he did not crowd his score from pedantry or system, but to produce effects by the instruments

which it would have been ridiculous for even comic fingers to attempt. When Piceini gave way to his native fire and invention, it was for fomething ingeniously planued, and which when well executed, interested and delighted the audience.

CHARGE, or rather OVERCHARGE, in Painting, is an exaggerated representation of any person, wherein the likeness

is preferved, but at the same time ridiculed.

Few painters have the genius necessary to succeed in these charges: the method is, to select and heighten something already amis in the sace, whether by way of defect or redundancy; thus, v. g. if nature have given a man a nose a little larger than ordinary, the painter falls in with her, and makes the nose extravagantly long; or if the nose be naturally too short, in the painting it will be a mere stump;

and thus of the other parts.

De Piles observes, that there are charged outlines which please, because they are above the lowliness of ordinary nature, and carry with them an air of freedom, with an idea of a great tafte, which deceives most painters, who call fuch excesses the grand manner. And although, to such persons, who have a true idea of correctness, simplicity, and elegance of nature, these excesses may feem supersluous, as they only adulterate the truth, yet one cannot forbear to commend fome things that are overcharged in great works, when the distance whence they are to be viewed softens them to the eye; or when they are used with such discretion as makes the character of truth more apparent. It ought, however, to be remarked, that, in the antique statues, which are allowed to be the rule of beauty, nothing appears charged, nothing affected; nor is there any thing of that kind in the works of those who have always imitated them; as Raphael, Domenichino, Nicolo Poussin, and some others.

CHARGE of lead, is thirty fix pigs. See LEAD, Pig,

&cc.

CHARGE, in Sea-Language, is fometimes used for burden; thus, a flip of charge is such as draws much water, or swims deep in the sea: though sometimes an unwieldy ship, that will not ware nor steer, is called a ship of charge.

CHARGED, in Heraldry. A shield, carrying on it some

figure or impress, is faid to be charged therewith.

So, also, when one bearing, or charge, has another figure added upon it, it is properly said to be charged. This was the ancient method of blazon; but it is now laid aside.

CHARGED cylinder, in Gunnery, is that part of the gun which contains the powder and ball.

CHARGEOIR, a charge for great guns.

CHARGERS, are also either bandoleers, or little flasses that contain powder for charging and priming.

CHARGER, in Military Language, is likewife a term made use of to denominate a horse which an officer is mounted on in action.

CHARGER un Canon, un Mortier, un Fusil, &c. is to put into it the powder, the ball, the shell, the cartridge,

CHARGER Pennemi, to charge the enemy; is to march towards the enemy directly in front, receiving his first fire, but referving your own. You are then fure to fight to advantage, as you have gained ground, a circumstance that feldom fails to enfure fuccels to the affailants, and to discourage those who are attacked. This phrase is also employed to denote the pressing upon, pursuing an enemy, and the obstructing and shutting up his communications, ways, and nassays.

CHARGER Pèpée à la main, to charge fword in hand. Before the use of the bayoner, the foldier took his musket by its rell in his left hand, and charged the enemy with his

fwor

fword in his right; which method of charging must have authors, that, in after times, they armed the beam or pole to been very incommodious, fatiguing, and difficult. maréshal de Puysegur, in his art of war, derives this phrase from the time when the musket was used without the

CHARGES MILITAIRES; all employments, offices, or appointments by brevet, from a field-marthal of France down to the lowest fubaltern officer, were called charges militaires: But the office or appointment of intendant general of flores and provisions, and all those of a similar nature, constituting the fuite of an army, and part of its stail, do not come under the denomination of charges militaires.

CHARGEUR, an artillerist, whose duty or business it is

to charge or load the cannon.

CHARGEY, in Geography, a town of France, in the department of the Upper Saone, and diffrict of Gray; I

league N. of Gray.

CHARIDEMUM PROMONTORIUM, in Ancient Geography, Gabo del Gata, a promontery of Spain, at the extremity of the coast of Bætica.

CHARIENTISMUS, in Rhetoric, a figure wherein a

taunting expression is softened by a jest.

CHARILLOS, Los, in Geography, a town of South

America, in Peru, and in the jurisdiction of Lima.

CHARIN, or CARIN, LEWIS, in Biography, an eminent scholar and physician, was born at Lucern in Swifferland, in the heginning of the 16th century. In the early part of his life he was preceptor to part of the family of the Fuggers. In Bafle, where he died in 1569, he was in confiderable repute for his skill in the practice of medicine; but his name is recorded principally for having left by his will provision for founding, and supporting for ever, three scholarships in the university of that city. Eloy. Dict. Hist.

CHARINA, in Ancient Geography, a place of Asia, in Chambadene, to the east of mount Zagrus in Media.

CHARINDAS, a river of Afia, in Media, according to Ptolemy.

CHARIOPOLIS, a place fituated towards Thrace and Macedonia.

CHARIOT. See COACH. Chariots were used both for military purposes, and in the Olympic games. chariots were very generally used by the ancient inhabitants of various nations. We learn from Homer, and from the Sacred Writings, that they were used in many parts of the caltern world for military purpofes. Among the Medes and Persians they had chariots with two wheels, which were generally drawn by four horses a-breast, with two men in each ; one of diffinguished birth and valour who fought, and the other only for driving the chariot. Cyrus, however, thought this method very expensive, and of little service; because the equipment of 300 chariots required 1200 horses and 600 men, of whom only 300 fought; the other 300 who were perfons of diffinction, and capable of performing fignal fervice, being occupied merely as charioteers or drivers. To remedy this inconvenience, he altered the form of the chariots, and doubled the number of fighting men that rode in them, by putting the drivers into a condition to fight, as well as the others. He caused the wheels of the chariots to be made stronger, so that they might not be so easily broken; and their axle-trees to be made longer, that they might thus become more firm and fleady. At each end of the axle-tree he caused scythes to be fastened that were three feet long, and placed horizontally; and he caused others to be fixed under the same axle-tree with their edges turned to the ground, that they might cut in pieces men or horses, or whatever the impetuous violence of the chariots thould overturn. It appears from feveral paffages in ancient

which the horses were fastened with pikes, having iron points which projected forward; the yokes of the horses had also pointed irons three cubits in length; and the hinder part of the chariot was armed with feveral rows of sharp knives to hinder any force encountering behind. Between the fpokes of the wheels were placed javelins, and even the fellies of the wheels were furnished with feythes, which tore every thing they met with to pieces. The driver of one of these carriages was called the charioteer; and his feat was a kind of little tower, made of very folid wood, and raifed breath high. Sometimes the tower was large enough to hold feveral armed men, who threw showers of darts and arrows at the enemy. Chariots of this kind were in use for many ages in all the eastern countries. They were regarded as the principal thrength of the armies, as the most certain instruments of victory, and as an apparatus the best adapted to strike the enemy with confernation and terror. In proportion, however, as the military art improved, the people found the inconveniences attending them, and at length laid them afide. For, in order to obtain any advantage from them, it was neceffary to fight in immense plains, where the ground was very even, and where there were no rivulets, grottoes, woods, or vineyards. Several methods were also contrived, in process of time, to render them absolutely useless. A ditch was cut in their course which was sufficient to stop their progress. Sometimes an able and experienced general, as Eumenes in the battle which Scipio fought with Antiochus, attacked the chariots with a detachment of flingers, archers, and spearmen, who, spreading themselves on all sides, poured fuch a shower of stones, arrows, and lances upon them, the whole army fhouting at the same time fo loud, that they terrified the horses of the chariots, and occasioned such disorder among them, as often made them turn round, and run foul upon their own forces. At other times they rendered the chariots ineffectual and inactive, only by marching over the space which separated the two armies, with an extraordinary fwiftness, and advancing suddenly upon the enemy. The strength and execution of the chariots depended on the length of their course; and this gave impetuosity and rapidity to their motion, without which they were feeble and infignificant. It was after this manner that the Romans under Svlla, at the battle of Cheronca, defeated and put to flight the enemy's chariots by railing loud peals of laughter, as if they had been at the games of the circus, and by crying out that they should fend more. Diod. Sic. I. xvii. Q. Curtius l. iv. Xenoph. Cyrop. lib. vi. Livy, l. xxxvii.

In the weltern world war-chariots were much used in ancient times. Accordingly we find that those who fought from chariots of this kind, conflituted the most remarkable corps in the armies of the ancient Britons. This formidable corps feems to have been chiefly composed of persons of distinction, and the very flower of their youth. As this fingular art of war was, at the period to which we now refer, almost peculiar to the ancient Britons, and they greatly excelled and delighted in it, we shall give a brief description of the different kinds and constructions of their war-chariots, and of their way of fighting from them. Before Britain was invaded by the Romans, if we confider the imperfect state of fome of the most necessary and useful arts in the country, we could hardly expect to find in it wheel-carriages of any kind, much less chariots for state, for pleasure, and for war, of various forms, and of elegant and curious workmanship. It appears, however, from the concurring testimonies of many writers of the most unquestionable credit, that there were fuch chariots in prodigious numbers, even in the most remote and uncultivated parts of this island in these ancient

times. (Tacit, vit. Agric, c. 12, 36, Caf. de Bell, Gall, any of his battles with the Gauls. It is probable, therefore. 1 iv. c. 24. 32. l. v. c. 16. 19. Xiphilin. ex Dione in Sever. Dio Cassius I. Ix. Mela. I. iii. c. 5. Strabo. I. iv. p. 200. Diod. Sicul. I. v. c. 346.) The wheel-carriages and warrhariots of the ancient Britons are mentioned by Greek and Roman authors under feveral different names, particularly the following fix, viz. Benna, Peterlum, Currus, or Carrus, Procines, Effection, and Rheda. The Benna feems to have been It contained two or more perfons who were called Com-Leanones, from their fitting together in the fame machine. It probably derived its name from the British word Ben, read or chief; and these carriages might have obtained this appellation from the high rank of the perfons who used The Peteritam feems to have been a larger kind of anne from having four wheels, as filters in the British language and pares in the Zolie dialect of the Greak tongue, (which was spoken by the people of Marseilles in Gaul) fignify four. The Carrus, or Currus, was the common cart or waggon, used by the ancient Britons in time of peace, for the purpoles of agriculture and merchandile, and in time of war, for carrying their baggage, and wives and children, who commonly followed the armies of all the Celtic nations. The Covinus was a war-chariot, and a very tetrible inflrument of deftruction; being armed with fharp forthes and hooks for cutting and tearing all who were formhappy, as to come within its reach. This kind of chariot was made very flight, and had few or no men in it besides the charioteer; being defigned to drive with great force and rapidity, and to do execution chiefly with its hooks and feythes. The Effedum and Rheda were also war-chariots, probably of a larger fize, and more ftrongly made than the covinus, and defigned for accommodating a charioteer for driving it, and one or two warriors for fighting. The greatest number of the war-chariots of the ancient Britons were

of this kind. Two circumstances respecting these war-chariots are very remarkable; viz. their number and the admirable dexterity with which they were managed and conducted. Cæsar acquaints us (De Bell. Gall. L.v. c. 19) that after Cassibelaunus had difmified all his other forces, he still retained no fewer than 4000 of these war-chariots about his person. The same illustrious warrior and writer, who was an attentive observer of every thing of this kind, gives us (De Bell. Gall. l. iv. c. 23) the following account of the dexterity with which the Britons managed their war-chariots: "Their way of fighting with their chariots is this : first, they drive their chariots on all fides, and throw their darts; infomuch that by the very turn of their horses, and noise of the wheels, they often break the ranks of the enemy. When they have forced their way into the midlt of the cavalry, they quit their chariots and fight on foot. In the mean while the drivers retire a little from the combat, and place themselves in fuch a manner as to favour the retreat of their countrymen, in case they should be overpowered by the enemy. Thus in action they perform the part both of nimble horsemen and of stable infantry, and by continual exercise and use have arrived at that expertness, that in the most steep and difficult places, they can stop their horses upon full stretch, turn them which way they please, run along the pole, rest on the harnels, and throw themselves back into their chariots, with incredible dexterity." War-chariots had also been used by the people of Gaul in former times; but they feem to have laid them aside before they were engaged with the Romans under Julius Cæfar; (Diod. Sic. l. v. p. 352. Liv. Hist. 1. x. c. 28). for that general makes no mention of them in that in Cæfar's time chariot-fighting was known and practised only in this island, and continued to be so until it was fubdued by the Romans, and longer in those parts of it that were not conquered. When we confider what a fingular and formidable appearance fo prodigious a number of these war-chariots, driven with fuch rapidity, and managed with fuch dexterity, must have made in advancing to the charge. we need not be furprifed that the Roman foldiers, though the brayest and most intrepid of mankind, were so much disconcerted, as we are told they were, by this way of fighting. Cæf. de Bell. Gall. l. v. c. 15, 16.

Chariots were used in the celebration of the Olympic games; and they were introduced into these games in the 25th olympiad. Indeed it appears, from the flory of Ocnomaus and Pelops, that the chariot-race was known in Elis, even before the institution of the Olympic games; and therefore it feems to have been discontinued on account of the great fearcity of horses throughout all Greece, not only at the time of the revival of these games, but for many olympiads after, and also on account of the great expence that attended the breeding and managing of horses, and perhaps from the little estimation in which the Olympic games were held at their re-inflitution. In process of time they acquired extraordinary celebrity, and the introduction of the chariot-race, as well as the race of riding-horses, admitted in the 33d olympiad, ferved to encourage those who excelled in the breeding and managing of horses, and thus to excite an emulation which tended to supply Greece with a stock of these animals, which were so much wanted. Accordingly we find that the rich and noble became competitors in the chariot-race; and Alcibiades in particular outshone not only all his competitors, but all who either before or fince contended for the honour, in the number and magnificence of his chariots, and in the victories obtained by them: for he brought at once feven chariots into the courfe. and carried off at the same time, the first, second, and fourth prize, according to Thucydides (l.vi.), or third, according to Ifocrates and Euripides; the last of whom composed an ode upon the conqueror, part of which is quoted by Plutarch. In this ode the poet compliments Alcibiades upon his having gained at once three prizes; a thing, fays he, which no Greek had ever done before him. The Eleans, when they introduced the chariot-race into the Olympic games, were particularly defirous of inducing the wealthy to aspire after the Olympic olive, as they alone were able to support the great expence that necessarily attended the breeding, keeping, and managing of horses; and, therefore, they wisely made the conditions of obtaining the prize as eafy as poslible, by exempting them from the trouble and danger of driving their own chariots. No one, however, was prohibited from driving his own chariot; and the office of charioteer was anciently far from being dishonourable; besides, the skill of managing the horses, which were then used only in chariots, was reckoned among the accomplishments of a hero; but when chariots came to be laid atide in war, which feems to have happened foon after the heroic ages, the usefulness, and confequently the reputation, of that art began to decline by degrees, whence it foon came to be lodged in inferior hands. Although the mafter of the horses was proclaimed the conapplauses of the whole assembly. A crown was also given always in a great measure owing. Skill and courage were indifpentably necessary to finish happily a course, which the many fhort turnings round the pillars, and the number of chariots which fometimes ran together, rendered extremely difficult and dangerous. Alcibiades, we have already faid, brought at one time for his own fhare feven chariots, and he muth have had competitors who disputed the crown with him. Sophocles speaks of 10, and Pindar of no less than 40 chariots, which contended at the same time. The number therefore, of carriages muth have embarrassed the competitors on these occasions; more especially when attention is given

to the course itself. See HIPPODROME.

When we consider the form of the chariots, the attitude of the drivers, the rapidity of the motion, and the accidents that were likely to occur, arising from the nature of the courfe, and the number of chariots that frequently ran together, we have less occasion for wonder at their being thrown out of their chariots and put in danger of their lives, than at their maintaining their polts amid so many difficulties, and coming off with fafety and fuccels. These chariots, by fome figures of them upon ancient medals, &c. feem to have been very low, open behind, but closed up before and on the fides, with a kind of parapet, which was fometimes enriched with various ornaments. There does not appear to have been any feat for the driver, who is therefore always reprefented standing, and leaning forward to the horses. They had but two wheels, and confequently the fore part of them must have been supported by the horses, which inevitably rendered their motion very unequal, and made it so difficult for the charioteer to keep upon his legs, that nothing but a long course of practice could insure a man from falling in fuch a fituation. Nero, manifesting folly equal to his vanity, exposed himself to the danger of this exercise. He entered the Hippodrome in a chariot drawn by ten horses, which he undertook to drive himself, and was thrown out of his chariot, to the great hazard of his life; and though he was put into it again, he found himself unable to finish the race, and defisted. Nevertheless, he was proclaimed conqueror, and honoured with the Olympic crown. In return for the compliment, at his departure, he prefented the Hellanodics, or judges of the games, with the fum of 250,000 drachmas, or about 8000 l. and all Greece with her liberty.

Upon the day of the race, the chariots, at a certain fignal, marched out of the lodges in which they stood, and entering the course according to the order before settled by lot, were there drawn up in a line; but whether a-breast, or one behind another, is a question among the learned.

At the found of a trumpet they all, fometimes to the number of 40, started from the barrier, and all pressed with ardour and emulation towards the same point or pillar.

"Seell thou not how, when from the goal they start,
The youthful charioteers with beating heart
Rush to the race, and panting scarcely bear
Th' extremes of fev'rish hope and chilling fear;
Stoop to the reins, and lash with all their force;
The slying chariot kindles in the course.
And now a-low, and now aloft they fly,
As borne thro' air, and seem to touch the sky.
No stop, no stay; but clouds of sand arise,
Spurn'd and cast backward on the follower's eyes:
The hindmost blows the foam upon the first:
Such is the love of praise, an honourable thirst!"

Virg. Georg III. Dryden. Sophocks, in his tragedy of Electra (v. 700, &c.) has given a noble defeription of a chariot-race in all its forms, of which we have a translation by Mr. Weit, (ubi infra).

Of char ots for the race, there were different kinds, fubject to the fame laws and cultoms, exceeding that the length of the race was diminushed for some of them. The chariot first introduced into the Olympic Hippo-

drome, was the Teleson agua, or complete chariot, so named either because it was drawn by full-aged horses, or because it was drawn by four horfes, which number feems to have made a complete fet among the ancients. These four horses were all ranged a-breaft; the two middle ones only were harnessed to the chari-t by the yoke; the two side horses were fastened either to the yoke or some other part of the chariot by their traces. Ericthonius, according to Virgil, (Georg. 1. iiii.) was the first that drove with four horses, and, according to Manilius (l. i. l. 22.) he was for that invention honoured with a place among the heavenly bodies. Pagondes of Thebes had the honour of first obtaining the prize of this fort of chariot-race in the Olympic games, as Ericthonius had in the games called Panathenxa. In the 93d olympiad was added the race of the chariot called "Synoris," which was drawn by a yoke, or one pair only of fullaged horses. The "Apené" was a chariot, drawn by two mules, and was introduced into the Olympic games by one Asandrastus; but, as mules were held in abomination by the Eleans, and not allowed to be bred in their country, this race was abolished within a very few olympiads after its first admission. Pausanias (l. v. c. 9.) informs us, that it was introduced in the 70th olympiad, and abolished by proclamation in the 84th. In the 99th olympiad was introduced the πωλικον αεμα, which was a chariot drawn by four colts, and the Συνωρις πωλον, or chariot drawn by two colts, which was introduced, according to Paufanias (l. v. c. 8.) in the 129th olympiad, and he fays that Beliftiche, a Macedonian lady, was the first that carried off the crown in that race. Mr. West has, by passages from Pindar, assigned to each species of the chariots above described, the different lengths of the race appropriated to it. The whole course or round, Acourse, being equal to four stadia, it is inferred, that the two pillars, viz. that from which the horses started, and that round which they turned, which divided the course into two equal lengths, were two stadia distant from each other; consequently the whole length of the race of the TEXELON aspum, or chariot drawn by full-aged horses, confilling of 12 rounds, amounted to 48 stadia, or fix Grecian miles; and that of the TWAIXON MEHRA, or chariot drawn by colts, confifting of eight rounds, to 32 fladia, or four Grecian miles: and a Grecian mile, according to Arbuthnot's computation, was somewhat more than 800 paces, an English mile being equal to 1056. For farther particulars, fee Welt's "Differtation on the Olympic Games" in his translation of the Odes of Pindar, vol.iii. fect. 13. See also an elaborate differtation on the ancient chariot, both for war and the race, by Mr. Pownall, in Berenger's "Art of Horsemanship," vol. i. p. 271, &c.

CHARIOT a canon, in Military Language, a car or carriage folely made use of for carrying and transporting the body of a piece of ordnance. Such chariots relieve the gun-carriages, require fewer horses, and get more easily along bad roads in

the field and on a campaign.

Charlots d'une armée, the chariots or carriages of an army. These may, in a variety of circumstances, be rendered of the greatest assistance and advantage by an able general, who sees himself sollowed or almost surprized by superior forces. He can employ them for covering his march; supporting his columns; and for preventing his being haraffed by the enemy. He may nake use of them to cover his camps whish he is hurrying on his entreuchments. By shutting up the avenues to a single village, that an enemy wishes to take possession of, he may, by m and a proper disposition of them for that purp se, prevent a great effusion of blood.

When Alexander Farente dulte if Porma, was leading an army of Spaniards from Farente towers it ris, he marched

with both flanks of his columns covered by his haggage waggons and carriages. He found his fecurity in that manœuvre, and could not be attacked by Henry IV, who followed him with the intention of giving him battle.

CHARIOTS, in Alythology, were fometimes confecrated to the fun: and the Scripture observes, that Josiah burnt those which had been offered to the fun by the kings his predeceffors. This fuperstitious custom was an imitation of the heathens, and principal'y of the Perfians, who had horses and chariots confecrated in honour of the fun. Herodotus, Xenophon, and Quintus Curtius, speak of white chariots, crowned, which were confecrated to the fun, among the Perfians, and in their ceremonies were drawn with white horses, confecrated to the fame luminary.

CHARIPHEON, in Ancient Geography, the name of the fourth mouth of the river Indus, in passing from the well towards the east, according to Ptolemy.

CHARIQUIL, in Geography, a town of Persia, in the province of Irak Agemi; 90 miles S.E. of Amadan.

CHARIS, in Ancient Geography, the name of a navigable river of the Colchide territory, according to Pliny. By Ptolemy it is called Chariffos, and by Strabo Charis. Arrian denominates it Charieis, and places it between the Phasis and the Chobus, about 90 stadia from the one and the other. It is now named Tamafa.

CHARIS, a town of Asia, placed by Appian in Parthia. CHARISASAR, in Geography, a town of Afia, in the country of Candahar; 15 miles N.E. of Candahar.

CHARISIA, in Ancient Geography, a town of Peloponncfus, in Arcadia. The ruins, according to Paulanias, lay between Scia and Tricoloni.

CHARISIA, in Pagan Theology, a wake or night-festival inflituted in honour of the Graces. It continued the whole night, most of which time was spent in dancing; after which, cakes made of yellow flour, mixed with honey, and other fweet-meats, were distributed among the assistants. word is also used to fignify the sweetmeats distributed on

CHARISIUS, Sosipater, in Biography, a Roman grammarian, who flourished, according to Baillet, in the time of the emperor Honorius. He published five books of ob-

fervations on grammar, still extant.

CHARISIUS, in Pagan Theology, a furname given to Jupiter. The word is derived from x2715, favour; he being the god by whose influence men obtain the favour and affection of one another. On which account the Greeks used at their meals to make a libation of a cup to Jupiter Charifius.

CHARISPA, in Ancient Geography, a town of Bactriana, according to Ptolemy. The interpreters of his text suppose that it ought to have been Zarispa, which is the same with

Bactra.

CHARISTIA, a family-feast celebrated among the Romans, on the eleventh of the calends of March ; i. e. on the nineteenth of February, in honour of the goddes Con-

The word comes from xxii;, grace, favour: q. d. a day of reconciliation, or of reftoring into favour. It was also called dies chara cognationis. Vigenere, on Livy, calls it the

day of good cheer.

The chariftia was instituted to re-establish peace and amity in families embroiled, or at a variance among themfelves. It confifted in a great entertainment made in each family, to which no strangers were admitted; but only relations and kindred. The joy and freedom inspired by the repath was looked upon as a proper means to reunite divided minds; to which the good offices of fo many friends would greatly contribute.

CHARISTICARY, Commendatary, or Donatary, a perfon to whom is given the enjoyment of the revenues of a mo-

The charifficaries, among the Greeks, were a kind of donataries, or commendataries, who enjoyed all the revenues of hospitals and monasteries, without giving an account the eof to any person.-The original of this abuse is referred to the Iconoclaffæ, particularly Conflantine Copronymus, the avowed enemy of the monks, whose monatteries he gave away

In after-times, the emperors and patriarchs gave many to people of quality, not by way of gift, to reap any temporal advantage from them; but to repair, beautify, and patronize them. At length avarice crept in, and those in good condition were given, especially such as were rich; and at and of women; and that to lavmen, and married men.

M. Coutelier, in his Ecclefix Graca Monumenta, gives us the form of these donations: they were granted for life,

and fometimes for two lives. See Abbot.
CHARISTUS, in Ancient Geography, a river of the Colchide territory, according to Ptolemy; but his interpreter fubilitutes Charus.

CHARIT, in Geography, a town of Arabia; 24 miles

CHARITABLE Uses, in Law. See Commission

CHARITATIVE, in the Canon Law. A charitative aid, or fubfidy, is a moderate allowance, which a council grants a bithop upon any urgent occasion,; e. g. when his revenues will not bear his expences to a council.

CHARITE', LA, in Geography, a town of France, in the department of Nievre, and chief place of a canton in the diffrict of Corne, feated on the Loire, in which are manufactures of woollen and hardware; 13 miles N.N.W. of Nevers. The place contains 4011, and the canton 11,827, inhabitants: the territorial extent comprehends 270 kiliometres and 14 communes. N. lat. 47° 11'. E. long. 2° 55'.

CHARITIES, in Law, are subject in this country to the general superintendance of the king, as parens patrix; which he exercises by the keeper of his conscience, the chancellor. And, therefore, whenever it is necessary, the attorney-general, at the relation of fome informant (who is ufually called the "relator"), files ex oficio an information in the court of chancery to have the charity properly effablished. By statute, also, 43 Eliz. c. 4. authority is given to the lord-chancellor, or lord-keeper, and to the chancellor of the duchy of Lancaster, respectively, to grant commissions under their feveral feals, to inquire into any abuses of charitable donations, and rectify the same by decree; which may be reviewed in the respective courts of the several chancellors, upon exceptions taken thereto. But though this is cause the commission is there returned, it is not a proceeding at common law, but treated as an original cause in the court of equity. The evidence below is not taken down in writing, and the respondent, in his answers to the exceptions, may allege what new matter he pleafes; upon which they go to proof, and examine witneffes in writing upon all the matters in iffue; and the court may decree the respondent to pay all the cofts, though no fuch authority is given by the statute. And, as it is thus confidered as an original cause throughout, house of peers, notwithstanding any loose opinions to the contrary. Blackit. Comm. vol. iii. ch. 27. Lands that are given to aims and aliened, may be recovered by the donor. 13 Edw. I. c. 41. Lands, &c. may be given for the maintenance of houses of correction, or of the poor. 35 Eliz. c. 7. § 27. Money given to put out apprentices, either by parishes or public charities, pays no duty. 8 Ann. c. 9. \$ 40.

CHARITY, one of the three grand theological virtues; confifting in the love of God and our neighbour.

Charity is the habit or disposition of loving God with all our heart, and our neighbour as ourselves. It has two material objects, therefore, as the school expresses it; viz. God

and our neighbour. CHARITY is also used for the effect of a moral virtue,

which confilts in fupplying the necessities of others, whether with moncy, counsel, affillance, or the like.

CHARITY briefs. Sec BRIEF

CHARITY, brothers of. See BROTHERS. CHARITY, fealls of. See AGAPE.

CHARITY-schools, are schools erected and maintained in various parishes, by the voluntary contributions of the inhabitants, for teaching poor children to read, write, and other necessary parts of education.

In most charity-schools the children are likewise clothed, and put out to trades, fervices, &c. on the fame charitable

Charity-schools have spread throughout most of the confiderable towns of Great Britain and Ireland; and do honour to the benevolent and patriotic spirit of the country, whilft they contribute, in a variety of ways, to the relief and advancement of individuals, and to the general prosperity and

welfare of the nation.

In Scotland the establishment of parish schools has taught almost all the common people to read, and many of them to write and account. In England and Wales the citablishment of charity-schools has had a similar effect, though not so univerfally, because the establishment has not been so universal; though liberal provision has been made, by private bequests and donations, for extending this public benefit. If in those little schools the books by which the children are taught to read were a little more instructive than they commonly are; and if, instead of a smattering of Latin, which the children of the common people are fometimes taught there, and which can scarcely ever be of any use to them; they were instructed in the elementary parts of geometry and mechanics, the literary education of this class of people would perhaps be as complete as it can be. There is hardly a common trade which does not afford fome opportunities of applying to it the principles of geometry and mechanics, and which would not therefore gradually exercise and improve the common people in those principles, the necessary introduction to the most sublime as well as to the most useful sciences. The people might easily be led to encourage these most essential parts of education, by giving small premiums and little badges of distinction to the children of persons in the inferior ranks of life who excel in them. And the public might impofe upon almost the whole body of the people the necesfity of acquiring those most essential parts of education, by obliging every man to undergo an examination or probation in them before he could obtain the freedom in any corporation, or be allowed to fet up any trade either in a village or town corporate.

It was in this manner, by facilitating the acquisition of their military and gymnastic exercises, by encouraging it, and even by imposing upon the whole body of the people the necessity of learning those exercises, the Greek and Roman republies maintained the martial spirit of their respective citizens. They facilitated the acquisition of those exercises, by appointing a certain place for learning and tractiting them, and by granting to certain mailers the privilege of teaching in that place. Those matters do not ap-VOL. VII.

pear to have had either falaries or exclusive privileges of any kind. Their rewards confifted in what they got from their fcholars; and a citizen who had learnt his exercises in the public gymnafia, had no legal advantage over one who had learnt them privately, provided the latter had learnt them equally well. These republics encouraged the acquisition of fuch exercises, by bestowing little premiums and badges of diffinction upon those who excelled in them. See more on this subject, on the importance and utility of the instruction of the poor, in Smith's Wealth of Nations, vol. iii. See also SCHOOL and CHARTER - Schools.

In London we had formerly a charitable corporation for the relief of the industrious poor, erected under queen Anne; for enabling indigent manufacturers and traders to take up money at common and legal interest; there being a fum of

30,000l. raifed for that end.

The money was lent to the industrious poor at 51. per cent. interest, on pawns and pledges, to prevent their falling into the hands of pawn-brokers; and hence the fociety derived its appellation: but they likewife took 51. per cent. for the charge of officers, warehouses, &c. In the 5th year of king Geo. II. the chief officers of this corporation, by connivance of the principal directors, abfconded and broke, and defrauded the public proprietors of great fums; and for relief of the fusferers, as to part of their losses, several statutes were enacted. See stats. 5 Geo II. c. 31, c. 32. 7 Geo. II. C. II.

CHARITY, order of. There are feveral religious orders which bear this title: one instituted by St. John'de Dieu, for the affiltance of the fick: this inflitute was approved of in 1520, by Leo X. and confirmed by Paul V. in 1617. The religious of this order apply themselves wholly to the

fervice of the diseased. See Brothers of Charity.

CHARITY of the Haly Virgin, is a religious order established in the diocese of Chalons, by Guy lord Joinville, &c. towards the close of the 13th century, approved under the rule of St. Augustine, by the popes Boniface VIII. and

Clement VI.

In each parish of Paris, there was a society of women, who applied themselves to find out and relieve the wants of the poor of the parish; and on this account called, Dames

de la Charité, and Seurs de la Charité.

CHARKE, RICHARD, in Biography, was a dancingmafter, an actor, a man of humour, and a performer on the violin, with a strong hand. He was leader of the band at Drurylane theatre. As a composer, he only distinguished himself by being supposed the first who produced that species of mnfical buffoonery called a " Medley Overture," wholly made up of shreds and patches of well-known vulgar tunes. But we believe that this very eafy species of pleatantry was first fuggested by Dr. Pepusch, in the overture to the Beggar's Opera, brought on the stage in 1728, and Charke's medley overture bears date 1735. There is a slang horn-pipe under Charke's name, which used to be a favourite among the tars. We believe him to have been a facetious fellow, gifted with a turn for b. g. humour, of which, and of his tricks and stories, Dr. Arne, in moments of jocularity, used to give specimens.

He was married to Charlotte, the youngest daughter of Colley Cibber, a female not without talents as an actress; but of fuch an eccentric and indecorous character, that the memoirs of her life, though written and foftened by being her own biographer, could never be read by persons of her own fex, not wholly abandoned. For many years of her life the never appeared on or off the stage in a female drefs. Mademoifelle d'Eon's male habiliments during many years, were a real difguife and concealment; but Mrs. Charke's

fex and person being well known, her dress was no disguise,

but a publication of her impudence.

As long as Charke was the leader of Drury-lane band, his concerto on the violin was the lure in the fecond mufic, two or three times a week; which many lovers of mulic cara sposa; and, retiring to Jamaica, he there, in a short this couple was allowed to pollefs talents of various kinds, there was nothing in which they manifelted more ingenuity

CHARKINA, in Geography, a fortress of Russian Tartary, on the Don, in the government of Caucasus; 200

CHARKING, or CHARRING, the burning of wood to

CHARKLIQUEU, in Geography, a town of Afiatic Turkey, chiefly inhabited by tanners, who manufacture the beautiful morocco leather. The caravans ftop here two or Tocat.

CHARKOV, or KHARKOF, a government of Russia, formerly comprifed in the government of Ukrania Slovodskaia, and containing 15 districts. It is bounded on the north by Kursk, on the east by Voronetz, on the fouth by Catherinenflaf, or Ekatherinonflaf, and on the well by Ttchernigof and Kiof; about 180 miles in length, and from

40 to 80 in breadth.

CHARKOV, or KHARKOF, the capital of the above government, feated on the Uda, which falls into the Donetz, and forming one of the 15 diffricts of the government of the fame name. It contains to churches, 2 convents, and feveral public feminaries; 352 miles S. of Moscow, and 640 S.S.E. of Petersburg. N. lat. 50° 25'. E. long. 35° 54'. CHARKS, pit-coal charked, or charred. See COAL. CHARLATAN, or CHARLETAN, an empiric or quack,

who retails his medicines on a public stage, and draws the people about him with his buffooneries, feats of activity, &c.

The word, according to Calepine, comes from the Italian ceretano, of Carctum, a town near Spoletto, in Italy, where thefe impottors are faid to have first rifen. Menage derives it from ciarlatano, and that from circulatorius, of circulator, a quack.

CHARLEMAGNE, or CHARLES I. in Biography, king of France, and emperor of the West, was born in the year 742. By the death of his father Pepin the Short, in 768, and at the express delire of the dying monarch, Charles, in conjunction with his younger brother Carloman, fucceeded to the throne of France. At first they appeared to rule the empire with equal and undivided authority: the partition of power, however, foon threatened mischiefs similar to those that had been experienced under the earlier sovereigns of France; but the death of Carloman, in 771, at the moment when he was meditating an open rupture with his brother, enfured the public tranquillity. Charles, thus rendered fole monarch of the Franks, was endowed by nature with all those qualities which could conciliate the affections of his subjects, by whom, it is faid, he was equally beloved and reverenced. Unlike his father, he was tall in stature; his air was courteous and dignified; his body robust, and finely formed; his eye keen and penetrating, and his countenance open and prepoffeffing.

Having become, by the death of his brother, fovereign of a mighty empire, and freed from every thing that might mackle his genius, or fet bounds to his ambition, his first object was to infuse a military spirit into the nation; he reattablished the ancient affemblies of the field of Mars, and,

bestowing on them the title of parliaments, delegated to them a portion of his authority, by constituting them members of the legislation. In reforting to this measure of state policy, he felt no apprehension for his own security: the force of his genius and the greatness of his talents placed him beyond the dread of any rival; he endeavoured, there-fore, to infuse into all ranks of his subjects a thirst for military glory. By these means Charles was enabled to double vall territory which extends from the Rhine to the Viftula and to the Baltic, together with a great part of Spain, fell under his powerful dominion.

Previously to the death of Carloman, Charles had divorced his wife and married Bertha, daughter to Didier, king of the Lombards; this prince, however, granting an open protection to the widow and children of Carloman, with a view, no doubt, of possessing a part of his dominions, excited the erraged at the humiliation, fought an alliance with pope papal territory, and endeavoured to feize on the person of stantly crossed the mountains, entered Italy, defeated his adverfary, and thus put an end to the kingdom of the Lombards in Italy, which had laited 206 years. Charles immediately took possession of the vacant throne, and was dehis first visit to the capital, the newly acknowledged sovereign was received with all the honours which had formerly been paid to the representative of the emperor; and these honours obtained new decorations from the gratitude of pope Adrian. No fooner was he informed of the approach of the monarch, than he dispatched the principal people of Rome to meet him, with the banner, about thirty miles from the city. At the distance of one mile, the Flaminian way was lined with the schools, or national communities of Greeks, Lombards, Saxons, &c.: the Roman youth under arms, and the children of a more tender age, with palms and olive branches in their hands, chaunted the praises of their great deliverer. At the fight of the croffes and other holy emblems, he dismounted his horse, led the procession of his nobles to the Vatican, and, as he afcended the stairs, devoutly kissed each step of the threshold of the apostles. The pope was waiting for him at the head of his clergy in the portico: they embraced as friends and equals, but in their march to the altar, the king affumed the right hand of the pope; nor was he content with a vain flew of respect. In the twenty-fix years that elapfed between the conquest of Lombardy and his imperial coronation, Rome, which had been delivered by his fword, was subject, as his own, to

Previously to these successes in Italy, Charles had been called on to exhibit his military talents in a contest with the Saxons, who were inimical to the government and religion of the Franks. They rejected with contempt the fervile obligations of tribute, and in successive engagements difplayed a ferociousness of courage which could only be repulled by the superior skill and intrepidity of the troops of Charles. A decifive victory, after various less important defeats, obtained over them at Ofnaburgh, by which they loft their capital, their temple and their god Irmenful, obliged their leaders to fue for peace, and to accept of fuch terms as were imposed on them by the conqueror.

Scarcely had Charles returned, from receiving the oaths of allegiance and other marks of homage from his new fubjects in Lombardy, where he had caused himself to be crowned, when another revolt of the Saxons recalled him to their country. They had already assumed a formidable ap-

pearance, and had recovered Erisbourg near the Weser, which had been wrested from them in a former campaign. Before the victorious arms of the French monarch this city was again compelled to fubmit, and the Saxons were obliged to purchase a peace by delivering up some of their principal people as hostages. It was, however, nearly thirty years, before he could completely subdue the free spirit of the Saxons; these hardy warriors possessed a courage equal to his own, by which they were rendered impatient of a foreign yoke. Charles, apprehending that Christianity would be an infallible means to subdue their bold and impetuous character, had no fooner brought them under fome degree of fubjugation than he fent missionaries among them; but they confidering every attempt to convert them to a new religion as fnares intended to enflave them, refilled all the persuasions and entreaties of the priests sent to offer them the rites of baptism. As they were not to be influenced by the milder arts of expostulation and reasoning, and as they could not for a fingle day be depended on by reason of any oaths or treaties in which they occasionally engaged; Charles, though naturally generous and humane, at length reforted to acts of the most favage cruelty. Four thousand of them who refused to submit were butchered in one day, on the banks of a small river which discharges itself into the Oder. At another time, befides ravaging their country with fire and fword, he had decimated in cool blood all the inhabitants for their revolts, and had obliged them, by the most rigorous edicts, to make a feeming compliance with the Christian doctrine and ceremonies. By these and several other acts, that have indelibly stained the character of the hero, did Charles finally subdue the proud and lofty spirit of the

In the year 778, the protection of Charles was fought by fome of the Moorish princes in the north-wellern parts of Spain; to their entreaties he leut a ready ear, assembled an army, crossed the Pyrenées, marched to Saragossa, which he took, and received the submission of the Saracen leaders. His victories in Spain were very important, but on his return, the rear guard of his army was defeated in the Pyrenean mountains; and many of the principal people attached to his person and court were cut off in this disaster, among whom was his nephew Rowland, whose untimely death laid the foundation of Ariosto's celebrated poem, entitled "Orland Furioso."

In the year 779, Charles, with his queen, and two infant fons, Carloman and Lewis, re-passed the Alps, reposed during the winter at Pavia, and on the approach of the fpring entered Rome amidst the triumphant acclamations of the inhabitants, who regarded him as the protector of their city and rights. In that city, and in the presence of the Roman pontiff, on Easter-day, when he was yet but 39 years of age, he divided his dominions between his fons, conferring on Carloman, who then received the name of Pepin, the kingdom of Lombardy, and on Lewis that of The latter he conducted in person to his dominions, and at the same time received the homage of Tasfilon, duke of Bavaria, who had on former occasions openly fhewn himself the friend and ally of the rebellious Saxons. Notwithstanding the professions of this prince, he took every means fecretly of attacking the power and influence of Charles, till, at length, he was convicted of having entered into a rebellious confederacy with the French monarch's own subjects: the evidence of his guilt was incontestible, and having fallen into Charles's power, he was condemned to lose his head: the punishment was, however, commuted into perpetual imprisonment, and the principality of Bavaria was annexed to the dominions of Charles.

The fate of Taffilon did not crush the designs of his confederates, the Huns and the emperor of the East; but their enterprise served only to augment the glory of Charles, and his commanding genius triumphed over the Greeks in the plains of Italy. The latter renounced for ever the fortunes of Adalgive, the son of Dodier; and with the young prince, the hope also of restoring the kingdom of the Lombards; but the former still continued their defustory incursions, and provoked the victorious king of the Franks to retaliate the calamities which they had inflicted on Bavaria. At the head of a formidable army, he invaded the country of the Huns, forced their intrenchments in an obstinate engagement, and penetrated as far as Raal on the Danube.

The diffentions of the Moorish chiefs invited Charles to the conquest of the islands of Majorca and Minorca; but the satisfaction which he felt from this expedition was more than balanced by the tumults which prevailed at Rome, on account of the election of Leo III. as successor to Adrian. The cause of Leo against his rival was zealously espoused by Charles, who sympathized in all the sufferings of the pontist, and, what was of more importance to his situation, rendered

him every assistance that his case required.

Charles had been accustomed to pass annually from the Pyrenées into Germany, and thence to Italy: At the latter end of the year 799, as he was approaching Rome in one of these journies, pope Leo dispatched a mellenger to meet him, with the keys of St. Peter, and the standard of the city; thus rendering him every respect, religious and civil, of which he was capable. On the festival of Christmas, which was then the first day of the new year, Charles appeared in the church of St. Peter; and to gratify the vanity of Rome, he had exchanged the simple dress of his country for the habit of a patrician. After the celebration of mals, at which the king had devoutly affilted, the pope fuddenly placed a precious crown on his head, and the dome of the church refounded with the acclamations of the people. " Long life and victory to Charles, the most pious Augustus, crowned by God the great and pacific emperor of the Romans." The pope immediately confecrated the monarch, and conducting him to a throne, paid him those marks of respect which had been claimed by the ancient Cæfars. Charles from this time indiffolubly blended, in the name of Charlemagne, the appellation of Magnus, the Great. In a familiar conversation with his fecretary and fon-in-law, Eginbard, he protested his ignorance of the intentions of the pontiff: if, however, he did not feek or even expect the honours devolved upon him, he nevertheless was ambitious in maintaining them, and infifted on being recognised as emperor of the West, by all those princes with whom he had any correspondence.

Among the ambaffadors who came to congratulate the good fortune of the emperor, were those of the caliph Harun-Al-Rafchid, who ceded to him the fepulchre and the facred places of the city of Jerufalem. But a still more interesting negociation was intrusted to the ministers of Irene, the empress of the East, who, having rendered herself odious to her fubjects, by the murder of her own fon, endeavoured to secure the protection of Charlemagne, by a proposal of marriage. The emperor entertained the idea, and dispatched ambassadors to the Byzantine court to arrange the necessary preliminaries to fo important a treaty. In the mean time the was dethroned by Nicephorus, who ascended the throne, and exiled the late empress. The new fovereign, anxious to referve to himfelf the title of emperor of the East, confented to acknowledge in Charlemagne the dignity of Augustus, and to fettle with him the mutual boundaries of their empires in Italy.

From this period the talents of Charlemagne were en-

ployed in repressing the incursions of the Danes and the Normans under their leader Godfrey, who menaced with their fleets and armies the tranquillity of the welt. Peace was at length established from motives of mutual convenience, and it was agreed that the subjects of Charlemagne were on no account to violate the Norman territory, and Godfrey promifed to respect the dominions of the emperor of the

The empire of Charlemagne in Europe began to rival that of ancient Rome, and a new æra is dated from his refloration of the western empire. This prince was at the same time fovereign in France, Spain, Italy, Germany, and Hungary. The Roman province of Gaul had been transformed into the name and monarchy of France, but its limits were contracted by the independence of the Bretons, and the revolt of Aquitain. Charlemagne purfued and confined the Bretons on the shores of the ocean: after a long contest, the rebellion of the dukes of Aquitain was punished by the forfeiture of their province, their liberty, and lives. The Saracens had been expelled from France by the grandfather and father of Charlemagne, but they it ll polleffed the greatest part of Spain, from the rock of Gibraltar to the Pyrenées: these he dispossessed of their powers, and made himself master of the infant kingdoms of Navarre and Arragon. As king of the Lombards, and patrician of Rome, he reigned over the greatest part of Italy. Charlemagne was the first who united Germany under the same sceptre: and by his conquest of the Avars, he obtained possession of Hungary, Transylvania, Istria, Croatia, and Dalmatia, with the exception of the maritime towns, which his moderation left under the real or nominal fovereignty of the Greeks.

In the year 806 Charlemagne affembled the princes and nobles of his empire at Thionville, in whose presence he made the final distribution of his kingdoms. In S10 his fon Pepin died, whose natural fon, Bernard, then only an infant, Charlemagne caused to be proclaimed king of Italy; and in the course of only a very few months the unhappy monarch witneffed the death of his cldeft fon, Charles. The increasing weight of public cares fuggested to him the necessity of affociating his furviving fon, Louis, to the imperial purple; the ceremony was performed at Aix-la-Chapelle, and the aged fovereign inculcated on the mind of his fon, by every motive which long experience could fuggest, the maxims by which he had advanced the grandeur and happiness of his fubjects. Early in the following year his increased and rapidly increasing infirmities warned him of his approaching diffolution. He was attacked in the middle of January by a fever, which was followed by a pleurify: the preffure of affliction he bore with firmnels and refignation. On the 27th a fainting fit announced a speedy termination to his life, and on the following day this great prince expired, in the 47th year of his reign, and the 72d of his age; carrying with him the fincere regret of all his subjects. He died at Aix-la-Chapelle, and was buried in the church of Notre Dame in that city, which he had himself built.

From this sketch of the career of Charlemagne, it is not difficult to appreciate the various merits of his character. As a warrior and politician, he has been rarely excelled. He was indefatigable in his attention to public bufinefs, and in the performance of all the duties attaching to his high fitution. Confidering the times in which he flourished, he did much to improve the condition of his subjects : he suppressed mendicity; he composed a series of occasional edicts for the correction of abuses, and the reformation of manners, among the people at large; and he attended to the economy of his own immediate household. He established a fixed and inva-

his fubjects to fupply their wants. Thefe, and various other regulations, though not characteristic of the true principles of legislation, did honour to his attempts to meliorate the state of society. It is said, that among other improvements which he contemplated for the good of his country, he formed the valt project of a canal which should unite the Danube and the Rhine, and thus establish a free communication between the ocean and the Euxine fea. He shewed efforts to promote the interests of literature, as entitle him to great praise. He invited to his court learned men from all nations, with a view, no doubt, of inspiring his people with a thirst for knowledge; among these was our countryman, Alcuin, a clergyman celebrated for his literary attainments, who received the highest tokens of respect and honour from the emperor, and who even became his companion and preceptor in the sciences. He founded schools in various parts of his dominions, and instituted within the boundaries of the court a kind of learned fociety, every member of which was called by some celebrated name of antiquity. He collected all the ancient fongs relative to the history of his country, and so attentive was he to the improvement of his mind, that he caused passages of interesting works to be read to him during his meals. His own literary attainments were probably not of the first order; his education had been neglected, and the studies of mature life were laborious and imperfect : he did not even acquire the practice of writing till he had attained to manhood; but the encouragement which he afforded to learning, and the marked respect and reverence which he shewed to men of literary talents, reflect the highest lustre on the character of the emperor of the West. He was highly esteemed for his regard to religion, and to the clergy; but the authority with which he invested that aspiring body laid the foundation of their tyrannical claims over his less enlightened and less able successors. As a man, Charlemagne was simple in his drefs, easy in his manners, and temperate in his mode of living. His morals are flained with the charge of incontinence, to which the number of his wives and concubines bear irrefittible evidence. As a statesman, his conduct has been arraigned by the meafures of dividing his kingdom, during his own life, among his fons. His many wars prove that he little valued the lives of his subjects, in a cause in which his ambition was concerned. His humanity flands impeached by the extinction of his nephews, the fons of Carloman, and by the cruelties frequently exercifed upon the valiant Saxons, whose attachment to freedom and their country merited a very different kind of treatment. These are blemishes in the character of Charlemagne which time cannot obliterate; but, after every allowance for his frailties, it must be admitted, that the title of Great, which has been blended with his name for more than ten centuries, has feldom been awarded upon fairer claims: and it is to be regretted that in the lapfe of a thoufand years fo few have been ambitious of attaining to that degree of celebrity which attaches to the virtues of Charles the Great. Gibbon, Hume, Du Fresnoy, Modern Univ. Hift.

Charlemagne has merited a place in mufical hiftory, by his good talte in preferring the canto forms of the Romans to the Gallic plain-chant. We have from contemporary writers, the relation of a ferious quarrel between Gallic and Roman muficians, fo early as the time of Pope Adrian and Charlemagne, concerning superiority of talte and knowledge; a quarrel which has been fince often renewed, but which, had it been left to the reference of unprejudiced and intelligent judges of other nations, would have been reable price of corn, in the hope of enabling the meanest of soon determined without ever coming to a second trial or combat.

combat. The French, however, after every defeat, revive with still greater clamour, their pretensions to a titular fovereignty, without having the least claim to it, either from inhe-

ritance, conquest, or former possession.

The story of this ancient musical quarrel is somewhat long, but the necessity of inferting it here at full length feems the greater, as it not only shews the antiquity of the ridiculous rivalry and hatred still subfisting between French and Italian musicians, but is a convincing proof that the English were not the only people obliged to the Romans for the method of chanting the Pfalms, and finging their hymns in their cathedral service. See biographical article BEDE, venerable. Musical missionaries were fent, at this time, from Rome to other parts of Europe, to instruct the converts to the gospel in the church fervice; which accounts for that fimilarity and almost identity of melody, observable in the facred music of all the countries of Europe at the time of the reformation, till which period, little other music was known or practised than that of the church.

"The molt pious king Charles having returned to celebrate Easter at Rome, with the apostolic lord, a great quarrel enfued, during the festival, between the Roman and Gallic fingers. The French pretended to fing better, and more agreeably, than the Italians: and the Italians, on the contrary, regarding themselves as more learned in ecclesiastical music, which they had been taught by St. Gregory, accused their competitors of corrupting, disfiguring, and spoiling the true chant. The dispute being brought before our sovereign lord the king, the French, thinking themselves fure of his countenance and support, insulted the Roman singers; who, on their part, emboldened by superior knowledge, and comparing the mufical abilities of their great mafter, St. Gregory, with the ignorance and rufticity of their rivals, treated them as fools and barbarians. As their altercation was not likely to come to a speedy issue, the most pious king Charles asked his chantors, which they thought to be the purest and best water, that which was drawn from the fource, at the fountain-head, or that, which, after being mixed with turbid and muddy rivulets, was found at a great diltance from the original spring? They cried out, unanimoufly, that all water must be most pure at its fource; upon which, our lord the king faid, Mount ye then up to the pure fountain of St. Gregory, whose chant ye have manifestly corrupted. After this, our lord the king applied to pope Adrian for finging-mafters, to correct the Gallican chant; and the pope appointed for that purpose Theodore and Benedict, two chantors of great learning and abilities, who had been instructed by the disciples of St. Gregory himself: he likewife granted to him Antiphonaria, or choral books of that faint, which he had written himself in Roman notes. Our lord, the king, at his return to France, fent one of the two fingers, granted to him by the pope, to Metz, and the other to Soissons; commanding all the finging-masters of his kingdom to correct their Antiphonaria, and to conform in all respects to the Roman manner of performing the church fervice. Thus were the French Antiphonaria corrected, which had before been vitiated, interpolated, and abridged, at the pleafure of every choir-man; and all the chantors of France learned from the Romans that chant which they now call the French chant. But as for the beats, trills, shakes, and accents of the Italians, the French were never able to execute or express them; nor, for want of fufficient flexibility in the organ of voice, were they capable of imitating in thefe graces, any thing but the tremulous and guttural noise of [Chevrotter, et far una toffe di capra, are expressions applied in France and Italy to fuch fingers as have a bad fliake. John Diaconus, in his Life of St. Gregory, gives in 1328, after a fhort reign of fix years, - Charles V. is cele-

queer and barbarous Latin, fcarcely to be translated, a curious account of the vocal abilities of the ancient Germans and French, who, in attempting to fing the Gregorian chant, were wholly unable to express its sweetness; "injuring it by barbarous changes, suggested, says he, either by their natural ferocity or inconstancy of disposition. Their figures were gigantic, and when they fung, it was rather thunder than mufical tones. Their rude throats, inflead of the inflexions of pleafing melody, formed fuch rough founds, as refembled the noise of a cart jolting down a pair of stairs." Quest plaustra per gradus confuse sonantia, rigidas voces jastant. Vita S. Greg. cap. 2.] The principal school of singing was established at Metz, and in the same proportion as the Roman chant exceeded that of this city, the fingers of Metz surpailed all those of other French schools. The Roman chanters likewise instructed those of France in the art of organizing. and our fovereign lord Charles having, besides, brought with him into France masters in grammar and arithmetic, ordered those arts to be cultivated throughout his dominions; for, before the reign of the faid lord the king, the liberal arts were neglected in France." [Et reversus est Ren piissimus Carolus, &c. Vide Annal. & Hill. Francor. ab an. 708, ad an. 990. Scriptores Coetancos. Impr. Francosurti 1594. Sub vitâ Caroli magni. 7

The abbé Velley, who, in his Hift. de France, tom. i. p. 53. gives the fame account of the establishment of the Romish chant in France, adds; that "the monarch was likewife defirous of introducing into his churches the liturgy, or mass, as used at Rome; but here he met with greater difficulties. The French clergy, jealous of their ancient ufages, opposed, in a body, this measure, as an innovation; the royal authority, however, at length prevailed." After fuch an account of Charlemagne, it is hardly possible to read the following passage without amazement. "Charles confirmed the instrument with his hand, that is to say, by making his mark; for it is to be observed, that this prince, one of the most learned men of his age, at that time could not write!" According to Mezeray, the addition to the fignature of this prince, at the bottom of each treaty, muit have been engraved; for he there fays, " I have figned it with the pommel of my fword, and promise to maintain it with the

point."

In Charlemagne's time, bifliones, mimes, and actors of farces, were very numerous in France: and, according to the abbé Vertot (Mem. de Litt.), this prince made a collection of ancient Gallic fongs; and Eginhard, his historian, observes that these songs, which were chiefly military, like those of the Germans, constituted the principal part of the History of France, and comprised the most heroic actions of

her kings.

In the history of France there have been eight other monarchs of the name of Charles, besides Charlemagne; they, however, are not sufficiently renowned to induce us to give separate articles of each. The reign of the fecondCharles, furnamed the Bald, was disastrous to the country as well as unfortunate to the fovereign. France, under this fovereign, was perpetually fubject to hostile invasions and internal commotions. He was the grandfon of Charlemagne, and was poisoned by his physician after a long reign of 38 years. The character of Charles III, who wholly furrendered himself to his minister Haganon, a man of talents, but of infamous principles, is fufficiently expressed by his furname the Simple. He died in 929, after a reign of more than 30 years. In the reign of Charles IV. who was fon to Philip the Fair, a fierce war raged between France and England, which ended in the concession of the province of Guienne to England: he died in

brated for his love of learning; he made a large collection of books, and died in 1380 .- Charles VI. began his adminiftration with fuch effectual reforms for the alleviation of the public burthens, that he became extremely popular, and obtained the appeliation of Well-beloved. His reign was very unfortunate, owing to the bad management of his ministers, and the contentions of the dukes of Orleans and Burgundy. Henry V. of England taking advantage of the internal commotions of France, invaded and conquered a great part of it. This prince was subject to fits of infanty, but his intentions were always good; he was beloved by his people for his many excellent qualities; on account of his misfortunes he was the object of commileration, and the regrets of many accompanied him to the grave, in 1422, after a reign of 42 years .- Charles VII. called the Victorious, regained his kingdom which had been lost in the former reign. By his activity the English were driven from all their possessions, except Calais. Under this prince the militia was difinified, and a standing army was first instituted, for the maintenance of which the perpetual taille was granted. From this reign France dates feveral of those inflitutions which always tend to make a nation great. This fovereign died in 1401 .-Charles VIII. ascended the throne in 1483, at the age of 13. In 1494, contrary to the representations of his counfellors, he let out with a determination to conquer Naples, though he was feantily supplied with troops and money. His progress was unresisted. In fix weeks he traversed Italy, and entered Naples in triumph, and in a fortnight after he was master nearly of the whole kingdom. He died in 1498. -Charles IX. ascended the throne in the year 1660, when he was only ten years old. To his mother Catherine de Medicis was given the regency, a trust that she abused in a most shameful manner. To her is to be imputed that indelible difgrace to the reign of Charles IX. the infamous massacre of Paris on St. Bartholomew's day, 1572. It has been faid, that at the approach of the fatal hour, the king shewed figns of compunction for the orders that he had been induced to give, but upon being reproached by the favage Catherine for his want of decision, he exclaimed, "Well, then, let not one be left to upbraid me with breach of faith." He betrayed no fymptoms of pity during the execrable deed; but even fired with his own hand on the miferable wretches endeavouring to escape across the river. His distimulation before, and his cruelty during this horrible transaction, fix his character, and rank him among the Neros and Domitians of the world. He died in May 1574, a prey to all the horrors of remorfe, having probably never enjoyed an hour's peace after the massacre he had fanctioned.

CHARLEMONT, in Geography, a town of the Nether-lands, in the county of Namur, ceded to France by the treaty of Nimeguen. It was built by Charles V. in 1555, not far from Givet, on a mountain near the Meufe. It is small but well fortified; 8 leagues S.W. of Namur, and 7 N.E. of Rocroy.

CHARLEMONT, a village of the county of Armagh, Ireland, on the banks of the Blackwater, where there is a fort, which, though now neglected, has a governor regularly appointed. It was built by Lord Montjoy, lord deputy at the latter end of queen Elizabeth's reign, to guard the passage over the Blackwater, and was called from his christian name. It was furprized by the Irish under Sir Phelim O'Neil, in 1641, and the governor and garrison put to death, after which it remained for some years in the possession of the Irish. Previous to the Union it was a borough, but has now loft its privilege. Of late it has been remarkable only for having given title to that respectable and popular nobleman, who was general of the volunteers of Ireland in 1780, and who was first president of the Royal Irish Academy, which

was in great measure established by his exertions. Charlemont is 69 miles N. by W. from Dublin. Ware's Antiqui-

CHARLEMONT, a township of America, in Hampshire county, Massachusetts; 16 miles W. of Dearfield, containing

CHARLEROY, a town of France, in the department of the Jemappe, and principal place of a district, is fituated on the confines of Hainaut, on the north fide of the river Sambre, in a place formerly called Charnoy. It was fortified and becan en city in 16/8, affurning the name of Charleroi, in honour of Charles II. king of Spain. In 1792, it treaty of Nimequen it was ceded to Spain; and in 1693 taken by the French. In 1697 it was reflored to Spain; by ral; in 1716 it was granted to the emperor by the barrier treaty; and in 1746 again furrendered to France. It The place contains 3744, and the two cantons 24,327 inha-

bitants. The territorial extent comprehends 180 kiliometres and 24 communes. N. lat. 50° 26'. E. long. 4° 16'. CHARLES I. third fon to James the Sixth of Scotland, and First of Great Britain, by Anne of Denmark, was born in Scotland, in the year 1600, and fucceeded his brother Prince Henry as Prince of Wales, in In 1623, the king of England, anxious to confult the dignity of his fon in marriage, warmly preffed an alliance with the court of Madrid. Philip, equally zealous for the establishment of his fister, listened to his overtures with pleafure. Befides the portion of fix hundred thousand pounds, he offered with the infanta the restitution of the palatinate to Frederic. When all measures were agreed to between both parties, and nothing was wanting but the dispensation from Rome, this connexion, so honourable and advantageous to England, was broken by a romantic enterprize, originally conceived with a defign of haften-ing the proposed alliance. The sole recommendation of personal accomplishments had raised George Villiers, from an obscure lot in life to the rank and title of duke of Buckham. His influence over James was unbounded. To ingratiate himself equally with the fon, he proposed to the prince of Wales to break through the forms of royalty, to the infanta as an ardent and devoted lover. This propofal was in unifon with the spirit of gallantry natural to Charles's time of life. The fon was obliged to intreat, and the favourite to reproach, before a reluctant confent could be extorted from James; when the prince of Wales, accompanied by Buckingham, quitted London privately, and croffed over to Calais. They even ventured on their journey to vifit the French court in difguise, where the princess Henrietta, fifter to Lewis, made a terious and permanent imprefinon on the heart of the young prince. Though Charles and the duke were received at Madrid with every mark of respect and attention, yet the volatile manners and diffolute pleafures of the latter but ill accorded with the gravity and dignity of the Spanish court. His pride was peculiarly offensive to Olivarez; and their rifing hatred had already flewn itself in mutual expressions of contempt, when Buckingham, influenced by caprice or difguit, determined to return without accomplishing the object of his journey. He easily obtained the acquiescence of Charles. A plaulible pretence was furnished by the delay of the dispensation from Rome; but his real motive was more openly proclaimed in his last conversa-tion with Olivarez. He declared it was his intention to

promote every measure which could cement the friendship of England and Spain; but he added with his usual haughtiness, "with regard to you, Sir, in particular, you must expect from me all possible enmity and opposition." The count replied, with becoming dignity, that he accepted of what was proffered. The first part of the duke's speech, however, was not dictated by the fame fincerity as the last; and immediately on his arrival in England he prevailed on the king and prince, first to suspend, and afterwards to break off the

negotiation with Spain. As it would be impossible to enter in detail on so extended a field of narration, on which whole libraries have been written, as so late a period of our history would open to our view, and as a mere table of contents of this and the fucceeding reign would fwell our pages without adding to the information of our readers, who must all be supposed to have heard of ship-money, long parliaments, civil wars, commonwealths, and martyrdoms, we have refolved on the course of giving a character, rather than an history of our own Charles's. We have given at some length the account of the circumstances attending the rupture of the Spanish, and confequent accomplishment of the French marriage, becaufe it was on this occasion that the first Charles, ill-fated and misguided, appeared upon the public scene; and by observing his conduct and character on this occasion, we can be at no loss to account for the progress of his career through life, and the consequences in which he was involved at the close. Among all the varying representations, to which party and prejudice have given occasion, what is generally confidered as a bad natural character has rarely, if ever, been attributed to him. But a habit of confidence in the advice of persons, whose judgment was no better, and their defires infinitely worse than his own, began in the instance which we have just produced, and continued to the end, gaining strength from time, from increasing difficulties, from obitinacy inflamed by opposition, from the necessity of the approaching crifis and the mad excefs to which fome principles were carried by the contrary party. Charles acceded to the throne with the impetuous Buckingham for his minister: and this very circumstance impressed on the palate of the nation a foretalte of suspicion and disgust. Felton's knife removed the minister, but the natural inclination of doing as he liked had been impressed on Charles, and he was at no lofs to find feeming friends, who were willing to exchange the hazardous office of telling him the truth, for the no less dangerous task of carrying his views into execution, in spite of popular opinion and the rising force of parliamentary power. Strafford was a minister of great abilities, whose severity might have curbed the spirit of resistance, had it been less deeply rooted. Even he, austere as he was, might have been borne in civil affairs, had not Laud's superstition and intolerance been so extremely offenfive in the management of the ecclefialtical jurisdiction. Yet, had Charles been faithful to his misleaders, he might have faved himself. But the fate of his victims appeared to be the watch-word for an attack upon his own person, through the medium of a civil war, in which it was difficult for an innocent individual to avoid ranging himself under the equally detectable banners of the coalizers or the roundheads. The events of the war had little connection with the personal character of the king. But his conduct whether in prison, on trial, or at the scaffold, was sirm, unaffected, and decent; fo that those, whose views of his political and religious cafe are the farthest from granting him the palm of martyrdom, may creditably feel a fentiment of commiseration, not unallied to the sympathy excited by those who have really been martyrs. His private

virtues were unquestionable, and even the repullive feature of his character as a man rather added dignity to his deportment as a monarch. He was respectable both in literature, politeness, and the arts. He was destitute neither of abilities for the functions of government, of regularity in the conduct of life, nor of amiable temper in his personal and domestic relations. Had he relied more on himself and less on others, he might possibly have prospered better: though it is much to be questioned whether personal character could at all have interfered with the trial of the great question, agitated between the contending parties. If we regard him as an author, the "Eikon Bafilike" would fecure to its author a very confiderable reputation among the writers of the age; but it must still be strongly doubted whether king Charles had any claim to the credit of the per-formance. But we cannot perhaps illustrate the character of Charles more fully and fairly, than by transcribing the fummary of his virtues and vices, pourtrayed in the oppolite delineations of Hume and Mrs. Macaulay.

The character of this prince (observes Mr. Hume), as that of most men, if not of all men, was mixed; but his virtues predominated extremely above his vices, or, more properly speaking, his imperfections: for scarce any of his faults rose to that pitch as to merit the appellation of vices. To consider him in the most favourable light, it may be affirmed that his dignity was free from pride, his humanity from weakness, his bravery from rashness, his temperance from austerity, his frugality from avarice: all these virtues in him maintained their proper bounds, and merited unreferved praife. To speak the most harshly of him, we may affirm that many of his good qualities were attended with some latent frailty, which, though feemingly inconfiderable, was able, when feconded by the extreme malevolence of his fortune, to disappoint them of all their influence: his beneficent disposition was clouded by a manner not very gracious; his virtue was tinctured with fuperstition; his good sense was disfigured by a deference to perfons of a capacity inferior to his own; and his moderate temper exempted him not from hasty and precipitate resolutions. He deserves the epithet of a good, rather than of a great man; and was more fitted to rule in a regular established government, than either to give way to the encroachments of a popular affembly, or finally to subdue their pretentions. He wanted suppleness and dexterity sufficient for the first measure: he was not endowed with the vigour requifite for the fecond. Had he been born an absolute prince, his humanity and good fense had rendered his reign happy and his memory precious: had the limitations on prerogative been in his time quite fixed and certain, his integrity had made him regard, as facred, the boundaries of the constitution. Unhappily, his fate threw him into a period when the precedents of many former reigns favoured strongly of arbitrary power, and the genius of the people ran violently towards liberty. And if his political prudence was not fufficient to extricate him from fo perilous a fituation, he may be excufed; fince, even after the event, when it is commonly easy to correct all errors, one is at a lofs to determine what conduct, in his circumflances, could have maintained the authority of the crown, and preferved the peace of the nation. Exposed without revenue, without arms, to the affault of furious, implacable, and bigotted factions, it was never permitted him, but with the most fatal consequences, to commit the smallest mistake; a condition too rigorous to be imposed on the greatest human capacity.

Some historians have rashly questioned the good faith of this prince: but for this reproach, the most malignant scrutiny of his conduct, which, in every circumstance, is now

thoroughly

thoroughly known, affords not any reasonable foundation. On the contrary, if we consider the extreme difficulties to which he was so frequently reduced, and compare the sincerity of his professions and declarations; we shall allow, that probity and honour ought justly to be numbered among his most shining qualities. In every treaty, those concessions which he thought he could not in conscience maintain, he never could, by any motive or persuasion, be induced to make. And though some violations of the petition of right may perhaps be imputed to him; these are more to be ascribed to the necessity of his situation, and to the lofty ideas of royal-prerogative, which, from established precedents, he had imbibed, than to any failure in the integrity of his principles.

This prince was of a comely prefence; of a fweet, but melaincholy afpect. His face was regular, handfome, and well complexioned; his body strong, healthy, and justly proportioned; and being of a middle stature, he was capable of enduring the greatest satisfaces. He excelled in horse-manship and other exercises; and he possessed all the exterior, as well as many of the effectial qualities, which form

an accomplished prince.

Hittory (fays Mrs. Macaulay) is called upon to ferutinize with exactnets his principles, conduct, and character; fince, from the falfe colourings which by deligning men have been thrown on thefe, and the rancour with which his opponents have been falfely afperfed, have been deduced confequences deflructive to the fecurity and welfare of man, and highly injurious to the reputation of patriot citizens.

In the character of Charles, as represented by his panegyrills, we find the qualities of temperance, chaftity, regularity, piety, equity, humanity, dignity, condescension, and equanimity; fome have gone fo far as to allow him integrity; and many writers, who condemn his political principles, give him the title of a moral man. In the comparifon of this reprefentation with Charles's conduct, accurately and justly described, it is discernible that vices of the worst tendency, when shaded by a formal and plausible carriage, when concordant to the interests of a faction and the prejudices of the vulgar, assume the appearances of, and are imposed on the credulous world as virtues of the first rank. Passion for power was Charles's predominant vice; idolatry to his regal prerogatives his governing principle. The interests of his crown legitimated every meafure, and fanctified in his eye the widest deviation from moral rule. His religion was to this a fecondary and fubordinate affection: the prelates of the church of England paid him an impious flattery; they inculcated a flavish dependance on the regal authority; the corruptions in their ecclefialtical discipline fothered superstition; superstition fecured their influence over the people; and on these grounds, and to these ends, they kept an interest in the king's heart, which continued to the last period of his life. If Charles had an higher estimation of the faith in which he had been educated than of popery, it was because the principles of popery acknowledged a superior allegiance to their spiritual than their temporal prince; but regarding that superstition to be more favourable to the interests of monarchy, he preferred it to the religion of any differing feet, and publicly avowed his with, that there never had been a fchism in the church. Neither gratitude, clemency, humanity, equity, nor generofity, have place in the fair part of Charles's character. Of the virtues of temperance, fortitude, and perfonal bravery, he was undeniably potfessed. His manners partook of the diffipation, and his conversation of the inde-ency, of a court. His chastity has been called in queltion by an author of the highest repute; and were it allowed, it

was tainted by an excels of uxoriovinels, which gave it the properties and the confequences of vice. The want of integrity is manifest in every part of his conduct; which, whether the corruption of his judgment or heart, loft him fo improved by a continued exercise, that, though in the beginning of his reign he spoke with desiculty and hesitation, towards the close of his life he discovered in his writings purity of language and dignity of thyle; in his debates, clo-cution, and quickness of conception. The high opinion he entertained of regal dignity occasioned him to observe a statelines and imperiousness of manner, which, to the rational and intelligent, was unamiable and offenfive; by the weak and the formal, it was militaken for dignity. In the exercife of horsemanship he excelled; had a good taste, and even skill in several of the polite arts; but, though a proficient in some branches of literature, was no encourager of useful learning, and only patronized adepts in the jargon of the divine right and utility of kings and bishops. His understanding in this point was so depraved by the prejudices of his education, the flattery of priells, and the affections of his heart, that he would never endure conversation which tended to inculcate the principles of equal rights inmen; and, not with standing the particularity of his fituation enforced his attention to doctrines of this kind, he went out of the world with the same fond prejudices with which he had been foffered in his nurfery, and cajoled in the zenith of

Charles was of a middle flature; his body strong, healthy, and justly proportioned; his face was regular, handsome, and well complexioned; and his aspect melancholy, yet not unpleasing. His surviving iffue were three sons and three daughters. He was executed in the 40th year of his age, and buried, by the appointment of the Parliament, at Windfor, decently, yet without pomp. The duke of Richmond, the marquis of Hertford, the earls of Southampton and Lindsay, at their express desire, were permitted to pay the lastduty to their master, but were denied, (by colonel Whitchcot, the governor of Windsor-castle) the use of the burial fervice, according to the book of Common-Prayer.

Lord Lyttelton, speaking of Charles I. makes the following observations. He had many better qualifications than his father, but as wrong a judgment, and greater obflinacy. He carried his affection for the clergy, and abhorrence of the puritans to an excels of bigotry and rage. He agreed fo ill with his parliaments, that he foon grew weary of them, and refolved to be troubled with no more; none were called for twelve years together, and all that time he governed as despotically as the sophi of Persia. The laws were either openly infringed or explained in the manner he directed: he levied money upon his subjects against privileges expressly confirmed by himself. In short, his passion for power might have been fully gratified, if his more prevailing one to bigotry had not engaged him in a fenfeless undertaking, of forcing the same form of worship upon his subjects in Scotland, as he had declared himself so warmly for in England. It is fafer to attack men in their civil rights, than their religious opinions: the Scots, who had acquiesced under tyranny, took up arms against persecution. Their infurrection made it necessary to call a parliament; it met, but was inflantly diffolved by the intemperate folly of the court. All hopes of better measures were put an end to by this last provocation. The Scots marched into England, and were received by the English, not as enemies, but as brothers and allies: the king, unable to oppote them,

them, was compelled to afk the aid of another parliament. A parliament met, exasperated with the oppressions of fif-'teen years: the principal members were men of the greatest capacity, courage, and virtue, firmly united among themfelves, and whom the court could neither corrupt nor intimidate. They resolved to make use of the opportunity, to redrefs their grievances, and fecure their liberty; the king granted every thing that was necessary to either of those ends, except fuch fecurities as might have been turned against himself; but what, perhaps, was really concession, had the appearance of confirmint, and therefore gained neither gratitude nor confidence: the nation could no longer trust the king; or, if it might, particular men could not; and the support of those particular men was become a national concern: they had exposed themselves by serving the public; the public therefore judged that it was bound in justice to defend them. Nor indeed was it possible, when the work of reformation was begun, after fo long a denial of justice, to keep a people forc with the remembrance of injuries received and fatisfaction refused, within the bounds of a proper moderation. Such a fobriety is much eafier in speculation than it ever was in practice. Thus, partly for the fafety of their leaders, and parly from a jealouly of his intentions too justly conceived, the parliament drew the fword against the king: but the sword, when drawn, was no longer theirs; it was quickly turned against them by those to whose hands they trusted it: the honestest and wifest of both parties were outwitted and overpowered by villains; the king perished, and the constitution perished with him.

This prince, during the life of his father, had received instructions in music from Coperario, an Englishman whose name was Cooper; but who having been in Italy, wished to pass for a native of that country. According to · Playford, Charles, while prince of Wales, had made a confiderable progress under this matter on the viol da Gamba; and when he afcended the throne, he not only discovered a great affection for music in general, but manifested a particular attention and partiality to compositions for the church. [Playford (Pref. to his Introd.) speaking of the musical skill of our princes of the house of Tudor, says, " Nor was his late majetty Charles I. behind any of his predeceffors in the love and promotion of this science, especially in the service of Almighty God, and with much zeal he would · hear reverently performed, and often appointed, the fervice and anthems himself, especially that sharp service composed by Dr. William Child being of (from) his knowledge in · music, a competent judge therein; and would play his part exactly well on the base-viol, especially of those incomparable fancies of Mr. Coperario to the organ:"] At his pri-. vate concerts he is faid to have condescended to honour with · his notice feveral of his mufical fervants, who had the good fortune to be frequently in his presence; and to gratify them in a way the most flattering and agreeable to every artist of great talents, with finiles and approbation, when either their productions or performance afforded him pleafure. And, indeed, whatever political crimes may be laid to the charge of this prince, he was certainly a most liberal and gracious master to his domestics, and possessed a singular power of attaching them to his person by kindness and condescension, still more than by royal bounty and munificence.

In the beginning of his reign, Nicolo Laniere, (a real Italian) was appointed matter of the king's band; (see Lapiere) and in Rymer's Fordera, (tom. xviii. p. 228,) is recorded a grant to him and the rest of the royal band for

however, of fuch muficians as were in a more peculiar manner honoured with this prince's notice, afterwards, do not appear in the grant; as it was observed, that his majetly was particularly delighted with the choral compositions of Dr. Child; the performance on the lute of Dr. Wilson; and the music of William and Henry Lawes, which was introduced in the mafques that were exhibited at court.

The productions for the church during this reign, though superior in excellence to those of any other species, yet if we except those of Dr. Giles and Elway Bevin, who more properly belong to the reign of king James, are fo few in number, that the augmentation they make to our former

flock lies in a very finall compass.

This prince, however his judgment or that of his counfellors may have erred, appears to have been possessed of an invariable good tafte in all the fine arts; a quality which in less morose and turbulent times would have endeared him to the most enlightened part of the nation: but now his patronage of poetry, painting, architecture, and music, was ranked among the deadly sins, and his passion for the works of the best artists in the kingdom, profane, pagan, popish, idolatrous, dark, and damnable. But however gloomy state-reformers may execrate this prince, it would be ungrateful in the lovers and professors of any of the fine arts, to lofe all reverence for the patron of Ben Jonson, Rubens, Vandyke, Inigo Jones, and Dr. Child.

William and Henry Lawes were early established in the favour of this monarch, and indeed in that of the whole nation, to a degree for which their mufical productions do not clearly enable us to account. William, taking up arms early in the grand rebellion in defence of his royal patron, was killed by an accidental shot at the siege of Chester in 1645. Henry was always a loyalist, though he long enjoyed the favour and friendship of Milton; but this was previous to the political life of our great poet. Henry Lawes fet Comus to mufic in 1634, and furvived not only the rebellion, but the interregnum and restoration, extending his life to the

year 1662.

Though the early part of Charles the First's reign was favourable to the fine arts, particularly to mulic of the dramatic kind in the frequent and splendid masques that were performed at court and in the manlions of the principal nobility; yet from the breaking out of the civil war in 1642, nothing but havoc and confusion reigned. In 1643 the cathedral fervice was totally suppressed, which gave a grievous wound to facred mulic; not only checking its cultivation, but annihilating as much as possible the means of restoring it, by deftroying all the church books, as entirely as those of the Romith communion had been at the time of the reformation.

During fuch a period, what leifure or difpolition could there be for the culture of arts which had no connexion with the reigning interests and passions of men? The fine arts have been truly and emphatically called the arts of peace, and the celebrated periods in which they made the most consider-

Musicians, who previous to those unhappy times had cmployment either in the chapels royal, cathedrals, or public exhibitions in the capital, were forced to feulk about the country, and folicit an afylum in the koufes of private 1 atrons, whose mansions, and abilities to protect them, in A have been very precarious. And, indeed, if they could have been rendered permanent, they would not fo much have contributed to the advancement of the art, as the pride, effort, and emulation of working for a fevere and faitidious public would have done. Many a man of creative their feveral annuities and yearly penfions. The names, genius and gigantic abilities, has been manacled by idleness,

vanity, and felf-applause in a private station, where safe from rivals, and certain of the approbation of a small, and perhaps ignorant and partial circle of friends, he has dege-

nerated into littleffness, conceit, and affectation.

CHARLES II. king of Great Britain, was the fon of Charles I. and Henrietta-Maria of France, born in 1630. At the time of his father's execution, he was a refugee at the Hague. During the time of the common wealth, he was a wanderer and a dependant, and was one of the various characters which presented themselves at the memorable treaty of the Pyrenées. His importunate necessities reduced him to implore the affiltance of Mazarine and Don Lewis de Haro. The former refused so much as to see him. The latter received him with a generofity and ancient hospitality, which was ever the characteristic of his nation, and relieved his personal wants by the present of a considerable sum of money. But the powers of the continent were wifely cautious of interfering in the internal conflitution of England, and paufed before they enlifted themfelves for the support of royalty and its hazardous claims. Even after the death of Cromwell, the commonwealth, though fickly, yet furvived, and there was at least a possibility that it might recover under an able regimen and superintendance. Indeed, the constitution of parliament appeared to be so much better a speculation than that of royalty; and Charles, whose condition, like that of a patient in the critis of a fever, never feemed fo desperate as at the precise period of a change to convalefcence, that the court of Madrid ordered the royal exile to quit the territories of Spain. This was undoubtedly a fervile attempt to conciliate the friendship of a party, which must have been hated in a country the principles of whose government were fo diametrically opposite to those of republicanism. But practical statesmen, who are not infected with a spirit of political quixotism, will applaud and justify the prudence which dictated an unpalatable acquiescence, however unfortunate it might have been in point of time and prescience. It happened, in point of fact, that a very short time intervened between the order in question and the restora-tion of the exiled monarch. England, wearied out with contending factions, impatiently waited for the re-establishment of her ancient constitution, and looked to that event as to the confummation of her happiness. The wishes of the people were feconded by the loyal declarations of general Monk, who marched from Scotland at the head of an attached, brave, and well-disciplined army. Charles was invited once more to grace the palace of his ancestors with his presence. So strong was the torrent of returning allegiance, that he took possession of his kingdom without the smallest effusion of blood. It were to be wished that he had been duly impreffed with the circumstances, far more favourable than he could reasonably expect, under which he retrieved the fituation to which he was destined by birth, but from which fortune had displaced him. Conciliation and prudence might have carried both the king and the people to a height of external prosperity and domellic happiness, beyond what Great Britain had ever experienced. But he erred most grievously in remembering on the throne the disgusts he had experienced. in adverfity, whether at home or abroad. He forgot the generofity of Don Lewis de Haro, but he remembered his banishment from the dominions of Spain; and the subsequent alliance he concluded with Portugal, may, in a great meafure, be ascribed to his resentment at the neglect of the court of Madrid. It was not indeed till a later period of his reign, that he avowed and exhibited the difguit he had cherished against the Presbyterians and the friends of liberty; but when it did appear, it hurried him into excelles of tyranny, uncongenial with the gay and focial tendencies of his natural

temperament. But even these virtues, little as they weigh in the estimate of a public character, were converted into bane and poifon by the licentiousness into which they suffered a monarch of dissolute temper to fall, who nearly drew into his own vortex whatever remained of purity and propriety, from times which, though too precife and formal, erred on the tide of fafety in facrificing the waywardness of will and pleafure to rigid, though fometimes millaken duty. Diffipation was attended by expence, as its necessary and natural confequence; and exorbitant expence involved the king and government in pecuniary embarrassments, disgraceful negociations, and the venal barter of national honour and vital interests. The sale of Dunkirk was unpopular; and the exploit of the Dutch at Chatham difgraceful. A miltress was able fo far to enfnare the heart of Charles, as to make him lofe fight of his own honour and his people's weifare in a blind attachment to the politics and alliance of France. Arbitrary measures, and demonstrations of an inclination towards Popery, began to be more unequivocally manifelted; and though the firm remonstrances of the English parliament occasionally compelled a suspension of the intercourse with Lewis, and a more moderate and temporifing policy at home, it feemed from the complexion of the times, that there was no alternative between an arbitrary government and a renewal of civil hosilities. There was, however, notwithstanding all his obliquities, a better feeling about Charles II. which prevented him from driving things to extremity. It is even supposed, that, tired with combating the free spirit of his parliament, he became uneafy under the plan of government he had adopted, and meant to purfue a different fystem; and if so, the house of Stuart had the most serious reasons to lament that his life was not further prolonged. But Charles the fecond of England, fo celebrated in the annals of politics, wit, gallantry, and profligacy, was cut off from the opportunity of reformation and repentance, if ever such a scheme had seriously taken possession of his thoughts. He died at variance with his parliament, and despised by his people. Had the misfortunes of his father ferved to restrain the arbitrary principles and dissolute conduct of Charles, or the rash zeal and blind obedience of James for the church of Rome, the revolution would never have taken place: but the laws of the country were violated, and the established religion was fought to be subverted, in a greater or less degree, more openly or more covertly, according to the circumstances of the times, but uniformly, from the period of the restoration to that of the revolution; and the issue was, that the subjects of Great Britain were ultimately compelled to feek their fafety in revolt, and in the protection of the prince of Orange.

With respect to the general character of Charles, it seems most candid, as in the instance of his father, to place in opposition the different, and often opposite, determinations of

Hume and Mrs. Macaulay.

During the few days of the king's illnefs, fays Hume, clergymen of the Church of England attended him; but he discovered a total indifference towards their devotions and exhortations. Catholic prietts were brought, and he received the facrament from them, accompanied with the other rites of the Romish church. Two papers were found in his cabinet, written with his own hand, and containing arguments in favour of that communion. The duke he is the imprudence immediately to publish these papers, and thereby both confirmed all the reproaches of those who had been the greatest enemies to his brother's measures, and afforded to the world a specimen of his own bigotry.

If we furvey the character of Charles II. in the different lights, which it will admit of, it will appear various, and

give rife to different and even opposite fentiments. When confidered as a companion, he appears the most amiable and engaging of men; and indeed, in this view, his deportment must be allowed altogether unexceptionable. His love of raillery was fo tempered with good breeding that it was never offensive. His propensity to satire was so checked with difcretion, that his friends never dreaded their becoming the objects of it : his wit, to use the expression of one who knew him well, and who was himfelf a good judge, could not be faid fo much to be very refined or elevated, qualities apt to beget jealoufy and apprehension in company, as to be a plain, gaining, well-bred, recommending kind of wit. And though perhaps he talked more than strict rules of behaviour might permit, men were so pleased with the affable, communicative deportment of the monarch, that they always went away contented both with him and themselves. This, indeed, is the molt shining part of the king's character; and he seems to have been sensible of it: for he was fond of dropping the formality of state, and of relapsing every moment into the companion.

In the duties of private life, his conduct, though not free from exception, was, in the main, laudable. He was an eafy, generous lover, a civil, obliging husband, a friendly brother, an indulgent father, and a good-natured mailer. The voluntary friendships, however, which this prince contracted, nay, even his fense of gratitude were feeble; and he never attached himself to any of his ministers or courtiers with sincere affection. He believed them to have no motive in serving him but self-interest; and he was still ready, in his turn, to sacrifice them to present ease or convenience.

With a detail of his private character we mult fet bounds to our panegyric on Charles. The other parts of his conduct may admit of fome apology, but can deferve small applause. He was indeed fo much fitted for private life, preferably to public, that he even possessed order, frugality, and economy, in the former: was profuse, thoughtless, and negligent, in the latter. When we consider him as a sovereign, his character, though not altogether delititute of virtue, was in the main dangerous to his people, and dishonourable to himself. Negligent of the interests of the nation, careless of its glory, averse to its religion, icalous of its liberty, lavish of its treasure, sparing only of its blood; he exposed it by his measures, though he ever appeared but in sport, to the danger of a furious civil war, and even to the ruin and ignominy of a foreign conquest. Yet may all these enormities, if fairly and candidly examined, he imputed, in a great measure, to the indolence of his temper: a fault which, however unfortunate in a monarch, it is impossible for us to regard with great severity.

It has been remarked of Charles, that he never faid a foolish thing nor ever did a wise one: a censure which, though too far carried, seems to have some foundation in his character and deportment. When the king was informed of this saying, he observed, that the matter was easily accounted for: for that his discourse was his own, his actions were the ministry's.

If we reflect on the appetite for power inherent in human nature, and add to it the king's education in foreign countries, and among the Cavaliers, a party which would naturally exaggerate the late usurpations of popular affemblies upon the rights of monarchy; it is not surprising, that civil liberty should not find in him a very zealous patron. I rassed with domestic faction, weary of calumnies and complaints, oppressed with debts, straitened in his revenue, he sought, though with feeble efforts, for a form of government, more simple in its structure, and more casy in its management. But his attachment to France, after all the

pains which we have taken, by inquiry and conjecture, to fathom it, contains still fomething, it must be confessed, mysterious and inexplicable. The hopes of rendering himfelf absolute by Lewis's affiftance feem so chimerical, that they could scarcely be retained with such obilinacy by a prince of Charles's penetration: and as to pecuniary subsidies, he furely spent much greater sums in one season, during the fecond Dutch war, than were remitted him from France during the whole course of his reign. I am apt therefore (says Hume) to imagine, that Charles was, in this particular, guided chiefly by inclination, and by a preposlession in favour of the French nation. He confidered that people as gay, sprightly, polite. elegant, courteous, devoted to their prince, and attached to the Catholic faith; and for these reasons he cordially loved them. The opposite character of the Dutch had rendered them the objects of his aversion; and even the uncourtly humours of the English made him very indifferent towards them. Our notions of interest are much warped by our affections; and it is not altogether without example, that a man may be guided by national prejudices, who has ever been little biaffed by private and perfonal friendship.

The character of this prince has been elaborately drawn by two great masters perfectly well acquainted with him, the duke of Buckingham and the marquis of Halifax; not to mention several elegant strokes given by fir William Temple. Dr. Welwood likewise, and bishop Burnet have em-ployed their pencil on the same subject: but the former is formewhat partial in his favour; as the latter is by far too harsh and malignant. Instead of finding an exact parallel between Charles II. and the emperor Tiberius, as afferted by that prelate, it would be more just to remark a full contraft and opposition. The emperor feems as much to have furpassed the king in abilities, as he falls short of him in virtue. Provident, wife, active, jealous, malignant, dark, fullen, unfociable, referved, cruel, unrelenting, unforgiving; these are the lights under which the Roman tyrant has been transmitted to us. And the only circumstance in which it can jullly be pretended he was fimilar to Charles, is his love of women, a passion which is too general to form any striking refemblance, and which that detestable and detested monster shared also with unnatural appetites.

Mrs. Macaulay observes, that nature had bestowed on Charles II. powers, which if properly exerted, might have constituted an heroic character; but which, by an adverse fate, enabled him to exceed in wickedness and folly all the princes who had ever sat on an English throne.

The unhappy fate of Charles I. and the advertity into which it necessarily threw his son, by depriving him of the advantages of parental care, and exposing him, at a time of life when the passions are the itrongest and the judgment the weakest, to the perfidious licentiousness which prevailed in the court of France, gave such strength and power to the natural bias of his disposition, as totally to esface every veftige of that moral fense which helps to form the mixt character of the generality of mankind, and which is feldom entirely loft, even by the most flagitious. If with the jaundiced eye of prejudice we can excuse, and even applaud the mean hypocrify used by Charles, during his abode with the Scotch covenanters, the breach of his oaths, and the barbarity with which he afterwards treated this people, when exalted to a kind of despotic power over them, with the perfecutions with which he repaid the fervices of the English prefbyterians; what can even the voice of faction fay to the ingratitude with which he treated the ancient and faithful friends of the fortunes of his family; and the dismissing all those with ignominy who endeavoured to reconcile the prerogative of the king with the fafety of the nation, and the

existence of the constitution? What can the voice of faction (ay to the palpable neglect which this prince, in feveral inflances, paid to his father's memory; and in particular, in the accepting a fum of money for the expense of his fineral, and the pocketing of it for his private use? What can the voice of faction say to the treatment of their avowed and sleady patron, the carl of Clarendon; what to the king's behaviour to the duke of Ormond, in the case of Blood, &c. and what to the indifference with which he treated the memory of a fister, whom he pretended to love with the highest degree of affection? If with the men of pleadure, and the thoughtless companions of the bottle, we view with complacency, and even with applause, the licentious manners of a prince infected with the vices of every country which had yielded an afylum to his wandering steps, is it possible not to reflect, that Charles was totally deficient in that kind of sympathy and indolent good nature which often accompany the essentially of a luxurious life; and that the unjust severity and even cruelty with which he treated all those whom he regarded as his enemies, are blemishes not to be excused when united to the severest manners and the highest restitude of principle.

If with the Papills, we applaud the king for the pious defign he had entertained of reltoring the British empire to the church of Rome; what can we fay to the eafy manner in which he abandoned this defign, and the whole party, to their inveterate enemies? What can we fay to the breach of the promife he had made to this body, that he would declare his convertion, and avow his patronage after the of France? And what can we fay to the mean manner in which he concealed his predilection to Popery till the hour of his decease, in which he vainly hoped to secure a fafe paffage to the regions of eternal blifs, from the merits of a submission extorted by the terrors of an affrightened conscience? And if, with the zealous churchmen, we regard him as the patron of the restored privileges of that holy body, what excuse can we make for the deep defigus he had entered into, of facrificing all those facred rights to the ambition of Papills, and the interests of the

papal chair? In the duties of private life, we are told by the panegyrifts of Charles, that his conduct, though not free from exception, was in the main laudable: but though a large measure of indulgence is to be given to the foibles, the infirmities, and even the vices of every man or woman, who of education, yet we cannot possibly trespass so highly on our fense of propriety, decency, and the inestimable virtues of fobriety, as to rank that facility with which the king became the constant dupe of his amorous inclinations and paffion for variety, among the good qualities of a rational agent; nor can we agree to the observation, that Charles was a civil and obliging husband, merely on the merit of his not having facrificed an innocent woman to the venom of party spirit. On the contrary, setting aside the advantages must be considered as equally mortifying to that in which every other female is involved, whom a fevere fate unites in the indiffoluble bonds of matrimony with a profligate rake. On the subject of the king's constancy to the dake of York's interest, it is observable, that a coldness and mutual jealously prevailed between the two brothers till the period of the first French treaty; a circumstance which rendered all future diffention dangerous to the peace and happiness of both. Burnet afferts, that Charles both hated and feared his brother; and fir John Rerefby, who has manifested the Lighest

degree of partiality to the conduct of the king, allows that it was motives of policy alone which were the grounds of his inflaches of policy alone which were the grounds of his inflatible patronage: as on this fingle inflance, therefore, thus circumitanced and opposed by the whole tenor of Charles's public and private conduct, it is impossible to agree with the duke of Buckungham, that this prince was even inclined to justice; or with the rest of his panegyrith, to found on the merits of the act of indamnity, extorted from the necessity of the times, a propensity in his disposition to elemency and forgivenes; we must conclude, that the hansh picture drawn of Charles II. by bishop Burnet, is a just likeness, viz. that he had enormous vices without the time ture of any virtue to correct them; that, under the appearance of gentleness, he concealed a cruel and unrelenting heart; and under the mask of sincerity, the highest degree of hypocrify and dissimulation; that he was void, not only of every princely, but every manly fentiment; that he was as incapable of friendship as of integrity; that he confidered power and the trusts which accompany it, in no other light, than as the means to gratify his criminal and felfish passions; that he acted as the for rather than the protector of his people; and that it was lewdaefs, indolence, and the love of cale, which were the single correctors to that rage for absolute power which intests almost all princess; and which, but for the predominancy of-lefs exalted passions. Charles would have pursued with a vigilance equal to the importance of the undertaking; and which, notwithstanding the unconquerable indolence of his temper, the depravity of the times had, in a great measure, enabled him to effect.

Lord Lyttelton speaks of this monarch in the following terms. The methods pursued by Charles the Second, in the conduct of his government, were in many respects different from his father's, though the purpose of both was much the same. The father always busined his parliaments; the son endeavoured to corrept them: the father obtinately resusted to change his ministers, because he really element them as honest men; the son very easily changed his, because he thought they were all alike dishonest, and that his designs might as well be carried on by one knave as by another: the father was a tool of the clergy, and a persecutor, out of zeal for his religion; the son was almost indifferent to religion, but served the passions of his clergy against the diffenters from motives of policy: the father desired to be absolute at home, but to make the nation respectable abroad; the fon affilted the king of France in his invasions on the liberties of Europe, that, by his help, he might matter those of England; nay, he was even a pensioner to France, and, by so vile a prositiution of his dignity, set an example to the nobility of his realm, to fell their honour likewise for a sension; an example, the ill effects of which have been selt too sensibly ever since.

Yet, with all these vices and imperfections in the character of Charles the Second, there was fomething so bewitching in his behaviour, that the charms of it prevailed on many to connive at the faults of his government; and, indeed, nothing can be so hurtful to a country, which has liberties to defend, as a prince who knows how at the same time to make himfelf deficited and agreeable; this was emmently the talent of Charles the Second; and, what is most supprinting, he possible it without any great depth of understanding.

But the principal instrument of his bad intentions, was a

But the principal inftrument of his bad intentions, was a general depravity of manners, with which he took pairs to infect his court, and they the nation. All virtues, both public and private, were openly ridiculed; and none were allowed to have any talents for wit or bufnefs, who pretended to any fenfe of honour, or regard to decency.

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The king made great use of these new notions; and they proved very pernicious to the freedom, as well as morals, of his subjects; but an indolence, natural to his temper, was fome check to his defigns; and, fond as he was of arbitrary power, he did not purfue it any further than was confillent

with his pleasure and repose

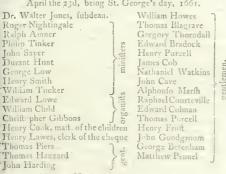
All mutic, except fyliabic pfalmody, feems to have been filenced from the year 1642 to 1660; but at the refloration of monarchy and ancient religious establishments, all the furviving muficians, who had been degraded and involved in the calarities of the civil war, quitted their retreats. Many however had died in, and during the conflict, in every order of the state. No more than nine of the fix and twenty bishops were living; and death had probably made the like havoc among the relt'of the inhabitants, in proportion to age and numbers. Of those that fell by the fword, we know not the exact calculation; but, except archbithop Laud, the prelates may be supposed to have died in their beds. Of the gentlemen of Charles the First's chapel, none feem to have claim-d their former station, but Dr. Wisson, Christopher Gibbons, and Henry Lawes; the laft, indeed, did not long furvive the rettoration.

Child, Christopher Gibbons, Rogers, and Wilson, were created doctors, and thefe, with Law of Oxford, though advanced in years, were promoted; Child, Gibbons, and Law, were appointed organists of the Chapel Royal, and Captain Henry Cook matter of the children. Cook had Mr. Bird, and others, was continued for some years after the been bred up in the King's Chapel, but quitted it at the beginning of the rebellion; and in 1642, obtaining a captain's commission, he retained the title of captain ever after. bons was likewife organist of Westminster Abbey; Rogers, who had formerly been organist of Magdalen College, Oxford, was preferred to Eton; Wilfon had a place both in the chapel and Westminster Abbey; and Albertus Bryne, a scholar of John Tomkins, was appointed organist of St.

Paul's, where he had been brought up.

The eltablishment of Charles the Second's chapel, at the time of the coronation, appears by the following entry in the cheque-book.

April the 23d, being St. George's day, 1661.



Thomas Haynes, serjeant of the vestry. William Williams, yeoman. George Whitaker, yeoman. Augustine Cleveland, groom.

At which time every gentleman of the chapel in orders, had allowed to him for a gown five yards of fine fearlet; and the rest of the gentlemen being laymen, had allowed unto each of them foure yards of the like fearlet.

The falaries of the gentlemen of the chapel had been augmented both by James I. and Charles I. and in the year 1663 Charles II. by the privy-feal, further augmented them to feventy pounds a-year; and granted to Capt. Cook and his fucceffors in office, thirty pounds a-year, for the diet, lodging, washing, and teaching each of the chi'dren of the Chapel Royal. A copy of this grant is entered in the cheque-book, and faid to have been obtained by the folicitation of Mr Cook.

The small stock of choral music with which the chapel began, becoming in a few years somewhat less delightful by frequent repetition, the king perceiving a genius for composition in some of the young people of the chapel, encouraged them to cultivate and exercise it; and many of the first set of chorifters, even while they were children of the chapel, composed anthems and services that are still used in our cathedrals. These, by the king's special command, were accompanied by violins, cornets, and facbuts, to which instruments introductory (ymphonies and ritornels were given, and the performers of them placed in the organ-lott.

Dr. Tudway, in the dedication to the fecond volume of his manufcript Collection of English Church-music to Lord Harley, afligns the following reasons for the change of flyle in the mufic of the Chapel Royal, by a mixture of what he

terms theatrical and fecular.

"The standard of church-music begun by Mr. Tallis, Restauration, and all composers conformed themselves to the

pattern which was fet them.

" His majesty, who was a brisk and airy prince, coming to the crown in the flower and vigour of his age, was foon, if I may fo fay, tired with the grave and folemn way which had been eftablished by Tallis, Bird, and others, ordered the compofers of his chapel to add symphonies, &c. with instruments to their anthems; and thereupon established a felect number of his private mufic to play the fymphony and ritornellos which he had appointed. The old mafters of mufic, Dr. Child, Dr. Gibbons, Mr. Low, &c. organits to his majefty, hardly knew how to comport themselves with these new-fangled ways, but proceeded in their compositions, according to the old ftyle, and therefore there are only fome fervices and full anthems of theirs to be found.

" In about four or five years time, fome of the forwardelt and brightest children of the chapel, as Pelham Humphrey, John Blow, &c. began to be matters of a faculty in compofing; this his majetly greatly encouraged, by indulging their youthful fancies, fo that every month, at least, they produced fomething new of this kind. In a few years more, feveral others, educated in the chapel, produced their compositions in this style; for otherwise it was in vain to hope to

please his majetty."

King Charles the Second, (fays the Hon. Roger North, Mem. of Mus.) though a professed lover of music, had an utter averlion to Fancies, which was increased and confirmed by a fuccefslefs entertainment given him by fecretary Williams. After which the fecretary had no peace; for the king, as was his cuftom, could not forbear whetting his wit upon fancy music, and its patron the secretary; nor would be allow the matter to be disputed upon the point of fuperiority, but ran it all down, by faying. bave not I cars?" He could bear no mulic to which he could not beat time, which he constantly tried to do to all that was performed in his prefence, which he generally heard thanding. Of fongs he only approved the fost vein, in triple time; which rendered that kind of movement fashionable among the masters and compoters for the stage, as may be seen in the printed fongs of the time.

His majefty had once a wish, in order to compare flyles, to hear the singers of several nations, German, Spanish, Italian, French, and English, perform together on the court stage, at Whitehall. The Italians performed the celebrated trio of Cariffini, Che dite, che fate; and the English brought up the rear under great disadvantage, with I pais all myhours in a shady old grove; for though the king chose that fong as the best, others were not of his majesty's opinion.

The old way of conforts was laid alide by this prince immediately after his refloration, when he established his band of 24 violins, after the French model, and the style of mulic was changed accordingly. So that French mulic became in general use at court, and in the theatres; indeed, performers on the violin had a lift into credit before this period, when Baltzar, a Swede, came over, and did wonders upon it by swiftness and double stops. But his hand was accounted hard and rough, though he made amends for that by often tuning in the lyra way, and playing lessons conformable to it, which were very harmonious, as is manifelt

by many of his pieces still extant.

During the first years of king Charles's reign, all the mufic in favour with the beau-monde, was in the French style; which, at this time, was rendered famous throughout Europe, by the works of Baptist Lulli, a frenchified Italian, and master of the court musick at Paris, who enriched the French musick by Italian harmony, which 'greatly improved their melody. His style was theatrical, and the pieces called branles, or ouvertures, consisting of an entrée and a courante, will everbe admired as the most stately and complete movements in music. All the composers in London strained hard to imitate Lulli's vein. However, the whole tendency of the ayre, assected the foot more than the ear; and no one could listen to an entrée, with its starts and leaps, without expecting a dance to follow.

The French inftrumental mufick, however, did not make its way fo faft as to bring about a revolution all at once; for, during a great part of this king's reign, the old mufick was ftill ufed in the country, and in many private meetings in London; but the treble viol was difcarded, and

the violin took its place."

The talte of Charles 11. feems to have been French in all things, but particularly in music; for he had French operas; a band of twenty-four violins, in imitation of the French band at Paris; French masters of his band, Cambert, and, afterwards, Grabu; he fent Pelham Humphrey to study under Lulli, and young Banister to learn the violin at Paris. Indeed, though we have fince had better models for our mufical studies of all kinds, from Italy and Germany, music, as well as every other liberal art, was at this time in a higher state of cultivation in France than in England. But though Lulli carried Italian dramatic music into France, it was such as had been produced during the infant state of the art in Italy; yet, notwithstanding the subsequent improvements it received in its native country, from innumerable masters, particularly fince they were furnished with lyric poetry by Metaftalio, near a century elapsed before our neighbours the French perceived it possible to compose better music than that of Lulli.

Our merry monarch, (as he is called in the Spectator, No. 462) certainly loved mulic, and had an accurate ear, particularly for time; nor would he allow any composition to be muse, to which he could not beat the measure; which is, in general, a very good criterion of clearness, accents, and rhythm; but these being all wanting in the music of Lulli, excites a wonder at his majesty's partiality for French music. But,

"What can we reason but from what we know?"

He had heard little or no Italian nunfe, and the German musse of his time was rude and unpolished in melody, though in harmony and sugue very learned. But these our gay and voluptuous sovereign would not give himself the trouble to analyse, or even to hear. Purcell, the nation's darling, born in 1658, was but two years old at the resoration; and at the death of Charles but 24; at which time his same had scarcely taken wing.

CHARLES V. This celebrated prince was born at Ghent, on the 24th February, 1500. He had not completed his fixteenth year, when the rich inheritance of Castile, of Arragon, and Navarre, of Naples, Sicily, and Sardinia, devolved on him, by the death of his maternal grandfather, Ferdinand. His early youth had been formed by Margaret of Austria, his aunt, and Margaret of York, the widow of Charles the Bold. These two princesses were distinguished equally by their virtue and abilities. On the death of his father, Philip, William de Croy, Lord of Chievres, and Adrian of Utrecht, were the persons appointed by his grandfather Maximilian, for the purpole of carrying forward his education, and forming his fentiments and principles. It was the whim of Adrian, however improbable its fuccefs, to involve his young mind in all the vexatious mass of metaphyfical theology; but the more authoritative and more acceptable instructions of Chievres led him from monastic speculations to the robust exercises of military life. The arts of government were a no less acceptable study, connected with the history of his own kingdom, and of those neighbours with whom he had most frequent intercourse. From his fifteenth year, when he assumed the government of Flanders, Charles was accustomed to business. It was a part of his discipline to peruse state papers, to preside at the deliberations of his council, and to propose in person those questions on which he wished for advice. From such an education, his habits and manners assumed a character disproportioned to his years. Yet his outfet was marked by no feats of superior genius. His figure and address, his graceful and manly accomplishments, were flattering to the vanity of his fubjects; but there was a certain temporizing deference, which seemed to lay him open to the artifices of courtiers, and a tone of passion which prepared him for a dupe, and his people for a prey.

Ferdinand, his grandfather, died in 1516; on which event Charles claimed the title of king, while his mother Jeanna was yet alive. The times were difficult; but Ximenes was equal to the crisis. 'The Pope, as head of the church, and the Emperor, as head of the empire, concurred in confirming the dignity, as of their own right; and on these grounds was Ximenes inftructed to press the claim on the Spanish nation. Yet, by the laws of Spain, the fole right to the crowns of Cattile and Arragon belonged to Joanna; nor had any public act, declaring her incapacity, reconciled the pretentions of Charles, either to the delicacy of filial forbearance, or to the privileges of the two nations. Ximenes protested against the principle, but was prompt and vigorous in carrying his orders into execution. The title was recognised at Madrid, in spite of discontent; though the states of Arragon were oblinate, under the irresolute administration of the archbishop of Saragossa. The Arragonians waited for the king's arrival in Spain, before they would ac-

knowledge any other title than that of prince.

The war which had arifen from the holy league had been transmitted by Ferdinand to his grandson, who, as king of Spain, was in actual hostility against France. But Chievres, conscious of the advantage which his countrymen, the Flemings, derived from their commerce with the French, warmly recommended an accommodation, and obtained the manage-

ment of the treaty. The king of France liftened with joy rons. Opposition and artifice united could with difficulty to the first overtures. The principal articles of the treaty were, that Francis should give in marriage to Charles his eldest daughter, an infant of a year old, with all his claims and pretentions to the kingdom of Naples, for her dowry. In confideration of Charles's being already in possession of Naples, he was to pay 100,000 crowns a-year to the king of France until the accomplishment of the marriage, and the half of that fum annually as long as the princess had no children. When Charles should arrive in Spain, the heirs of the king of Navarre might represent to him their right to that kingdom; and in default of due fatisfaction, Francis was at liberty to affift with his forces. Charles probably would never have figned fuch conditions, but for the purpole of fecuring a fafe paffage into his Spanish dominions. Yet such was the ascendancy of his Flemish favourites, and their jealoufy of Ximenes, that after a year's delay, nothing but the repeated remonstrances of the cardinal, and the murmurs of the Spaniards, prevailed on him to embark. No fooner was Ximenes informed of his arrival, than he advanced to meet him. But his journey was ftopped by illness, which some attributed to poison, though it seems naturally acounted for, by extreme old age and unfeafonable fatigue. The neglect of his counfels, and the cold formality with which the king, as a matter of form, allowed him to retire, produced an effect equal to any poison, in his almost immediate death. Charles received the news of it with indifference; but he had fcarce entered Valladolid, before he was fenfible of his lofs. The cortes of Castile infisted on his mother's name appearing first in all public acts, and on the refervation of her authority, in case of her recovery. They were liberal in their grants; yet was the discontent loud; to which the king's hefitation in speaking Spanish, and attachment to Flemish favourites, not a little contributed. These events took place in the years 1518 and 1519.

Before his departure from Arragon, Charles fent his brother Ferdinand into Germany, and thus obviated his intrigues. He found the cortes of Arragon highly refractory; the affembly of Catalonia still worse; and the Castilians were taking those measures, in defence of their privileges against ftrangers, which laid the foundation of that memorable union among the commons of Cattile. With respect to the restitution of Navarre, neither the monarch nor his Castilian nobility were inclined to part with it; and the conference at Montpelier was abortive. The death of Maximilian vacated the imperial throne; and the European princes had learned, from the Italian wars, the advantages which might be derived from that dignity. The previous negociations of Maximilian, and the fituation of his hereditary dominions with respect to the Turks, had predisposed the former towards the elevation of Charles. But he was opposed by a formidable rival in Francis, who pressed it on the consideration of Europe, that the crown was elective, and ought not to be made, by prescriptive custom, hereditary in the house of Austria. His emissaries contended besides, that the person who held the crown of Naples was excluded by a fundamental constitution. To their arguments were added horseloads of treasure, and unlimited promises.

The electors directed their views to Frederick Duke of Saxony; but he rejected their proposal, and at the same time effectually turned the scale in favour of Charles, who received the news of his election at Barcelona. But his Spanish subjects were sullen and refractory, resusing to grant any fublidy to an absent sovereign. Charles, in his turn, countenanced the affociation of the "brotherhood," which · proved the fource of much calamity to the kingdom. The cortes of Castile were not less viole ut than the Valencian ba-

extort a donative, to enable him to appear with becoming splendor in Germany.

Confeious of the rivalship which still sublisted between himself and the king of France, Charles was defirous of courting the alliance of Henry VIII. of England, whose possession of Calais gave him a great degree of influence with both monarchs. Henry had agreed to an interview with the French king between Guisnes and Ardres; but Charles adroitly pre-occupied his favour, by steering directly from Corunna to Dover, and, by a visit of only four days, at once made a favourable impression on the king of England, and attached Wolfey to his interest, by a pension of 7,000 ducats, and the lure of his future succession to the apostolic chair. After the interview with Francis at Guifnes, Henry returned the vifit of Charles at Gravelines, who effaced, by his feeming deference, the impressions which the conduct of his rival had made.

From the Low Countries, Charles purfued his route to Aix-la-Chapelle, where he was invested with the crown of Charlemagne. Germany was now his by election; Caltile, Arragon, Austria, and the Netherlands, by succession; Naples and Granada inherited by the right of conquest; Mexico-added to his resources by Fernando Cortes. Yet his territories were distant and disjointed; his authority was limited; his subjects were strangers to each other, and reluctant in their obedience to him.

Luther had now declared the pope to be Antichrift. The first act therefore of the emperor's administration was to appoint a diet at Worms, to check thefe new and dangerous doctrines. These events occupied the years 1520 and 1521.

In the mean time, the discontents in Spain had gathered to a head. The citizens of Toledo, Segovia, Burgos, Zamora, were all influenced by the fame spirit. Adrian trembled in Valladolid at the rapid progress of insurrection; but he forced his naturally lenient disposition, and ordered a body of troops to proceed against the delinquents. Charles, though he had received accounts of these transactions, could not return immediately to Spain, without endangering the imperial crown. He therefore promifed, to those who continued faithful, not to exact the fubfidy granted by the late cortes; and engaged, that no office should be conferred in future, but upon native Castilians. At the same time he wrote to the nobles, to excite them to the defence of their own rights, and those of the crown, against the commons. He appointed the high admiral and the high contable of Castile, whose abilities and influence would be highly useful in an appeal to arms, to act as regents in conjunction with Adrian. But the junta, relying on an unanimous support, now aimed at a more extensive reform of political abuses. They demanded that the king should return, and reside in his Spanish dominions: that he should not marry without the confent of the cortes; nor appoint a foreign regent in case of unavoidable absence. That no stranger should be naturalized; and that those who already held public offices should refign them. A reduction of the taxes, an extended and reformed representation in all future cortes, which were to affemble as matter of right once in three years, were the other objects to which their remonstrances were directed.

These internal factions encouraged Francis to take up arms. A body of troops, under Andrew de Foix, invaded Navarre, in behalf of Henry d'Albret. 'The Castilian nobles heard of the irruption with indifference; but when the enemy prefumed to invest Lagrogno, a small town of Castile, all parties were roufed at once: they took the French general prisoner, and brought Navarre back to its obe-

Charles, having entered into an alliance with pope Leo, determined on open war. The progress of this treaty, fo contrary to his inclinations, had been concealed from Chievres. The chagrin of the latter, on the discovery, shortened his days, and left the royal pupil to the uncontrolled exercise of his own powers. Robert de la Mark had ravaged the open country of Luxembourg, and laid flege to Vinton. Charles, at the head of 20,000 men, overwhelmed the territories of Robert, and reduced him to fue for mercy. . The count of Nassau was commanded to invest Mezieres; but the chevalier Bayard, the knight, without fear, and without reproach, managed his flender refources with fuch skill and gallantry, that the imperialists abandoned the fiege with confiderable lofs. At this time, Francis, at the head of a superior army, from excess of caution, misled the opportunity of a personal engagement with his rival, fuggetted by the contable Bourbon, which might have been fatal to the future grandeur of Charles, who foon effaced the difgrace of his retreat by the reduction of Tournay, and fecured an important advantage in the alliance of

Henry, king of England.

In the mean time, Francis, deferted in Italy, had renewed the war on the fide of Spain. Navarre was again invested, and Fontarabia, a flrong town of Bifcay, was taken by Bonnivet, admiral of France. This lofs determined Charles to re-vifit his Spanish dominions. On his way, he staid at London fix weeks, received the garter, confirmed his alliance with Henry, and again cajoled Wolfey with diffant hopes of fucceeding Adrian. The emperor's first attention was directed, on his arrival in his Spanish dominions, to heal the wounds of faction. He rejected the bloody fuggestions of his council, and excepted only fourfcore persons from the general pardon. When an officious courtier offered to inform him where one of the most considerable rebels was to be found, he replied, with a fmile, "you had better let him know I am here, than tell me where he is." Thus, by his magnanimity and address, he established an ascendancy over the Spaniards, of which he availed himfelf to obtain pecuniary grants and military support, equal to the prosecution of all his enterprizes. Among these, his mysterious correspondence with Charles, duke of Bourbon, was not the least important. That nobleman was equally entitled to favour by his birth and fervices. But Louisa, the king's mother, had contracted a violent aversion to the house of Bourbon, and had communicated her prejudices to her fon. The death of the duke's wife reverled Louisa's passion; but her advances were rejected, and her affection again converted into hatred. She commenced a fuit against him for the estates of his deceased confort, and he was stripped of his fortune by an openly nefarious sentence. This political intrigue was brought to bear in the year 1523. But the confpiracy was discovered and disconcerted. The confederates were repulfed in three separate attempts to invade France, and lost half the Milenese. But the wealth of Mexico prompted Charles to new enterprizes, and purchased him new allies. He opened the campaign of 1524, with the fiege of Fontarabia, which he took while the magazines were yet full, and the walls entire. Charles received the intelligence of the victory of Pavia at Madrid, with an air of the most perfect composure and moderation: but the projects which he entertained on this unexpected fuccefs, were most extensive and ambitious. Yet his own embarrassments were scarcely inferior to those of the prince his prisoner, from the limited condition of his revenues, and the universal jealoufy of his neighbours. In the mean time France was filled with confernation by the defeat at Pavia: the king fent the fast news of it to his mother, in these words : " Madam,

all is loft, except our honour." Henry now began to tremble for the balance of power, and his minister Wolfey refented the fallacious promifes of the papacy. The former therefore feeretly affured Louisa of his support, but in his language to the emperor, offered to invade Guienne with a powerful army, on condition that France Schould be delivered to him, and the monarchy of France extinguished. These extravagant proposals were designed to disjust the emperor, on whose rejection of them the king of England found a decent pretext for withdrawing from his alliance.

The low flate of the emperor's finances preventing him from penetrating into France with the forces of Spain and the Low Countries, he proposed terms to Francis of so rigorous a nature, that the latter, drawing a dagger, exclaimed,

" It is better that a king fould die thus."

Italy from the yoke of foreigners. He tempted Pefcara with the throne of Naples; and the latter acceded to the proposal: but, on reflection, he deemed it either most honourable, or most fafe, to reveal the whole conspiracy to the emperor, who had been already apprifed of it by his spies. He commanded Pescara to continue the negociation. latter invited Moroné to a last interview; but Antonio de Leyva had been concealed in the apartment, and, appearing fuddenly, arrested Moroné, and committed him to the caltle of Pavia. Sforza was declared to have forfeited all title to the duchy of Milan, which was seized in the emperor's name. But the emperor's recent acquifitions in Italy were more than counterbalanced by his increasing dangers. The health and even the life of Francis, whose captivity was expected to prove fo advantageous, had been endangered by fix months of harsh treatment. Charles, therefore, hastened from Toledo to Madrid, and inspired his prisoner with the hopes of speedy deliverance; but he relapsed into his former dillance and indifference, as foon as he had produced the effect intended, which was foon counteracted by the arrival of Bourbon in Spain. Charles met the rebellious subject without the gates of Toledo, though he had with difficulty been prevailed on to vifit the king. But the Spaniards detelled Bourbon's crime, and thunned all intercourse with

In the year 1526, the two monarchs came to an agreement, by which the French king was to retore Burgundy to the emperor in full fovereignty, as foon as he was left at liberty, delivering at the fame time the Dauphin and the duke of Orleans, or twelve of the principal nobility in lieu of the laft, as hottages. In confirmation of this agreement, Francis was to marry the emperor's filter, the queen dowager of Portugal. Thetreaty was figned about the middle of January, and on the return of the ratification from Paris fome weeks after, the marriage was confummated, and Francis took leave of his new brother-in-law with diffembled demonstrations of regard. In the course of the same year, Charles married Itabelia, the filter of John III. king of Portugal, a choice equally acceptable to the Cortes of Calilie and Arragon, and pleasing to the court of Lisbon.

On the death of Lewis II. king of Hungary and of Bohemia, on the field of Mohaoz, thofe kingdoms were claimed by the archduke Ferdinand, as inheriting the ancient pretentions of the house of Austria, and in right of his wife, the silter of the deceased monarch. The Varwoode of Transylvania was a competitor; but the personal merit of Ferdinand, and the insluence of the emperor now kid the

foundation of that pre-emmence, which has rendered the house of Austria so formidable to the rest of Germany, fince these acquisitions became hereditary in their family. Having experienced the danger of awakening the fears of mankind, Charles affected to disclaim the enterprize of Bourbon against the pope's liberty. But Europe was not to be cajoled by prayers and processions, and Francis rushed to action. The Milanese had been drained of the imperial forces, by the expedition against Rome, and the Italians received Lautrec with open arms. The whole duchy, as well as Alexandria and Pavia, must have been restored to France, had not Lautree feared the jealoufy of the confederates. He, therefore, marched towards Rome, where the pope was still a prisoner in the cattle of St. Angelo. The Imperial army demanded their arrears; and Charles, who could depend neither on their fidelity, nor the liberality of the cortes, fold Ciement his freedom for three hundred and fifty thousand crowns. Part of this sum was distributed

among the Imperial troops, who then quitted Rome, and pointed their retreat towards Naples. In the year 1529, while the contending parties were fluctuating in their counfels, a negotiation, undertaken between Margaret of Austria, the emperor's aunt, and Louisa, the mother of Francis, terminated in the peace of Cambray, by which Francis was to pay two millions of crowns for the ranfom of the dauphin and the duke of Orleans; to restore the towns he still held in the Milanese; to renounce his claims to Naples, Milan, Genoa, and all beyond the Alps; to abandon the Venetians, the Florentines, and the duke of Ferrara; in a word, to facrifice every object of the war, and to purchase the indulgence of his parental feelings at the expence of his character as a public man and a lovereign. Henry VIII. acceded to the peace of Cambray; fo that this interval of tranquillity gave Charles an opportunity of vifiting his Italian and German dominions. Before his embarkation, a question having arisen whether the inhabitants of Barcelona should receive him on his entry, as emperor or as count of Barcelona, he instantly decided for the latter title, and was rewarded for his flattering dispositions by an oath of allegiance from the states of the provinces to his infant son Philip. In Italy, he appeared in all the pomp of military and civil state; and took infinite pains to essace every unfavourable prepoffession from the minds of the natives, by the equity and moderation with which he adjulted the concerns of the country. But in the year 1530, the affairs of Germany called for his immediate attention. Though Solyman had been obliged to abandon the fiege of Vienna with difgrace, the religious diforders of the empire demanded the presence of its head. Several of the Cerman princes, who had embraced the opinions of Luther, had not only established in their territories that form of worship, but had entirely suppressed the rites of the Romith church. Many of the free cities had imitated their conduct. Nearly one-half of the Germanic body had revolted from the papal fee, and its authority was confiderably weakened in the other half. The Imperial influence began to be weakened by these divisions, to suppress which, the diet of Augsburgh was called, and attended by all the princes of the empire, especially those who had protested against the decree of a late diet at Spires, for the celebration of mass. The principal of these Protestants were the electors of Saxony, the marquis of Brandenburgh, the Landgrave of Heffe, the dukes of Lunenburgh, and the prince of Anhalt. They conducted themselves with decency, but defended their opinions with fortitude. Their tenets were, however, condemned by the majority of the diet, whole decree induced them to confederate more closely, and produced the league of Smalkalde. In the year 1532, the emperor marched against Solyman;

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but the campaign wore out without any remarkable event. He afterwards failed against Tunis, and took the Goletta, garrifoned by fix thousand Turkish foldiers, under the command of Sinan, a renegado Jew, which led to the defeat of Barbarossa. But before Charles could give the necessary orders for protection against military violence, the soldiers had precipitated themselves on the city of Tunis, where thirty thousand inhabitants perished in one day, and Charles's victory was flained by the excesses of last and avarice. Muley Hafcen took poffeifion of the throne, and confented to do homage for the crown of Tunis; to fet all Christian flaves at liberty without ranfom; to allow the emperor's fubjects the free exercise of their religion; to exclude the Turkish corfairs from his harbours; to deliver up the Goletta and all his fortified posts, and to pay twelve thousand crowns annually for the fublishence of the garrison. The lustre of this expedition dazzled Europe, and 20,000 flaves, freed from bondage, and cloathed at his expence, traced his return to Spain; after which, in the year 1536, he improved his leifure in providing funds and forces for a new war. He drew money from Naples and Sicily, troops from Germany, and then threw down the gauntlet to the king of France, in presence of the pope and cardinals. His confidence of success was so great, that, notwithstanding the remonstrances of his ministers and generals against the plan of his campaign, he defired the hiltorian, Jovius, to make a large provision of paper to record his impending victories. But Francis had discovered his design of penetrating into the fouthern provinces of France, and left it to the Marefchal Montmorency to defeat the plan; who executed the trust by making a descent from the Alps to Marseilles, and from the fea to the confines of Dauphine. Charles wasted two months in Provence, and then, having lost half his troops by difease or famine, gave the fignal for a reluctant retreat; and nothing could have faved the Imperialists from destruction, but the adherence of Montmorency to his favourite maxim, that a bridge of gold should be made for a flying enemy.

In the year 1538, the two monarchs, liftening to the exhortations of the Roman pontiff, extended their truce of ten months to ten' years. A few days after figuing the treaty, the emperor, on his paffage to Barcelona, was driven by contrary winds on the coast of Provence, and invited by Francis to a personal interview, at which the two rivals feemed to have buried all animofity, and to contend only for superior candour and liberality. Charles had no sooner landed in Spain, in 1539, than he was acquainted with the fedition of his troops, who had plundered the Milanefe, and were only to be quieted by the address of the imperial generals, who borrowed and extorted money to discharge their arrears, and then disbanded the greater part of them. Before the fuccess of his plan was ascertained, the emperor had endeavoured to rouse the liberality of his Castilian subjects; but the nobles pleaded exemption from any tax, and prefumed to urge on Charles a constant residence in Spain. They were dismissed with indignation, and were not afterwards called to the affembly of the Cortes. But they flill afferted their personal privilege. On the return of the emperor from a tournament, one of the ferjeants flruck the duke of Infantado's horfe, who drew his fword and wounded the officer. Charles ordered the judge of the court to arrelt the duke; but the contrable of Cattile claimed-the right of a jurisdiction over a grandee, and conducted Infantado to his apartment, attended by all the nobles prefent. The emperor perceived the hazard of irritation, and prudently fent to the duke of Infantado, offering to punish the person who had infulted him: but the duke forgave the officer,

and gave him a compensation for his wound.

In the year 1540, Charles, having negotiated a fafe conduct by deceitful affurances, paffed through France with a fmall but spiendid train of about an hundred persons, and meeting the king at Chatelherault, proceeded with him to Paris, where he thaid only fix days, and pleading the necessity of his presence in the Low Countries, was accompanied as far as St. Quintin by his generous and unsuspecting rival. The citizens of Ghent were incapable of relistance; and he received their ambassadors with a declaration, that he would appear among them as their fovereign, with the fceptre in one hand, and the fword in the other. He entered the city on his birth-day, and put twenty-lix of the principal citizens to death, and thus fet an example of feverity, which might bridle the feditious spirits of his other subjects in the Netherlands. In the year 1541, he fummoned a diet at Ratifbon, in which while he confirmed the papal authority, he privately affured the reformed of his protection, and thus induced them to grant him a liberal fupply of men and money for the war against the Turks. The remembrance of the glory he had acquired in his late expedition to Africa inflamed him with the defire of conquering Algiers. After a tedious and tempelluous navigation, at an advanced feafon of the year, against the advice of Andrew Doria, he anchored off the coast of Africa, to experience a series of calamities, which neither prudence could counteract nor exertion overcome. On the fecond day after his landing, there arose a tempest which overflowed the camp during the night, and the next morning at day-break they were attacked by the enemy, who were with difficulty repulfed. His thips were most of them wrecked, and eight thousand men perished in an hour, either in the sea or by the hands of the Arabs. The next day Doria fent him word that he had borne away with the remnant of the fleet to Cape Metafuz, which was three days march from the present camp. Proffed by tickness and by wounds, by famine and the Arabs, they at length reached Metafuz, and Charles by these disasters, gained a credit for fortitude and humanity, which prosperity had hitherto allowed him no opportunity of claiming. He fliared in the hardfhips of the meanett foldier; he exposed his person, and animated his fellowfufferers; and though a body of Arabs hovered about his rear, he was the lait to quit the shore. On his return to Spain he was attacked on various sides. In the year 1542, five formidable armies invaded his dominions, but they only confumed their strength in fruitless enterprizes. In 1543, he obtained a liberal fupply from the Cortes, borrowed a confiderable fum from John, king of Portugal, on the fecurity of the Molucca ifles, negotiated a marriage between his fon Philip, and Mary the daughter of that monarch, obtained donations from the flates of Arragon and Valencia, and a valuable confideration from Cosmo de Medici for withdrawing his garrifons from the citadels of Florence and Leghorn, and prevailed with Henry of England to declare on his fide. Under these circumstances, it might have been expected that Charles would have opened the campaign of 1544 with vigour; but after providing for the fecurity of Spain, and detaching a body of Spanish troops into the Netherlands, he passed into Germany, and preferred the intrigues of the diet to engaging in the operations of the field. He at length figured his last treaty with Francis, in which, belides the public articles, there was a private agreemeet for the extermination of the protestant herefy. He now fummoned the diet to Ratifbon, whither the Protestants fent deputies, though the Roman catholic members appeared in person. The emperor, while the elector of Saxony and the landgrave of Helle were helitating whether to renounce their homage and prefer war, had been reinforced by Paul's quota of troops, and some of his own

Spanish forces. He determined, however, to wait within his lines till the protestant force should be dissolved by difunion and necessity. As foon as Maurice of Saxony, with whom he was in fecret league, had by an irruption withdrawn the elector to the relief of his fubjects in Saxony, the emperor put his troops in motion in the winter of 1547, and reduced the duke of . Wurtemburgh, the cities of Ulm, Augsburgh, and Straiburgh, to submission. At this period, by that good fortune which has been called the itar of the house of Authria, Francis died at Rumbouillet, in the thirty-third year of his reign. Freed from this fource of disquietude, the emperor croffed the Elbe, leading his cavalry in person, together with the slower of his army, routed the Saxons, and took the elector prisoner. Having now disperfed his enemies in the field, Charles fummoned a diet at Augsburg, and in the year 1548 proposed that fystem of doctrine, known by the name of the Interim, which was confidered by both parties as an unfatisfactory and infidious compromife. But the power of the author enfured its reception every where, but in Magdeburg, Bremen, Hamburg, and Lubeck. On the death of Paul, and the fuccifion of Julius the Third to the apostolic chair in 1550, the emperor began to cherish the ambitious design of transmitting the German empire to his son, as well as the kingdom of Spain, and his dominions in Italy and the Low Countries. But he met with a powerful obstacle in the jealoufy of his brother Ferdinand. The Germans were besides difgusted with the reserve and haughty manners of Philip, and alarmed at the concentration of fo much power in the head of the empire; so that Charles was reluctantly compelled to drop the scheme. He therefore resumed the enforcement of the interim, and would probably have fucceeded completely, had he not been deceived by Maurice, whose intricate plan of policy blinded the most quick-fighted prince in Europe. In 1551, the diet pointed Maurice out as the most proper general to enforce the reception of the interim, and Charles approved of the recommendation. His credulity could not fail of placing him at length in a most embarraffed fituation, and he tried the effect of negotiation. The dang r of the emperor at Inspruck and his fudden retreat by torch-light are well known; and these two masters of finesse soon came to a better understanding, which terminated in a peace, and the establishment of the protestant church in Germany, by the treaty of Paffau in 1552.

But the German princes, engroffed by their own concerns, took little care of the French, who were exposed fingly to the resentment of Charles. Emerging from his retreat, he affected to march towards Hungary, but turning suddenly to the right, and being joined by Albert of Brandenburg, invested Metz at the head of eighty thousand men. His intentions having been anticipated, the city was ably desended by Francis duke of Guste; and notwithstanding the emperor's perseverance even to obttinacy, such and the summer of the first had been exhausted by hardships, and whose numbers had been thinned by a pestilential disease, he yielded to the folicitations of his generals, and retreated. His disappointment extorted from him a fevere farcasm against fortune, whom he likened to other semales, in her preserence to young men, and incon-

flancy to her earlier favourites.

In 1553, however, he effaced in fome mensure the difgrace of his repulse at Metz, by the capture of Terouanne
and Hefdin.

In 1554, the French king determined to act vigorously both in the Low Countries and Italy, that he might compel Charles to an equitable peace. He ravaged Hainauit, Liege, and Artois; reduced Mariemburg, took Bouvines, and Dinant by assault, and invested Rens, to the relief of which which the emperor marched notwithflauding his infirmities. He wished to avoid a decisive action, but a dispute about a post brought on a general engagement, in which the Imperialitts were repulfed, and might have been completely routed, but for the tardiness or jealousy of the enemy. The emperor, on his retreat, entered Picardy, and took his revenge for the ravage of Hainault and Artois. In Italy, his general, the marquis of Merignano, defeated the Florentine exile, Strozzi; Sienna was belieged, and capitulated on honourable terms; and Charles was in hopes of recovering Metz by an intrigue with the father guardian of a convent of Franciscans in the city. But in this delign he was difappointed by a diffeovery on the very day of execution. The death of pope Julius the Third, and the exaltation of cardinal Caratla, the inveterate enemy of his house, augmented his chagain, and he now, at the early age of liftyfix, determined to retire from public life. Both his conflitution and mental powers began to be feriously impaired by the increasing feverity and duration of the gout; the complication of his political concerns, extending to every nation of Europe, was beyond his strength to manage, and he had a natural detruit of ministers. He therefore thought that he should better confult his fame by a voluntary retreat than by continuing to thruggle against the tide of more active and vigorous competition. On the twenty-lifeh of Officber, 1555, when the States of the Low Countries were affembled at Bruffels, Charles feated himfelf for the last time in the chair of state, and explained, by the president of the council, his intention in calling the meeting. He then role from his feat, and leaning on the prince of Orange's shoulder, took a solemn review of his own adminiltration, and pathetically detailed his reasons for retiring. He addressed his son in a strain of serious and dignified exhortation, in which he enjoined him to prove his gratitude by confulting the welfare of his people. Exhaufted by this long address, he funk into his chair, more honoured and beloved by his subjects in his new character of a philosopher, than when dazzling their eyes by the pomp of state, and fwelling their pride and his own by conquelt and aggrandisement.

In the beginning of the next year, he refigned the crown of Spain, and all its dependencies, referving nothing to himfelf but an annual pention of an hundred thousand crowns, for domestic expences and charity. His last public act was the negociation of a long truce with France, by which he fecured his fon an interval of peace, and finding it hopelefs to tamper with his brother for the transfer of the imperial dignity to Philip, he closed all by formally transferring his claims of allegiance from the Germanic body to the king of the Romans. On his way to the place of his retreat, he vifited Ghent, the place of his nativity, and after a prosperous voyage, arrived at Laredo in Biscay. As soon as he landed, he proftrated himself on the earth, and faid, " Naked I came out of my mother's womb, and naked I now return to thee, thou common mother of mankind," He felt mortified at the thin attendance of Spanish nobility at Burgos, and was still more afflicted at his fon's ingratitude and dilatory payment of his pension. His retirement was fixed at the monastery of St. Justin's, a few miles from Plazencia in Estremadura, with which spot he had been struck in passing by it some years before. It was esteemed the most healthful and delicious situation in Spain; and an architell, whom he fent before him, had accommodated the arrangements to the fimplicity of his future habits. His plan of life was that of a private gentleman, from which all ceremonious forms were discarded. He never inquired after the politics of Europe, but occupied himself with the cul-

tivation of his garden, and the exercise of riding on a little horse, the only one he kept. He occasionally entertained a few neighbouring gentlemen at his table, and fludied mechanical principles with Turriano, an ingenious artift, who accompanied him in his retreat. A confiderable portion of his time was referved for religious exercifes, and in this dignined leifure did he pass the first year of his seclution. But the debility arising from a broken constitution, and the natural tendency of a superstitious faith and practice, at length degraded his finking mind to the fervility and infanity of monastic penances. Prompted by the monks, to whose direction he had refigued himself, he refolved to celebrate his own oblequies, which he did with all the folemnity of a real funeral. The awful impressions which the ceremony, however abfurdly, and improperly devifed, had left upon his mind, haftened the event which he had so singularly anticipated. On the following day he was feized with a fever, and expired on the twenty-first of September, 1558, in his fifty-ninth year.

The character of his mind was rather that of careful and deliberate attention than of brilliant talents or rapid conception. He preferred befinels to pleasure, and made public concerns at once his fludy and amusement. But his promptitude in execution was equal to his patience in deliberating; he was at once fagacious in deviling measures, and fruitful in relources for carrying them forward. Though he devoted himself more to the cabinet than to the field, he never appeared at the head of his armies without entitling himfelf to rank with the greatest generals of the age. But his principal excellence confided in the felicity with which he applied the important science of human nature to the choice of fit agents and the adaptation of abilities to fituation and office. If his manners were lefs pleafing than those of his rival, his virtues were at least as solid, and his adherents as faithful and attached. His confidence in his generals was unbounded; he rewarded their fervices muniticently; he neither envied their glory, nor mistrusted their intentions. But his ambition was infatiable, and his policy too often ungenerous; while his contemporaries, Francis the First and Henry the Eighth, with numberless vices from which he was exempt, were characterized by an openness and credulity, which made them more popular, principally because it rendered them less dangerous.

Charles feems to have lived more in the Netherlands, than either in Spain or Germany. And it was during his reign that fo many great compofers flourished in that country, as to incline mutical historiaus to assign to them the invention of counterpoint. Rabelais, in the prologue to the 3d book of his Pantagruel, written in 1552, names 60 et aultres joyeux muficiens, whom he had heard perform, the chief of whom were Netherlanders. Sandoval in his life of the emperor Charles V. tells us that he was a great friend to the fcience of music, and after his abdication, would have the churchoffices only accompanied by the organ, and fung by fourteen or fifteen fryers, who were good muficians, and had been selected from the most expert performers of the order. He was himfelf fo fkilful, that he knew if any other finger intruded, and if any one made a millake, he would cry out. fuch an one is wrong, and immediately mark the man. He was earnest too, that no feculars should come in'; and one evening, when a contralto from Placentia flood near the delk with the fingers, and fung one verfe with them eminently well, before he could fing another some of the barbarians ran and told the prior to turn him out of the choir.

or at least bid him hold his tongue.

The emperor understood music, felt and tasted its-charms: the fryers often discovered him behind the door, as he fate in his own apartment, near the high altar, beating time and finging in parts with the performers; and if any one was out, they could overhear him call the offender names, as redheaded blockhead, &c. A composer from Seville, of my own acquamtance, continues his biographer, whose name was Guerrero, presented him with a book of motets and masses and when one of these compositions had been sung as a specimen, the emperor called his consessor, and faid, see what a thief, what a plagiarit, is this son of a —I why here, says he, this passage is taken from one composer, and this from another, naming them as he went on. All this while the singers stood assumed as none of them had discovered these theses, till they were pointed out by the emperor.

CHARLES VI. fifth fon of the emperor Leopold, was born 1683, declared king of Spain by his father in 1703, and crowned emperor in 1711. Though we never heard, from good authority, that this prince was a port, a mulical compofer, or performer, his retaining Apollolo Zino and Metaltafo fo many years in his fervice, chiefly to furnish dramas for mufic, and employing the belt compofers of the time, of whatever country, to fet them, and every great vocal performer of good morals to fing in them, prove him to have been an intelligent, munificent, and dignified patron of the mufical art, in all its higher departments, facred and profane.

See OPERA and URATORIO.

CHARLES XII. king of Sweden, was born in 1682, and facceeded to the crown on the death of his father Charles XI. in 1697. According to the laws of that country, he was not entitled to the reins of government till he had attained the age of 18, but he speedily emancipated himself from the restrictions by which the will of the late king intended him to be bound. In very early life he had been trained to violent and martial exercises; and had in a thousand inflances shewn an impracticability of disposition, which no force could conquer, but which was always alive to fuggettions of military glory. He was incited to the study of Latin, because his contemporaries, the kings of Poland and Denmark, were reputed to be well verfed in that language. From reading the hillory of Alexander, by Quintus Curtius, his passions were inflamed with a defire of imitating that renowned conqueror, and of becoming himself another Alexander in feats of martial prowefs. With this view, he, in a short time after his father's death, gained over a party in the council to deprive the dowager regent of her authority, and to furrender to him the reins of government without any limitations. An early day was fixed for his coronation; but he, unwilling to wait for the usual forms that long cultom had rendered neeeffary on fuch folemn occasions, scornfully snatched the crown his own head. At first the young king feemed little ambitious of entering into the details of government; he was fond of amusements, and attached to those who were subservient to his pleasures; but to others, however high their rank, and respectable for talents and wisdom, he exhibited a

The inexperience of Charles encouraged the kings of Poland, Denmark, and the czar of Ruflia to enter into a confederacy againft him, for the purpose of wretting from him a part of his dominions, which had been ecded to his father and grandfather. The youthful monarch was not disconcerted at the news of this powerful league; he seemed rather to rejoice that an opportunity would be afforded him of displaying his hitherto latent courage and abilities. When their designs were certainly known, a Swedish council was convened, at which the king attended, for some time, the ssleet spectator of their proceedings; in the midtl, however,

of their difeufilons, respecting the measures to be pursued, he rofe, and with a dignified air declared that he had determined never to engage in an unjust war, but having been drawn into one by the ambitious views of an enemy, he would never defit till he had humbled and ruined him. "It is," fays he, "my resolution to go and attack the first who shall dare to avow his designs; and when I have conquered him, I trust the others will be intimidated." This declaration, so unexpected on the part of his council, was followed by a total change of conduct. He gave up all his former amusements, and renounced those habits and indulgences that might seem to withdraw his attention from the more important business of his country. In his domestic concerns he enjomed, by functions not to be slighted, the strictest economy; he laid aside all the exterior splendour of drefs; and prepared to exhibit in his own person the stateman and

ne hero.

The Danes, commanded by the duke of Wirtemburg. attended by the king in person, commenced the attack, by invading the duchy of Holltein, which belonged to the brother-in-law of Charles. The Swedish sovereign at first fent a body of troops to his fuccour, and some attempts were made at a negociation between the parties; but the Danish king, instead of listening to the still voice of peace, excited the fovereign of Poland to invade Livonia with a Saxon army, to draw off the attention of the Swedes from affifting the duke. The king was no fooner informed of this circumstance, than he drew his fword, determining never to sheathe it till he had brought the invaders into a May 1700, to revisit it no more; and, embarking his troops at Carlferoon, failed for Denmark, and proceeded at once to Copenhagen. As foon as the veffel in which he was touched the ground, he leaped into the fea, fword in hand, followed by his guards and great officers; and advancing in the midt of a shower of musket-shot, he asked of the genegal who flood next him, what the whitling was which he heard: "It is the noise of the bullets fired at you," replied the general. "This then," faid the king, "fail henceforth be the music in which I will delight." At the same moment the general was wounded, and a lieutenant feil dead by his fide. The Danish entrenchments were speedily forced, and Charles approached Copenhagen without further oppofition. The king of Denmark had taken refuge with his army in Holdein. Under these circumstances, Charles resolved to finish the war at once, and prepared to beliege Copenhagen by land, while the fleet blockaded it by fea. The citizens, deferted by their fovereign, and terrified at the preparations making by Charles, befought him not to destroy the town; and the king on horseback, and at the head of his regiment of guards, received the deputies, who fell on their knees, and whose request he granted, on the confideration of their paying a certain fum of money. The king of Denmark, finding his capital gone, and himfelf without the means of extricating his country from the power of the Swedes, was glad to liften to almost any terms that might be offered. The victorious monarch affured him that he required nothing but justice to be done to the duke of Holkein, which must include a complete indemnification for all his losses, as well as a restoration to all his possessions. Thus, in a few weeks, did a youth only 18 years of age conclude a war on terms the most honourable to himfelf, and to the total discomfiture of the aggressor. In the mean time Riga, the capital of Livonia, had been so bravely defended, that king Augustus of Poland, in despair of taking it, railed the siege. At this period, the Swedes, after the example of their king, were feized with an enthusiasm

for military glovy, that allowed no time for reflexion. Taxes, which are the finews of war, were confidered and readily granted as an honorary tribute; and every family was ambitious of furnishing a foldier. The troops foon became habituated to the toils and privations connected with a military life, and were contented with the coarfest fare, and

that even in fmall quantities.

No fooner had Charles concluded a treaty with the king of Denmark, than he turned his arms against the Ruslians who had undertaken the fiege of Narva, with 80,000 men. The Swedish monarch, though at the head of 20,000 troops, advanced to the relief of the place with less than half that number. When he was within fight of the Ruffian vanguard, he was urged to reflect upon the great disparity of numbers; to which he replied, "Do you doubt whether the king of Sweden, with 8000 men, can beat the czar of Ruffia, who is at the head of So,000 men?" The Ruffians at first stood the shock with firmness; but, after an engagement of three homs, their cutrenchments were forced with great flaughter, and Charles entered Narva in triumph. The Swedes captured many times their own number of prisoners, besides all the enemy's artillery; but the king only retained the principal officers, whom he treated with great kinduels. On this occasion the czar, who was abfent from this battle, faid, " I knew that the Swedes would beat us; but, in time, they will teach us to become in our turns the conquerors.3

A close alliance was now formed between the czar and the king of Poland; and the latter engaged to furnish a large succour of Germans. Charles having passed the winter at Narva, entered Livonia, and appeared in the neighbourhood of Riga. He passed the Dwina, on the banks of which were posted the Poles and Saxons, whom the Swedish monarch attacked with great bravery, and after an obstinate and bloody engagement, gained a complete victory. He then advanced to the capital of Courland, from whence he paffed into Lithuania, and entered in triumph the town of Bergen, where the czar and the Polish fovereign had a few months before planned his destruction. The king of Sweden now determined to dethrone the fovereign of Poland; the intrigues formed in that country facilitated the enterprise; and Augustus finding little resource in the attachment of his subjects, attempted to negotiate, and employed for the purpole the counters of Konigsmark, one of the most captivating women of the age; but all her feductions were ufeless against him who had renounced pleasure, and who, as a farther security to his virtue, constantly refused an interview. Aware also of the discontents of the Poles, he entered into a secret correspondence with the malcontents, and marched into Warfaw, which opened its gates to him at the first summons. He was foon waited upon by the leaders of the discontented party, to whom the Swedish monarch gave the most positive affurances that he would never give the Poles peace till they had elected a new king. Augustus, being informed of these proceedings, affembled all his troops, which were at least double the number of those under his opponent. The contending kings met in a plain between Cracow and Warfaw : the attack was begun by the Swedes, and though the battle was fought with the greatest valour on the part of Augustus, yet victory declared itself for Charles. It cost him, however, the life of his friend and relation, the duke of Holftein, over whom he shed tears of unfeigned affection. The king of Sweden marched to Cracow, which immediately furrendered; and Augustus sled into Saxony; in the pursuit of whom Charles unfortunately fell from his horse, and broke his thigh, an accident which detained him some weeks in a state of inactivity. A fecond victory obliged the Polish sovereign

to provide for his fecurity by retiring into Saxony. At length the Poles refolved to depofe their fovereign, which was effected in February 1704; and Stanislaus Lecksinski was chosen his successor on the 12th of the following July, and by the interest of Charles he was crowned at Wariaw the 4th day of October.

The czar fent 60,000 Ruffians to attack the Swedes in their conquests; they entered Poland in separate armies, and were joined by a great number of Saxons and Coffacks. Charles attacked and defeated the Ruffian troops, and nothing could impede the progress or equal the celerity of the victorious Swedes. If a river interpoled, they fwam over it; and the Swedish monarch, at the head of his cavalry, marched 30 leagues in 24 hours. Struck with consternation and difmay at these rapid movements, the Russians retired beyond the Borifthenes, and left Augustus to his fate; who was, in a fhort time after, compelled to renounce his pretentions to the crown of Poland, and to acknowledge Stanislaus lawful fovereign of the kingdom. He renounced, at the fame time, his alliance with the czar, his most powerful friend, and gave up all the subjects of Charles who had withdrawn their allegiance, and especially Patkul, who at the time bore the character of ambaffador to the czar. While the treaty was pending; Charles and Augustus had an interview; during which the dethroned fovereign received marks of studied civility from the conqueror, but he was nevertheless obliged to submit to his will, even to the writing a letter of congratulation to his rival and fucceffor Stanislaus. Such conduct on the part of the Swedish monarch cannot be justified on any principle, and the favage treatment of the virtuous Parkul, whom he caused to be broken on the wheel, with every circumstance of ignominy and feverity, will for ever render him, on that account, worthy of general indignation.

Charles, now in the zenith of power and reputation, compelled the emperor of Germany to make some very humiliating concessions in favour of his Protestant subjects in Silefia, of whose interests he declared himself the protector. But his heart was principally occupied in measures of revenge against the czar, whom he determined to dethrone, as he had done Augustus: for this purpose he marched at the head of 43,000 men from Saxony. The czar was at Grodno in Lithuania, whither Charles followed him, in the depth of winter, and entered the city at one gate as the czar went out of the opposite one. Determined on his object he pursued the Russians and drove them across the Dnieper. In his way, with the advanced guard alone he defeated a large body of them entrenched behind a morals. The czar Peter began now to be feriously alarmed for his empire, and caused proposals of peace to be made; to which the haughty king answered, "I will treat with the czar at Moscow." To this the czar replied with diffidence, but in the tone of a prediction, " My brother Charles is determined always to act the Alexander, but I flatter myfelf he will not find me a Darius." In the month of October, 1708, he had arrived within 100 leagues of the Ruflian capital, when impaffable roads and a feareity of provisions induced him suddenly to turn aside into the Ukraine. A rigorous winter now commenced, which to the Swedes, who were unprovided with proper clothing and necelfaries, was fo far insupportable that in one march two thousand of them perished with cold. Charles, however, shared with his foldiers all the hardships incident to the fituation, and thus infpired them with principles of patience and fortitude fcarcely to be expected. In April, 1709, the whole army under the Swedish monarch was reduced to about 30,000, and in a few weeks the king penetrated to the town of Pultowa on the eaftern frontier of the Ukraine. Here the czar had laid up

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his magazines; it was therefore of the utmost importance to Charles to gain possession of the place. He accordingly invelled it, but his operations were interrupted by the approach of the czar at the head of 70,000 men. Charles always unwilling to trust to another what he could himself perform, went to reconneitre the enemy, and was wounded by a muffeet fhot, which broke the bone of his heel. No change in his countenance betrayed the wound to his attendants, and he continued fix hours longer on horseback giving his orders with the greatest tranquillity. He was, at length, carried to his tent in excellive agonies, and fuch was the nature of the wound that the furgeons were of opinion that the king muit lose his leg. Another mode was, however, adopted, and the king, during a very painful operation, kept his leg fleady with both hards, looking on like an indifferent spectator. The exar having collected all his forces, was advancing, and to the Swedes a retreat feemed impossible. Without calling a council of war, Charles refused to wait for the enemy in his entrenchments, but ordered a general attack for the next day, and then went to fleep. On the Sth of July, 1709, was fought the celebrated battle of Pultowa which decided the fet: of the Swedish king: he caused himself to be carried in a litter, at the head of his infantry, and after the combat of cavalry, which was difastrous to his cause, he advanced against the Russian line, defended by a formidable artillery. One of the first volleys killed the two horses of his litter, by another, two fresh horses were killed, and the litter dashed to pieces. He was then carried by his life-guards, and of these twenty-one were destroyed out of twenty-four. The Swedes began to give way on all fides; their principal officers were killed or made prisoners, nine thousand were left dead on the field of battle, and their camp at Pultowa was forced. Even in this extremity the king refused to fly. By the orders, however, of Poniatowsky, he was placed on horleback, notwithstanding the pain occasioned by his wound, and about five hundred horse rallied around him, by whose exertions he was conveyed safe through ten Russian regiments, and brought to his baggage. At length he reached the Unieper, whither Lewenhaupt had arrived with what remained of the army, amounting to about fixteen thousand men of various countries. These were closely purfued by the Ruffians, to whom they eventually furrendered, with the exception of the king, who was conveyed across the river in a small boat, a few of his officers who accompanied him, and about three hundred Swedish horse, with a number of Poles and Coffacks, who ventured to swim across. With these Charles escaped to Bender, a Turkish town in Moldavia. Here he was received with every mark of respect, and remained in a state of inaction, employing himself partly in military exercises, partly in reading, and playing chels. The Turks and neighbouring Greeks, having heard of his exploits, flocked in crowds to kee him. His inflexible resolution to abitain from wine, and his great regularity in conforming to their customs, and in attending at their religious services, made the Mahometans consider him as a true believer, and inspired them with an ardent defire of marching under him to the conquest of Russia. While thus at a vast distance from his kingdom, his enemies

While thus at a vait distance from his kingdom, his chickines were busied in pulling down all the fabric of power which he had raifed by his conqueits. Augustus returned into Poland, and repossessed himself of his throne. The czar took Wiburg, and all Carelia, poured his troops into Finland and laid siege to Riga. The king of Prussia invaded Swedih Pomerania; and the king of Denmark made a descent on Schonen, and took the town of Hellingburg. The Swedes however, remained sirm; and the disafters of their king rather instanced their loyalty and patriotism than dispirited

them. The idea of dethroning the ezar of Russia was still uppermost in the mind of Charles: he folicited the affittance of the Ottoman Porte, and Achmet III. the reigning fultan, fent him a prefent of a thousand ducats, while the grand vizier faid to his envoy, " I will take your king in one hand, and a fword in the other, and conduct him to Mofcow at the head of 200,000 men." The czar's money, however, changed the fentiments of the Turkish minister, who laid aside all thoughts of war. The military cheft were turned against himself. The hopes which the fallen he accused the grand vizier with corruption, who in his turn but with this he refused to comply. By some unexpected and liberal offers were made of fending him home with a large efcort, and provisions for all his wants. With this even he was not contented, but perfilled in demanding an army for his convoy; and at length he refused to go at all, though he had received 1200 puries from the grand leigner to pay his debts and defray his expences. An order was figured to compel him to depart, but Charles determined to refilt the whole Ottoman power with 300 Swedes, and actually began fortifying his camp in the face of an army of 20,000 Turks and Tartars. No entreaties against this mad project had any avail, he conceived his honour concerned, and no The Janizaries unwilling, from a reflect for his character, to proceed to extremities, fent a deputation of their feniers to propose terms of accommodation, but instead of listening to them, he threatened to cut off their beards, if they did not depart. "Let the iron-head then perifh, if he will perifh," they indignantly replied, and the attack immediately com-menced. The little camp was foon forced, and the 3co Swedes were made prisoners. Charles sought refuge in his house, together with a few general officers and domestics. With these he fired from the windows upon the Turks, 200 of whom he killed, and bravely maintained himfelf till the edifice was in flames. In this extremity, a centinel had the presence of mind to observe that the charcery-house, which was at the diltance of fifty yards, had a flone roof, and was proof against fire, and in which they might defend themselves to the lalt. "There is a true Swede," exclaimed the monarch, ruthing out, like a madman, at the head of a few desperadoes. From respect to the person of the king, the Turks at first recoiled, but recollecting their orders, they made him prisoner, and carried him, by main force, to the tent of the bashaw. That officer fent the Swedish monarch in a chariot to Demotica, a small town at the distance of ten leagues from Adrianople where the emperor then relided with his court. Here he remained a confiderable time, and lest the Turks should not pay him the respect due to his royal person, or should be tempted to exact from him any thing beneath his dignity, he feigned illness, and confined himfelf to his bed for the space of ten months. It was generally believed throughout Europe that he was dead, and the fenate of Sweden, no longer expecting his return, requested his fifter to undertake the regency. She feemed at arth willing to comply, but finding it was their intention to put an end-to the wars which were ravaging their country, the refused to act, and fent her brother word of their proceedings. He indignantly wrote to the fenate, that if they pretended to interfere with public affairs, he would fend oue of his boots to govern them.

Weary of the state of inactivity is which he lived, he ob-

tained permission to return to his own dominions. He took a formal leave of the Turkish court by a very splendid embasty. He set out on his return in October 1714, and after fixteen days inceffant travelling, he arrived in the night at Stralfund : he was admitted with difficulty, but as foon as he made himfeif known, the whole city was in a blaze of illumination for joy at his arrival. Charles found his affairs in a very difastrous state; but without giving himself time to reflect upon this, he dispatched orders to his genera's to renew the war with fresh vigour. Intoxicated by the phrenzy of glory, all the young men crowded to the flandard of their king, and fearcely any were left for the labours of agriculture but the aged and infirm, who were little qualified to fave Sweden from a famine, with which the was threatened. On opening the campaign, Charles was furrounded by fo many enemies, that valour could be of little fervice, without a greater force. The combined army of Pruffians, Danes, a d Saxons, invested Stralfund, in hopes that the king would there perifh, be taken prifoner, or be compelled to make peace. The ifle of Rugen being pof-felled by the enemy, it was of importance to diffodge them; Charles made a desperate attempt for that purpose, but was repulfed. He returned to Stralfund, fullained the fiege in person, and personned, as usual, prodigies of valour. The fall of the city was, however, inevitable, and fearing less he should come into the hands of the enemy, he embarked in a fmall veffel, and by favour of the night, paffed fafely through the Danish fleet, and was landed in Sweden. The next day the town capitulated. He wintered at Carlferoon, refuling to visit his capital till he could appear there under more prosperous circumstances. He levied new troops, and in the following spring made an irruption into Norway with twenty thousand men. He pushed on as far as Christiania, but for want of provisions, was obliged to return to Sweden. He now, through his minister, the baron de Goertz, effected a peace with Russia, and began to devise means for the dethronement of George I. of England, and the restoration of the Stuart family. Another object of his ambition was to re-establish Stanislaus in Poland. To essect these purpoles, an alliance was formed between Sweden and Russia, by the intervention of cardinal Alberoni, an Italian, a man of confiderable activity and enterprife. The impetuofity of Charles, the alliance which he had formed, and the ambition of his minister, seemed ready to overturn the system of Eutope. In the interval, however, of preparing for this vall enterprife, the Swedish monarch, as if willing to lose no time, invaded Norway, in order to wrell it from the king of Denmark, and thus indemnify himfelf for the provinces which he had ceded to the czar. He formed the fiege of Frederickshall, in the month of December, regardless of the cold of a Norwegian winter, which not unfrequently froze the centinels to death on their posts. To animate his troops, the Swedish fovereign exposed himself to all the rigour of the climate, and to the dangers of the fiege; and, covered only with his cloak, usually slept in the open air. Anxious to finish the siege, he, on the evening of the 11th of December, vifited, with his principal engineer, the trenches that had been formed. He was resting with his elbows upon the parapet, attending to the workmen who were opening the ground by star-light. Almost half his body was exposed to the battery of the enemy, which was firing grape that at the very fpot in which he flood. He had been in that dangerous fituation fome time, with no one near him except the chief engineer, and an aide-de-camp, when he was feen to fall upon the parapet, heaving a great figh. He was taken up dead, with his forehead beat in by a cannon shot, and his right hand grasping the hilt of his

fword. Such was the end of this extraordinary character, though there have been hilforians who maintain that he was affaffinated by the French aid-de-camp, Siguier; but after inveltigating all the circumflances that attended the event, there is no good reason for believing otherwise than that he received his wound from one of the Danish batteries.

Charles died at the age of 36 years and 6 months, after a reign of 21 years. His military talents may command admiration, but there was little in his character to awaken in the feelings any emotions of attachment or effeem. He poffelfed many eminent, but few, if any, amiable qualities. He was a mere foldier; in person he was well formed: in converfation he was awkward and bashful: he was just, but rarely exhibited any traits of kindness. Charles seems never to have known what it was to fear, and the bluntness of his feelings rendered him intentible to hardflips and dangers for himself and others. His wonderful intrepidity and perfeverance in whatever he undertook; his fortitude under misfortune; his contempt of danger, and his passion for glory, will for ever rank him foremost among military heroes, but no king was ever more lavish of human blood, or ever lefs confulted the real interests and happiness of his people. Univers. Hift. Voltaire Hift. de Charles XII. Du Fresnoy. Coxe's

Travels, vol. 4.

Of the other eleven Charleses of Sweden, there is little to be faid to entitle them to separate articles in this work. Charles Canution, the eighth of that name, from grand marshal in the reign of Eric, made himself sovereign in the year 1434. In the exercise of his office he was twice compelled to renounce all pretentions to the crown. He retired to Finland, where his credit was fo low, that the archbishop resused him a small loan. His retreat did not give peace to his diffracted country; he was accordingly recalled, and put in possession of all the honours of sovereignty; and in 1470, he closed an eventful life, refigning his kingdom to his nephew Stene Sture. By the historians of his country he is praised for his regard to jullice, as well as for political talents: he is faid also to have been versed in philosophical and mathematical knowledge. - Charles X. was born in 1622, and very early engaged in military fervice. His rank and high reputation as a military commander caused him, in 1648, to be appointed general in chief of the Swedish forces. In 1655, he fucceeded to the crown. He immediately revived the martial spirit of the country, and during the fix years of his reign was engaged continually in war. He died in 1660, of a fever, leaving behind him a confiderable reputation for private virtues, which were wretched compenfations for the difasters which he inflicted on his country, by an inordinate ambition, and a fondness for martial glory. His fon, Charles XI. though a minor, at the death of his father, concluded an advantageous peace with his neighbours. In a few years he made himse f absolute, after which one of his first measures was to raise the nominal value of the coin, in order to liquidate the public debts. Such a step is always unjuit, and in general, very injurious to the state that adopts it. He forbade the exercise of any religion except the Lutheran, and performed many other acts of despotic authority. His subjects remonstrated against his affumed arbitrary power by means of deputies; these he caused to be profecuted and convicted of high treason, among them was Patkul, who pleaded the cause of his country with energy and manly eloquence, for which a fentence of capital punishment was passed against him, which he avoided by flight. The character of this monarch was stern, inslexible, and unfeeling; in reply to his queen, who was interceding in behalf of tome of his subjects grievously oppressed, he faid, "Madam, we have taken you to bring us children, not to

give us advice." This fovereign was chafte, temperate, economical, vigilant, and active: he was a patron of literature: fevere, yet not implacable: prone to anger, but eafily foftened. His love of peace, and the reputation of his character, gave him an afcendancy in Europe, and he was confidered as the principal mediator at the treaty of Ryfwick. In his endeavours to effect a general pacification he died in April, 1697. Univers. Hist. Coxe's Travels.

CHARLES EMANUEL I. duke of Savoy, furnamed the Great, was born in 1562, and fucceeded to the throne of his country in 1580. This prince was of a bold and enterprifing spirit, and during a long reign engaged in many actions which could not be justified upon any principles of justice. During the reign of Henry III. of France, he invaded that country, and wrefted from it the marquifate of Saluces, thereby gaining a frontier for Turin his capital, which before was exposed to the inroads and insults of his enemies. It was on this occasion that the duke struck a medal in commemoration of the event, with the word opportune as a motto; intimating that he had hit upon the lucky moment for the enterprise. Acting upon the same maxim, he feized upon some other provinces of France, during the reign of Henry IV.; he even afoired to the crown of that kingdom, but his plans were defeated, and he was obliged to give up a part of his own territory in exchange for the marquifate of Saluces which he had formerly gained by force of arms. Another act of gluing injuffice he committed upon the Genevese, whose capital he attempted to take in the midst of a profound peace. The body of his troops destined to scale the walls, obtained their object unperceived, but on an alarm being made, the inhabitants, long famed for their ardent attachment to the rights of independence, attacked the invaders before the troops came up who were ordered to co-operate with them. Some prisoners taken by the Genevele were defervedly hanged as common robbers. A representation of the fact was laid before the feveral states of Europe, and the duke was obliged eventually to make ample fatisfaction to the city. Charles afterwards attacked the Genoese and took many of their towns. He aspired to the imperial crown at the death of Matthias. He projected also the conquest of the isle of Cyprus, and was defirous of accepting the fovereignty of Macedonia, offered to him by the oppressed inhabitants; but in none of these projects was he successful. In a contest with the French he lost the strong fortress of Pignerol, the difgrace of which is supposed to have hastened his death in July 1630, after a turbulent reign of fifty years. This prince had many thining qualities: he was an able commander and a fagacious statesman; he was a patron of literature and the arts: he was deemed pious on account of the feveral churches that he built : he was, however, licentious in his private character, unbounded in his ambition, faithless, and distrustful, fo that it has been faid " his heart was as inacceffible as his country." He gained reputation by his valour, but loft all pretentions to rectitude by his invation of the law of nations, and of the rights of independent states.

The Second Duke of Savoy of this name, was a friend to peace, and an ardent lover of his country. His great ambition was to maintain terms of friendfhip with furrounding states, and to improve his own by grand and useful prejects. He adorned his capital with some of its most magnificent edifices, and he is celebrated for penetrating the rock Monte Viso, with an arched road 500 paces in length, and admitting two laden mules to walk abreast, for transporting goods to and from France and Italy. He died in 1675, after a reign of 38 years.

CHARLES EMANUEL III. is, however, by much the most celebrated of the dukes of Savoy. He succeeded to the throne, by the voluntary refignation of his father, in 1730, with the titles of duke of Savoy and king of Sardinia, his predecessor having, at a general peace in 1713, been given Sicily, with the title of king; this, in four years after, he exchanged with the emperor for Sardinia, which it was agreed he should enjoy with the regal title. This prince, in 1733, united with France and Spain in a war against Austria; and in 1742 he allied himself with the queen of Hungary. During the feveral wars in which he was engaged, he experienced various reverles of fortune, but was for the most part successful. When he had obtained a peace, he devoted himfelf to the establishment of such regulations as might be beneficial to his subjects: he was particularly anxious to pay the debts which had been incurred by the war. When he had accomplished that favourite object of his heart, he exclaimed, " This day is the happiett of my life; I have just now suppressed the last of the extraordinary taxes." "How few," fays a contemporary writer, " of the occupiers of thrones, have been capable of feeling fuch a pleasure?" His moderation and attachment to his country kept him free from the war of 1756, and in 1763 he enjoyed the felicity of acting as mediator between the contending powers. He zealously promoted every thing that could render his kingdom prosperous. He corrected the abuses of law by a new code, which was afterwards published at Paris, in 2 vols. 12mo. By his example, as well as by edicts, he fanctioned the principles of economy and good morals. He died on the 22d of February, 1773, leaving behind him the character of a wife and good king. Du Fresnoy. Univers. Hist. Smollett.

Chares, Cape, in Geography, a cape on the east coast of Labrador, N. lat. 52° 25'. W. long. 55° 20'.—Also, a cape of America on the coast of Virginia, at the east side of the mouth of the Chesapeak. N. lat. 37° 12'. W. long. 75°

CHARLES River, a river of America, in the state of Massachusetts, anciently called Quinobequin, the principal branch of which rifes from a pond bordering on Hopkinton. It paffes through Holliston and Bellingham, divides Medway from Medfield, Wrentham, and Franklin, and proceeding to Dedham, forms, by a curious bend, a peninfula of 900 acres of land. A thream, called "Mother Brook," runs out of this river in this town, and falls into Neponsit river, forming a natural canal, uniting the two rivers, and affording a number of excellent mill-feats. From Dedham the course of the river is northerly, dividing Newton from Needham, Welton, and Waltham, paffing over romantic falls: it then bends to the N.E. and E. through Watertown and Cambridge, and passing into Boston harbour, unites with the waters of Mystic river at the point of the peninsula of Charlestown. It is navigable for boats 7 miles to Watertown. The most remarkable bridges on this river are those which connect Boston with Charlestown and Cambridge. On this river are 7 paper mills, besides other

CHARLES County lies on the western shore of Maryland, between Potowmack and Patuxent rivers. Its chief town is Port Tobacco, on a river of that name. Its extreme length is 28 miles, and breadth 24; and it contains 20,61; inhabitants, including 10,085 flaves. The country has few hills, is generally low and fandy, and produces tobacco, Indian corn, sweet potatocs, &c.

CHARLES, a cape on the S.W. part of the firait entering into Hudfon Bay. N. lat.62° 40. W. long. 75° 15.

CHARLES

CHARLES City, a county of America in the flate of Virginia, lying between Chickahominy and James rivers. It formerly contained part of what now forms Prince George's county. It has 5588 inhabitants, including 3141 flaves.

CHARLES-fort, a fort on the west coast of the island of Barbadoes; one mile S. of Bridge Town.—Also, a fort on the west coast of the island of St. Christopher; one mile S. E.

of Sandy Point town.

CHARLES-fort, a fort on the east side of the bay of Kinale, county of Cork, Ireland. It was begun by the earl of Orrery in 1070, and was sinished at the expence of 73.000l. The duke of Ormond, on visiting it in 1681, called it Charlesfort in honour of the reigning monarch. It is a regular fortification, with a strong citadel to the land side, and is so situated, that all ships coming into the harbour, mult fail within pistol shot of the battery. It has a ways a regiment in garrison, and another regiment is quartered in the town of Kinsale, about a mile and a half distant.

CHARLES island, an island in Hudson's Straits. N. lat. 62° 40'. W. long. 72° 55'.—Also, a small island in that part of the straits of Magellan, called Royal Reach.

CHARLES, ST. a lake of Canada, about twelve miles diftant from Quebec; about 4½ miles in length, and about ¾ of a mile in average breadth. It confifts of two bodies of water nearly of the fame fize, communicating by a narrow paſs, through which a current fets towards Quebec. The views on the upper part of this lake are highly picturefque, exhibiting rocks and trees beautifully blended, and shores that are bold and richly ornamented with hanging woods. Towards the upper end the view is terminated by a range of blue hills, which appear at a distance peeping over the tops of the tall trees. The depth of the water in the lake is, at an average, about 8 feet. The water is clear, but not well tasted; and as feveral streams fall into it, to supply what runs off by the river St. Charles, it is kept in a constant state of circulation. The stores abound with buill-frogs.

CHARLES, ST. a river that flows from the above-mentioned lake into the bason near Quebec; at its mouth it is about 30 yards wide, but not navigable for boats, except for a few rules, on account of its numerous rocks and falls. In the spring of the year, when it is swollen by the sloods, rafts have been conducted down the whole way from the lake; but the passage is difficult and tedious, as there are feveral poltages. The distance from the lake to Quebec being so short, land carriage must always be preferred to a water conveyance along this river, except for timber. The course of the river is very irregular, and the views upon it extremely romantic, particularly in the neighbourhood of Lovette, a village of the Huron Indians, where the river, after falling in a beautiful cascade over a ledge of rocks, winds through a deep dell, shaded on each side with tall trees.

CHARLES'S Wain, in Afronomy, feven flars in the confletlation Urfa Major. This figure is also called David'sChariot, the Plough, &c. These appear to have altered in brightness with respect to each other, since the time they were marked by Bayer. For if their present apparent order in splendour be denoted by the first seven figures, 1 answering to that of the highest magnitude; then α , which was the brightest according to Bayer, is now the fourth in order of brightness; β , which was the second in brightness, is the fifth in the present order: γ answers to the first; δ to the feventh; ϵ to the first; δ to the third; and η , which was the last in order according to Bayer, is apparently the second in brightness. Upon the 3d of December, 1786, M. de La Lande observed a change in the above order.

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CHARLESTON, in Geography, a post town of Cecit county, in the state of Maryland, near the head of Chesapeak bay; 6 miles E.N.E. from the mouth of Susquehannah river; to W.S.W. from Elkton, and 50 S.W. by W. from Philadelphia. N. lat. 39° 34°. In this place there are about twenty houses, chiefly inhabited by people who are employed in the herring fishery. Beyond it the country is much diversified with hill and dale; and the foil being of an indifferent quality, the lands are so little cleared, that in many parts the road winds through uninterrupted woods for four or sive miles together. The scenery in the neighbourhood is highly interesting. Near Charleston there is a small soundery for cannon, which are bored by water, and of which two 24 pounders are manusactured every week. The iron is extremely tough, so that sew of the guns burit on being proved.

Charleston, a diffrift in the lower country of South Carolina, lying between Santee and Combahee rivers, and divided into 14 parifies. To the flate legislature it fends 48 representatives and 13 senators, and to congress one member. It contains 66,986 inhabitants, of whom 16,532 are free; and pays taxes amounting to 21,474. Las. Cd.

terling.

CHARLESTON, the most considerable town, though not the present seat of government, in the state of South Caro-lina, situate in a district of the same name, on a tongue of land formed by the confluent streams of Ashley and Cooper, two large and navigable rivers, though not of great extent. By their union below the town they form a spacious and convenient harbour, which communicates with the occan at a distance of about 7 miles below Sullivan's island. The tide in these rivers which commonly rifes about 6½ feet, has the singular property of uniformly rifing 10 or 12 inches

more in the night.

The fituation of the town is flat and low, and the water brackish; but the agitation occationed by the tides, and the refreshing sea breezes contribute to render it more salubrious than any part of the low country in the fouthern states. The streets, though too narrow for a place so large, and so warm a climate, are regularly formed; running from E. to W. and from river to river, they open in beautiful prospects, and they are kept clean and healthy by means of subterraneous drains. The streets are intersected at right angles by others, which diffribute the town into a number of fquares. The modern houses are chiefly constructed with brick and have tiled roofs; and many of the buildings are neat, elegant, and airy. The public edifices are, an exchange, a state-house, an armoury, a poor house, and an orphan's house. Besides several respectable academies, here is a college adapted to the accommodation of a number of students. The two banks of Charleston are a branch of the national bank, and the South Carolina bank, established in 1792. The places of public worship are, two episcopal churches, two for Independents, one for Scotch Presbyterians, one for Baptills, one for German Lutherans, two for Methodifts, one for French Protestants, one for Quakers, a Roman Catholic chapel, and a Jewish synagogue. The adjacent country abounds with poultry and wild ducks; fith are rare in the market; and with regard to the beef, mutton, and veal, they are not generally effeemed of the best kind. Charleston was incorporated in 1783, and divided into 13 wards, in which are as many wardens, chofen by the inhabitants, one of whom is elected intendant of the city, by whom and the wardens is formed the city council, which is empowered to make and enforce bye-laws for the regulation of the police. The number of inhabitants was estimated in 1787, at 15,000, including 5400 flaves, and occupying 1600

houses; but in 1791, the inhabitants amounted to 16,359, of whom 7684 were stives. This town has often suffered by sire, and particularly in June 1796. The value of exports from the port of Chaueston in the year ending Nov. 1787, amounted to 505,2791. 191. 5tl. sterling, and the number of vessels cleared in that year from the custom-house was 987, of which 735 were American, and the rest belonging to Great Britain, Ireland, Spain, France, and the United Netherlands. In 1794, the value of exports amounted to 3,846,392 dollars. The light-house of this town lies in N. lat. 32° 41′ 52″. White point at the south end of the town, in N. lat. 32° 44′ 30″. W. long. 80° 39′ 45″.

CHARLESTOWN, a township of Montgomery courter.

ty, in the state of New York, on the fouth side of Mohawk river, about 32 miles W. of Schenectady; 496 of the inhabitants, being by the state census of 1796, electors .- Also, a township of Mason county in Kentucky, fituated on the Ohio at the mouth of Lauren's creek; 6 miles N. of Washington, and 60 N.E. of Lexington. N. lat. 38° 43' .- Alfo, a township in Chester county, Pennsylvania .- Also, a post town in the county of Cheshire, and state of New Hampshire, on the E. side of Connecticut river, 30 miles S. of Dartmouth college, 116 N. of W. of Boston, and 431 N.N.E. of Philadelphia; incorporated in 1753, and containing about 100 houses, a congregational church, a courthouse, and an academy. Through this town the road passes from Boston to Quebec. N. lat. 43° 16'. W. long. 72° 19'.—Alfo, the principal town in Middlefex county, Maffachufetts, called by the aboriginal inhabitants "Mishawun," connected with Boston by Charles river bridge. This town is built on a peninfula, formed by Mystic river on the E. and a bay from Charles river on the W. It is advantageously situated for health, navigation, trade, and almost all kinds of manufactures. The adjoining hills, celebrated in the history of the American revolution, afford delightful prospects of Boston and its variegated harbour of Cambridge and its colleges, and of an extensive tract of highly cultivated country. It contains within the Neck or pavish about 250 houses, and 2000 inhabitants. The principal public buildings are a congregational church and an almshouse. Its chief manufactures are those of pot and pearlafhes, ship-building, rum, leather, silver, tin, brass, and pewter. Its houses, population, trade, and navigation, have greatly augmented within a few years past. This town is a port of entry in conjunction with Boston. At the head of the Neck is a bridge over Myllic river, connecting Charlestown with Malden.—Alfo, a willage in Berkeley county, Virginia, fituate on the great road leading from Philadelphia to Winchester; 20 miles from Winchester .-Alfo, a township in Washington county, Rhode island, having the Atlantic to the S. and feparated from Richmond towards the N. by Charles river, a water of Pawcatuck, 10 miles W. of Newport; containing 2022 inhabitants, including 12 flaves .- Alfo, a town on the island of Nevis, one of the Caribbees, belonging to Great Britain. It has large houses and well-furnished shops, and is defended by Charles-fort. Near the town is a high mountain, the altitude of which, taken from a quadrant in Charlestown bay, is faid to be 11 mile perpendicular, and from the bay to the top 4 miles. N. lat 16° 55'. W. long. 62° 42' -Also, one of the principal towns in the island of Barbadoes called Offins.

CHARLETON, in Biggraphy. See CHARLTON.

CHARLETON Island, or Charles Island, in Geography, an island fituated at the bottom of James's Bay, in New South Wales on the coat of Labrador, and exhibiting a beautiful prospect of trees and branches, which are spread over the island.

The air at the bottom of the bay, though in N. lat. 51°, is exceffively cold for nine months of the year, and very hot for the other three, except on the blowing of a N.W. wind. The foil, on both the eaft and welf fides, bears all kinds of grain; and about Rupert's Bay are fome fruits, as goofe-berries, ftrawberries, and dewberries. N. lat. 22° 30′. W. lon. 82°.—Alfo, a township in Saratoga county, New York. By the state census of 1796, 268 of its inhabitants were electors.—Alfo, a township in Worcester county, Massachufetts, incorporated in 1754, and till that time forming the western part of Oxford; 60 miles S.W. of Boston, 15 S. W. of Worcester; containing 1965 inhabitants.

CHARLEVAL, CHARLES FAUCON DE VEY, lord of, is Biography, a polite scholar and poet, was born in 1613. and, notwithstanding the feebleness of a peculiarly delicate conflitution, lived to the advanced age of 80 years. Of his conversation and writings, it is said, they were characterifed by sweetness and refinement; and Scarron said of him, " that the Mufes fed him only with blanc-mange and chicken-water." He was not only perfonally attached to polite literature, but a liberal patron of literary merit. Upon being informed that M. and Monf. Dacier were retiring from Paris to the country, in order to avoid expence, he preffed them to accept of 10,000 livres in gold. His death was occasioned by a fever, which his physicians thought that they had fubdued by frequent bleedings. On faying to one another, in the presence of Thevenot, the king's librarian, "the fever is going at last;" he interposed, and observed, "O no, it is the patient that is going;" and he died in three hours. A small collection of his poems, confisting of stanzas, epigrams, fongs, and fonnets, which are easy and elegant, but feeble in thought and style, appeared in 1759. Nouv. Dict. Hift.

CHARLEVAL, in Geography, a town of France, in the department of the Eure, and diltrict of Les Andelys; 10 miles

S.E. of Rouen

CHARLEVILLE, a market and post town of the county of Cork, Ireland, fituated on the border of the county of Limerick. It is in many respects a flourishing town, and its trade is daily increasing. It was formerly called Rathgogan; but the first Lord Orrery, better known by his former title of Broghill, being the possessor of it, changed its name to Charleville, in honour of the king; made it the feat of his government, as prefident of Muniter, and had it erected into a borough, so that it fent two members to parliament, till the union deprived it of this privilege. Lord Orrery also established a free school there; and one of his fuccesfors gave ground for a charter-school, for the reception of 50 children. The country round about is very fertile; the foil is a light brown earth lying deep on a limestone bottom. Mr. Young speaks of 30 looms for making ferge being in this town. It is 112 miles S.W. from Dublin, and 20 N. from Cork. Smith.

CHARLEVILLE, a town of France, in the department of the Ardennes, and chief place of a conton in the district of Mezieres, from which it is separated by the Meuse. Before the revolution, it belonged to the prince of Cordé, being exempt from the general taxes of the kingdom. The place contains 7400, and the canton 12,567 inhabitants: the

territory includes 137½ kiliometers and 12 communes. CHARLEVOIX. Peter-Francis-Xavier De, in Biography, a writer of voyages and travels, was born at St. Quantin, in 1634; and having entered the lociety of Jesuits, taught the languages and philosophy with reputation. After returning from his foreign missions, he was engaged for 24 years in the conduct of the "Journal de Trevoux." and was much esteemed by his brethren of the society for the pu-

ity of his morals and the extent of his knowledge. He Pin, the church never had an author of greater reputation, died in 1761. His works are, " A History of the Island of St. Domingo," 2 vols. 4to. 1730. "A History and Description of Japan," 1736. 2 vols. 4to. and 6 vols. 12mo. in which work is contained every thing that is true and interefting in Kæmpfer's account of Japan; "History of Para-guay," 6 vols. 12mo. "General History and Description of New France," 1744, 3 vols. 4to. containing the result of his own observations on the manners and customs of the native Americans, during his residence in Canada, and in the

course of his journey from Quebec to New Orleans, which are peculiarly valuable. Nouv. Dict. Hift. CHARLIER, JEAN, an eminent ecclefiastic, born in 1363, at Gerson, in France, from whence he takes the name Gerson, by which he is more commonly known than by that of Charlier. He received his education at Paris; after which, he tłudied divinity ten years under Peter d'Ailly and Giles Deschamps, and received the degree of dostor in 1392. Three years after, he was appointed to the chancellorship and canonry of the church at Paris. At this period, the violent disputes between the dukes of Orleans and Burgundy, and the schism in the papal see, rendered Charlier's office very difficult to be executed. He went as a deputy, with others, in 1406, to Gregory and Benedict, the competitors for the papal fee, with a view of perfuading them to restore union to the church; and was afterwards highly instrumental in the deposition of both, and in the election of Alexander V. On the affaffination of the duke of Orleans, by the order of the duke of Burgundy, in 1408, he inveighed publicly and loudly against the foul crime, by which he incurred the greatest danger from the triumphant party. He attacked the propositions written by John Petit in defence of the action committed by the duke of Burgundy; procured the cenfure of them by the faculty of theology at Paris, and supported their condemnation at the council of Constance, where he appeared in the capacity of ambassador from the king of France, and deputy from the university of Paris. At that council, he spoke on all matters of doctrine and discipline with so much eloquence, and conducted the cause in which he had embarked so ably, that he obtained the highest applause from cardinal Zabarella, and the titles of evangelical and most christian doctor were conferred upon him. At the instance of Gerson alone, the council of Constance decreed, that Petit's principle was heretical, feditious, authorifing treason and perjury; and they farther decreed, that whoever maintained it should be considered as obstinate heretics. On every occasion he displayed the purest and most enlightened zeal for the reformation of manners, and his own example proved the fincerity of the motives by which his conduct was actuated. His noble indignation against the infamous principles avowed and defended by Petit, drew upon him the malice of the Burgundian faction, fo that he dared not, upon the breaking up of the council, return immediately to France, but remained in Germany in the difguife of a pilgrim. At length he undertook the humble occupation of a schoolmaster at Lyons, in which he continued some years, and died in 1429, aged 66. Gerson was author of many works, which were collected in 1706, and published at Antwerp, in five volumes folio. To him has fometimes been ascribed the celebrated treatife " On the Imitation of Christ;" but Du Fresnoy, and other French historians, have determined that this was not written by Gerson. To the Antwerp edition of his works is prefixed a piece entitled "Gersoniana," containing a multitude of curious biographical anecdotes of the author, Peter d'Ailly, and other

contemporary divines. According to the teltimony of Du

more profound knowledge, and more folid picty, than Gerfon. His flyle, though harsh and sometimes careless, is methodical, and his arguments are generally conclusive. "He defends the truth," fays the ecclesiastical historian, "upon all occasions, with an admirable and undaunted courage. He suffered a cruel persecution for a righteous cause, and died in exile for maintaining it with vigour." Du Fresnoy, Du Pin. Priestley's Eccl. Hist.

CHARLIEU, in Geography, a town of France, in the department of the Loire, and chief place of a canton, in the district of Roanne; 12 miles N.W. of Lyons, and 3 N. of Roanne. The place contains 2829, and the canton 10361 inhabitants: the territory includes 1471 kiliometres and 15

CHARLOCK, in Botany. See SINAPIS arvensis, and

RAPHANUS raphanistrum.

CHARLOCK, in Gardening, (Sinapis nigra), is a weed too generally known to the farmer to require a minute description. It is frequently called chadlock, catlock, corlock, and white rape. Almost the whole plant is covered with pellucid hairs.

There are, according to some, two forts of charlock, one bearing white and the other yellow flowers; but they

are faid to be only a variety of the same plant.

And it is observed by the author of the Staffordshire agricultural report, that the " yellow-flowered weed termed chadlock by the farmer, is not one individual, but three feparate and distinct plants, each species more or less abounding in different places, and which are as follow: 1. The rough-leaved chadlock, or wild muttard, (finapis nigra); 2. the smooth-leaved or wild rape, (braffica napus); and the rough-leaved wild radiff with white flowers, (raphanus raphanistrum). These plants are all annuals, produced entirely from feeds, which they bear in great abundance, and which feeds will lie in a clod as fafe as in a granary, and vegetate at the end of twenty years, when ploughed up and exposed to moisture. These intruders are only to be extirpated by ploughing them under when the field is fallow, or by weeding them out of the crop before their feed shall have been ripened; for if suffered to perfect and shed their feed, each fingle plant will produce an hundred; the farmer should therefore carefully prevent this by weeding or hoeing them out in time. The increase of the above and fome of our field weeds, when they are permitted to shed their feed, is, he fays, beyond all calculation."

The young plants of charlock, are faid to nearly to resemble those of turnips that they are not easily distinguished but by the taste; the charlock being hot and bitter, and the turnip mild. Farmers should therefore be very careful in weeding their turnips left they mistake them for charlock. Mr. Lifle has fuggested that cold wet lands are always more fubject to charlock than white or chalky lands; and that by an experiment which he made in fowing charlock feed and turnip-feed at the same time, he found that the turnips appeared in three days, but the charlock not in lefs

than ten.

It has been remarked that sheep are fond of eating these weeds; and that of course advantage may be derived from feeding them down in the spring by sheep. See WEEDS.

CHARLOTIA, in Geography, a town on the E. shore of St. John's river in East Florida, sented on a high bluss, 15 or 20 feet in perpendicular afcent from the river, and half a mile or more in length. The aborigines of America feem, from the remains of great tumuli and conical mounts of earth and shells, and other traces of a settlement, to have

had a large town in this place. The river for an interval of about 12 miles above the town, is divided into many chan-

nels by a number of islands.

CHARLOTTE, a confiderable township on the east fide of lake Champlain, and the fouth-welternmost in the county of Chittenden and state of Vermont. It is separated on the north from Burlington by Shelburne, and contains 635 inhabitants.

CHARLOTTE, a county of Virginia, lying S. W. of Richmond on the head waters of Staunton river, and containing 10,078 inhabitants, of whom 4816 are flaves. The court-house is distant 21 miles S.S.W. from Prince Edward court-house, and 379 in about the same direction from Philadelphia.

CHARLOTTE'S Bay, a bay on the fouth-east of Nova-

Scotia. N. lat. 44° 35'. W. long. 58° 50'. CHARLOTTE, Cape, a cape at the fouth extremity of

New Georgia. S. lat 54° 32'. W. long. 36° 11'.
CHARLOTTE Fort, a fort of America, in the state of South

Carolina, near the town of Peteriburg in the state of Georgia. CHARLOTTE'S, QUEEN, Illes, a group of islands on the N.W. coast of America, bounded towards the fouth by Cape St. James, and to the north by Cloak Bay, North Island, and Dixon's Straits; and situate between N. lat. 51° 48' and 54° 12', and W. long. 134° 30' and 130°. The inhabitants of these islands consist, according to captain Dixon's account, of feveral tribes of Indians, who are in their disposition and manners ferocious and savage, so that they are frequently in a state of hostility with one another, and feath on the bodies of their enemies that are flain in battle, whilst they preserve the heads as trophies of victory. However, they carry on by means of their canoes, a very confiderable trade in furs of an excellent quality. They appeared to be much addicted to plunder, and with this view they not only permitted, but urged their females to go on board the English ships whenever invited, availing themselves of the opportunities which these visits afforded them of stealing, with fingular dexterity, whatever fell in their way. Although every tribe in these islands is governed by its respective chief, they are nevertheless divided into families, each of which appears to have regulations, and a kind of Subordinate government of its own.

The chief usually trades for the whole tribe, but sometimes each separate family, disapproving his method of barter, has claimed a right to dispose of its own furs, and the chief has always complied, though it is uncertain whether he receives in confideration of his compliance any emolument. The number of fea-otter ikins collected by captain Dixon at these islands was no less than 1821, many of which were very fine; other furs are found in less variety here than in many other parts of the fea-coast; racoons, pine-martins, and feals, being the only kinds that were feen. Portlock and Dixon's Voyage, &c. p. 228, &c. 8vo. Vancouver's Voyage, vol. i. p. 369, &c. It has been disputed to whom we are indebted for the first discovery of Queen Chariotte's Islands: captain Meares, (Voyages, p. 53,) fays, that captains Lowrie and Guyle, who commanded two velfels that were fitted out at Bombay in 1780, and which arrived at Nootka Sound on the 29th of June, where they remained till the 27th of July, indifp tably discovered that land to which Mr. Dixon gave the name of Queen Charlotte's Islands; which he is faid to have done merely from conjectural opinion, as they were never proved to be fuch, till captain Douglas, in the Iphigenia, failed through the channel which separates them from what was then supposed to be the American continent. M. Fleusieu, in his intro-

duction to Marchand's voyage, does not prefume to dispute with the English this last discovery; for he says that La Perouse, who had rightly prefumed that these lands must be an island, had not an opportunity of satisfying himself in this particular; but he contests with captain Meares the priority of the discovery attributed to captains Lowrie and Guyle. It is not known, he fays, at what precise period they faw Queen Charlotte's Islands, nor how the difcovery was made, nor what portion of these lands they examined; but we certainly know, that La Perouse discovered them on the 10th of August of the same year; that he followed and examined the coasts of them for 10 days, and ranged along them from north to fouth, over an extent of 50 leagues. After all, on whatever fide the priority lies. the two discoveries must be nearly contemporary; and it is alleged, that on both fides the honour is equal. Captain Dixon continuing his rout in 1787, from the space included between the parallels of 56° and 55° to the S.S.E. discovered on the 1st of July, land in 54° 24', which was the north part of those illands that are now laid down in the English charts under the name of Queen Charlotte's Islands, and of which La Perouse had been the first discoverer the preceding year. Dixon ranged along the Archipelago, as La Per-use had done, by the western shore, to its fouthern extremity, doubled it to the fouthward, and flood again to the northward, ranging along the east shore, as far as 53° 10'. He afterwards ran down the east coalt of these islands, as he had ascended it, without pushing his refearches towards the continent. Captain Duncan in 178S anchored and traded in feveral harbours of the eath coast of Queen Charlotte's Islands, examined and visited them, from the latitude of 52° to 54°. Captain Douglas, who made a voyage to the N.W. coast of America in 1788, in company with captain Meares, running down the coast, visited some ports which had not been known, and one among others, towards the latitude of 55°, to which he gave the name of Port Meares. That harbour is fituated on the northern fide of the strait, which to the northward feparates from the continent the lands discovered in 1786 by La Perouse, and called Queen Charlotte's Islands. It appears that captain Douglas is the first known navigator who passed through this strait, and thus penetrated by the north fide into the gulf or channel which is fituated between the islands to the west and the archipelago of San Lazaro. Douglas ranged along this channel throughout its whole length, without ever ceasing to fee land on both fides, the arm of the fea that separates the islands from the continent not being more than 20 leagues wide: and he ran down as far as Nootka Sound, where he rejoined captain Meares. The two ships of these commanders carried to Canton the furs which they had procured on the different parts of the coast that they had visited. See Miarchand's voyage by Fleurieu, vol. i. Introd.

CHARLOTTE'S, QUEEN, Sound, a found of New Zealand, vilited by captain Cook in 1774; the lituation of which was minutely afcertained by the observations of Mr. Wares, to be in N. lat. 41° 5' 56.5". E. long. 174° 25' 7.5" .-Also, a found on the wettern coast of N. America, in N. lat. about 51°, and E. long. 128°.

CHARLOTTE's Town, a town of the island of Dominica. on the west coast, formerly called Roseau. N. lat. 150

25'. W. long. 69" 24'. CHARLOTTE'S Town, a town of the island of St. John, in the gulf of St. Lawrence, fituate about the center of the island, towards the fouth coast. N. lat. 46° 15'. W. long. 62° 50'. CHAPL

CHARLOTTEBURG, a town of America, in the county of Brunfwick and state of North Carolina, feated on an island, and having an inlet and found of the fame name, a little to the fouth of it. N. lat. 35° 18'. W. long. 81°.

CHARLOTTENBERG, a town of Germany, in the circle of Westphalia, and county of Holzapfel, built by the French refugees; 4 miles S.W. of Holzapfel.

CHARLOTTENBURG. See BERLIN.

CHARLOTTENB' RG, a town of America, in the state of Jersey, and county of Bergen; 12 miles N. of Morris

CHARLOTTENLUND, a town of Denmark, in the

island of Zealand; 4 miles N. of Copenhagen.

CHARLOTTESVILLE, or CHARLOTTE, a post town of America in Salisbury district and state of North Carolina, and the chief town of Mecklenburg county, feated on Steel creek, which-joins the Sagaw, and falls into Catabaw river, about 10 miles N. of the South Carolina boundary, and 44 S. of Salisbury, containing about 40 houses, a court-house, and gaol.

CHARLOTTESVILLE, a town of America, the capital of Albemarle county in the state of Virginia, lying on the post road from Richmond to Danville in Kentucky; and containing about 45 houses, a court-house, and a gaol; 86 miles W.N.W. of Richmond, and 40 S.E. by E. of

Staunton.

CHARLTON, WALTER, M. D. in Biography. Of this learned and ingenious physician, and of his numerous writings, Anthony Wood, who was cotemporary with him, has given a long account, from which the following is principally taken. He was born at Shepton Mallet, in Somersetshire, on the second of February 1619, and received the rudiments of his learning under his father, who was rector of the place. In 1635, he was admitted a commoner in Magdalen Hall, Oxford, and put under the tuition of Mr. John Wilkins, afterwards bishop of Chester, under whom he made confiderable progress in logic and in philofophy. His disposition leading him to the study of medicine, he foon became conspicuous for his proficiency in that art, and in 1642 he was created doctor in medicine by the favour of the king, Charles the first, and appointed his phyfician in ordinary. With this title he came to London, was admitted a fellow of the college of physicians, and continued to enjoy a confiderable share of credit during the trouble-fome times that followed. On the restoration of king Charles the fecond, he was made one of his phylicians in ordinary, and a member of the newly formed royal fociety, about which time his first publication appeared, " Spiritus Gorgonicus exutus, seu de causis, signis, et sanatione Lithialews." Svo. Lug. Bat. 1650. in which he adopts the opinion of Van Helmont, as to the cause of the generation of urinary calculi, and recommends the feed of the wild carrot as a powerful lithontriptic. " Exercitationes pathologica, in quibus morborum pene omnium natura et causa ex novis anatomicorum inventis inquiruntur." London, 1661, 4to. In this, as well as in the rest of his medical lucubrations, there is little new; but they tended to spread the knowledge of the many improvements in anatomy and phifology which had been made by the Bartholines, by Harvey, Glisson, &c. " Natural History of Nutrition, Life, and voluntary Motion, containing all the new Discoveries of Anatomilts." 4to. London, 1658. But his inquiries were not confined to medical subjects. He wrote "The Darkness of Atheism discovered by the Light of Nature."

examples of the power of love and wit." In 1660, to shew his loyalty, which had perhaps been suspected, from his living about the court of Oliver Cromwell, he circulated a flicet, containing a character of his most facred majesty, Charles the Second; and in 1663 he published "Chorea Gigantum; or the most famous Antiquity of Great Britain, vulgarly called Stone Henge, standing on Salisbury Plain, restored to the Danes." 4to. Inigo Jones had supposed it was a Roman temple. Charlton, instructed, Wood says, by Olaus Wormius, the Danish antiquary, insisted, that the flones were placed there by the Danes, but they were supposed, with more propriety, to be Druidical remains. We have also by him an Harveian oration, printed in 1680: Lectures on the structure of the heart, the course of its motion, &c. read before the college on the 15th, 20th, and 21ft, days of March, 1682, with numerous other pieces, for titles of which fee Wood's Athenæ Oxon., Haller's Bib., General Biography, &c. In 1689 he was made prefident of the College of Phyficians, which office he held two years. It is probable, however, that he never had any very confiderable share of practice, as we find him foon after this retired to the island of Jersey, "where he now is, Ant. Wood fays, viz. 1695, a learned and unhappy man, aged, and grave, yet too much given to romances." Wood gives a lift of more than twenty publications by Charlton, and he is known to have intended many more, the manufcripts being now in the British museum. The greater part of his publications and writings were alien to the practice of medicine, and must therefore have tended rather to obstruct, than forward his acquifition of fortune. He died in the year 1707, in the 88th year of his age.

CHARLTON, in Geography, an island in the fouthern part

of Hudson's bay. N. lat. 52° 8', W. long. 80°. CHARLY, a town of France, in the department of the Aifne, and district of Chateau-Thierry, 2 leagues S.W.

CHARM, derived from the Latin earmen, verse, a magic power, or spell, by which with the assistance of the devil, forcerors and witches are supposed to do wondrous things far furpaffing the powers of nature. See MAGIC. Phylacteries, ligatures, &c. are, all, kinds of charms.

CHARMANDA, in Ancient Geography, a nation of Asia, placed by Xenophon on the other side of the

Euphrates.

CHARMES, in Geography, a town of France, in the department of the Volges, and chief place of a canton, in the district of Mirecourt, 21 leagues N.E. of it. The place contains 2686, and the canton 10743 inhabitants; the territory includes 217 1/2 kiliometres and 27 communes

CHARMIDAS, in Biography, the companion of Philo of Larissa (fee Philo), and celebrated for the compass and fidelity of his memory, and for his moral wildom. Cic Tufe. Quæft. l.i. Plin. H. N. l. x. c. 16. Stobæus, ferm

CHARMIS, a native of Marfeilles, but for his great skill in the practice of medicine invited to Rome, where he flourished in the time of the emperor Nero. Having succeeded in refloring some of the principal men there to health, by means of the cold bath, he foon found himfelf at the head of the profession, and was thence enabled to acquire a large property. He is faid to have charged one of his patients 200 seiterces, a sum equal, Le Clerc fays, to 20.000 livres, or 800/. Aerling, for a lingle cure. He decried, Pliny fays, the practice of his brethren; though he might have recollected, that the cold bath, by the use of which he acquired his repu-"The Ephenan and Cimmerian Matrons; two remarkable tation, had been recommended by Ant. Muía, . He invested

an antidote, to which he gave his name; the formula is preferred by Galen, but it has been long out of ufe. Le Clerc. Hilt, de la Med.

CHARMIS, in Ancient Geography, a fmall town of the island of Sardinia, founded, according to Steph. Byz. by the Carthaginians.

CHARMOGOL, in Geography, a town of Persia, in the province of Chorasan: 200 miles N. of Herat.

CHARMONT, a town of France, in the department of the Marne; 14 miles N.E. of Vitry.

CHARMOSYNA, in Mythology, a festival at Athens;

and, according to Plutarch, in Egypt.

CHARMOTAS, in Ancient Geography, a fea-port of the Arabic gulf, the entrance of which, according to Strabo, was first and dangerous.

CHARMOUTH, in Geography, a village of England, on the coall of the county of Dorfet, at the mouth of a finall river called Char, where the Danes made a defcent, and ravaged the country, in the years 833 and 840; 3 miles E. of Lime.

CHARMUT, in Ichthyology. The Linnwan Silurus anguilluris, which inhabits the Nile, and other rivers of Afia, is known among the Arabians by the name of Charmut. See SILURUS anguilluris.

CHARMUTH. Silurus charmuth niloticus of Haffelquist is

the Linnæan Silurus anguillaris, which fee

CHARMUTHA, in Ancient Geography, a peninfula of the Arabic gulf, on the coall of Arabia Felix, according to Diodorus Siculus.

CHARNEL, a portico, or gallery, anciently near the church-yard; over which were disposed the bones of the dead, when the flesh was consumed.

The charnels, or charnel-houses, are now usually contigu-

ous to the church.

CHARNEZAY, in Geography, a town of France, in the department of the Indre and Loire, and diffrict of Loches;

10 miles S. of it.

CHARNUB, in the Materia Medica, a name given by fome of the ancient writers to the filiqua dulcis, or carobree. The Arabian physicians mention two kinds of this; the Syrian, and Nabathwan: the first they call aljembus, and the other alnabas. Avicenna tells us, that the first of these was a purge, and was given with success in pains of the bowels; and the other an altringent, given in profluvia of the menses.

CHARNY, in Geography, a town of France, in the department of the Mcufe, and chief place of a canton in the dillrict of Verdun; one league N. of Verdun. The place contains 615, and the canton 9011, inhabitants: the territory comprehends 215 kiliometres and 21 communes.

CHARNY, a town of France, in the department of the Yonne, and chief place of a canton in the diffrict of Joigny; 10 miles N.W. of Auxerre. The place contains \$13, and the canton 13,141, inhabitants: the territory includes 287½ kiliometres and 21 communes.

CHAROLLAIS, a small country of France, before the revolution; so called from Charolles, the capital.

CHAROLLES, a town of France, in the department of the Saone and Loire, and chief place of a diltrict. The place contains 240, and the canton 10,811 inhabitants: the territory includes 190 kiliometres and 14 communes.

CHARON, a town of France, in the department of the

Lower Charente; 3 leagues N. of Rochefort.

CHARON, in Mythology, the ferryman of hell; fon of Erebus and Nox, according to the theogony of Hesiod, whose province it was to carry in his boat, over the waters of Acheron, Styx, Cocytus, and Phlegethon, the fouls of the dead; particularly of those who were buried; for persons who were not interred were supposed to wander about the shores for 100 years before they were carried over. Thus Virgil (Æn. vi.) describes their state:

"Centum errant annos, volitant hæc litora circum:
Tum demum admiffi stagua exoptata revisunt."

A hundred years they wander on the shore, At length, their penance done, are wasted o'er.

However, Charon was first paid his fare, which was never less than one obolus, nor more than three, which was put into the mouths of perfons interred. Some mythologists have derived his name from Acharen, fine gratia, formed of a priv. and x2815, gratia, denoting the ungracefulness of his aspect. Others say, that Charoni, in the old Egyptian, signified simply a ferry-man. The Arabian historians describe Charon as a person of great power; who could load several camels with the keys which opened the numerous apartments that contained his treasures. Perhaps in Egypt the name of Charon was a dignity bettowed on the boatmen who conveyed the bodies of the Pharaohs over the lake Moris to deposit them in the cells of the labyrinth, of which he was the keeper. Without doubt, the person who performed the fame office on the lake of Memphis, with respect to the inhabitants of that city, had the same title. If this conjecture be founded, we discover the reason why the Greeks, borrowing from the Egyptians, gave the name of Charon to the boatman of hell; and why the Arabs call the lake of Moeris, "birkut Caroun," and ruins in its vicinity "balad Caroun," the burgh of Charon, and "cafr Caroun," the palace of Charon. The present inhabitants of Egypt have a kind of traditionary fable, that Charon was a person of mean extraction, who placed himself near this lake, and demanded a certain fum for every corpfe that was ferried over to be interred; which imposition he continued for several years without any authority; but as he infifted upon receiving the usual fare for the king's son, the fraud was discovered and discontinued. The king, however, as the fable reports, perceiving the advantage of this impost, confirmed it by royal authority, and appointed Charon to the post he had before occupied, which he rendered the most lucrative office in the kingdom. It is also said that he became so rich and powerful, as to affaffinate his sovereign, and ascend the throne in his stead. To this fanciful narration we may fubjoin the account given by Tzetzes, who, representing the Fortunate islands as British, observes, that the souls of the dead are reported to be carried thither; and that on the shore of the ocean, which washes the island called Britain, men fubfilt by fishing, who are subject to the Franks, but pay them no tribute, because, as it is reported, they transport the fouls of the dead to the coast of Britain, which is reckoned among the islands of the bleffed, and the habitation of deceafed persons, conveyed thither by these fishermen. Charon is represented by the poets as a fat, squalid, old man, with a long grey beard, and rheumatic eyes, clad with tattered rags, that scarcely covered his nakedness. Virgil deferibes him as possessing the vigour and firmness of old age, meanly clad, with a long beard, grey matted hair, and fixed fiery eyes. Thus,

 Portitor has horrendus aquas et flumina fervat Terribili fqualore Charon: cui plurima mento Canities inculta jacet; (tant lumina, flammæ: Sordidus ex humeris nodo dependet amictus. Ipse ratem conto subigit, velisque ministrat, Et serruginea subvectat corpora cymba, Jam senior; sed cruda Deo viridisque senectus."

En. vi. v. 298, &c.

There 'Charon stands, who rules the dreary coasts:

A fordid god: down from his hoary chin
A length of beard descends, uncomb'd, unclean;
His eyes like hollow furnaces on fire;
A girdle, foul with grease, binds his obscene attire.
He spreads his canvas, with his pole he steers,
The freights of slitting ghosts in his thin bottom bears.
He look'd in years; yet in his years were seen
A youthful vigour, and autumnal green.

CHARONDAS, in Biography, a native of Catanea in Sicily, flourished about 446 years B. C. and is supposed to have been a disciple of Pythagoras. He was distinguished both as a philosopher and a legislator; and is faid to have framed a code of laws for his own native place and feveral other cities of the Chalcidians, and also for the Magii; and they were afterwards adopted by the inhabitants of Thurium in Magna Græcia, rebuilt by the Sybarites, when they effablished their republic. Some of these laws were such as follow: Perfons who married a second time, if any children by their first wives were living, were excluded from the fenate, and from all public employments, because bad fathers, as the legislator conceived such to be, would make bad magistrates. All false accusers were carried through every part of the city crowned with heath or broom, and thus exposed to public ignominy, as the vileft of men. All those were perfecuted and fined who formed a correspondence, or contracted a friendship with wicked men. Conceiving ignorance to be the greatest evil and the source of vice, Charondas enjoined, that the children of all the citizens should be instructed in I terature and the sciences. Instead of putting deserters and those who fled in the day of battle to death, he sentenced them to appear for three days in the city, dressed in the habit of women. To prevent the rash and halty abrogation of his laws, he enjoined, that those who proposed to alter or amend them, should appear in the public assembly with a halter about their necks, and if the alteration proposed did not pass, they were to be immediately strangled. Charondas did not long furvive his own laws. Returning one day from pursuing fome thieves, and finding a tumult in the city, he eame armed into the affembly; though he himfelf had prohibited any person's doing so by an express law. When a person observed him and recriminated in severe terms on account of the violation of his own laws, "I do not violate them, fays he, but thus feal them with my blood;" and having thus spoken, he plunged his sword into his bosom, and expired. Diod. Sic. Diog. Laert.

CHARONIUS, Charonean, is used as an epithet for cases, some of which are found in Italy, and in other parts of the world, where the air is so loaded with a poisonous vapour, that animals cannot live in them even a few mo-

ments.

CHAROST, in Geography, a town of France, in the department of the Cher, and chief place of a canton in the dillrict of Bourges, feated on the river Arnon; four leagues S.W. of Bourges. The place contains 1050 and the cauton 8635 inhabitants: the territory includes 302½ kiliometres, and 13 communes.

CHARPE, in Military Language. This confiits of two ropes or cables faftened together, tomewhat croffways from one ponton to arother, as alfo to the banks or lides of a river, when you with to make a bridge acrois it, in order to

keep the pontons fleady in their places.

CHARPENTIER, FRANCIS, in Biography, a native of

Paris, where he was born in 1620. Although he was originally intended for the bar, his love of retirement, and attachment to literature, diverted him from this purfuit, and induced him to rank himself among the men of letters. His reputation and connections caused him, in 1651, to be elected a member of the French Academy; and after he had been employed by the minister Colbert, in recommending to the nation the proposed establishment of an East India company, he was chosen, under the sanction of the minister, a member of the new-inflituted Academy of Inferiptions and Belles Lettres, for which diffinction his knowledge of the ancient languages peculiarly qualified him. M. Charpentier, however, though conversant with ancient writers, and though he had commenced his career by the translation of Xeno-phon's Cyropædia and Memorabilia, was very far from indulging a bigotted attachment to antiquity; and in the difpute that agitated the literati concerning the comparative merit of the ancients and moderns, he took part in favour of the latter. In 1676, he wrote "A Defence of the Use of the French Language for the Inscription on the Triumphal Arch;" and in 1683, he published two volumes "On the Excellence of the French Language." These publications excited the avowed enmity of Boileau, who fatirized him with an unwarrantable feverity; although it must be allowed that his taste was unequal to his vivacity and learning. The inflated thyle of the inscriptions placed under the pictures of Le Brun in the gallery at Verfailles, fuch as "The incredible passage of the Rhine," and "The miraculous capture of Valenciennes," incurred just censure, and the epithets were erafed by the king's order. In his adulation of the king he exceeded his contemporaries, even at a period when they were vying with one another in this kind of panegyric. Charpentier was ambitious of difplaying his rhetorical powers, which he possessed in an eminent degree, on various occasions; and particularly in the meetings of the French Academy, at which he was affiduous in his attendance. His last work, entitled "A Differtation on the Excellence and Utility of Academic Exercifes," was published in 1695. As to his private character, it was eminently mild and honourable. Whilst he retained the grateful remembrance of benefits which he received, he foon forgot injuries, and never cherished rancour against any of his adversaries. He died in 1702; and long after his death fome literary fragments were published under the title of "Carpentariana," that are held in no great estimation. D'Alemb. Hist. des Memb. de l'Acad. Fr. Gen. Biog.

CHARPENTIER, in Military Language, a carpenter. Suchworkmen are abfolutely necessary in the fuite of an army. Without their affishance the miners can do nothing. For all military operations in general their services are indeed more or less necessary. Care should be taken, that such of them, as follow an army, are strong and robust.

CHARPENTIER jaune, in Ornithology. See Picus exal

CHARPEY, in Geography, a town of France, in the department of the Drôme; 3 leagues E. of Valence.

CHARPOTE, in Ancient Geography, a town of Afia, fitnate between the mountains, in the valley through which paffed the river Arfanias in its course to the Euphrates.

CHARR, Char, or as fometimes called Charre, in Ichthylogy, the common name of the Alpine falmon, Salmo Alpinus of Linnœus. This fifth is found in the lakes of Westmorland, and the mountainous parts of northern Europe. It is esteemed an excellent fifth for the table, and potted is considered an article of laxury. In England we distinguish more than one kind of charr, though they are generally believed to appertant to a fingle species only. Mr. Pennant,

upon the authority of the Rev. Mr. Farrish of Carlisle, enu- and, to prevent the fire from spreading too wide (reaching merates the Cafe charr; the Gelt charr, or one which has not spawned the preceding scason, and is on that account reckoned to be in the greatest perfection; and the Red charr, which last is diffinguished in Westmorland by the name of Red charr, because in dresling the stelli assumes a higher colour than the others. The fame circumstance is observable in the trout. With respect to the Torgoch of the Welth, or " Red belly," a kind of charr found in one of the Snowdonian lakes, we are not fatisfied that it is of the fame species as the charr of Weilmorland, though uniformly described as such by authors. This we shall notice more particularly under the article Salmo Alpinus, observing only in this place, that the fish spawns at a different time of the year from the former, that it is smaller, and brighter instead of paler in colour when in feafon than the red charr of the Westmorland lakes. Vide Donov. Brit. Fishes; and article Salmo alpinus.

CHARRE, or CHARRHE, in Ancient Geography, a town of Alia, in Melopotamia, fituate near the river Scyrtus, now called " Harran," and thought to be the same that bears this appellation in the history of Abraham's peregrinations.

CHARRARA, in Geography, a town of Persia, in the province of Farsistan: 48 miles N.W. of Schiras.

CHARRES, a town of Arabia; 9 miles N.N.E. of

, CHARRETTE, a cart. Every one knows the meaning of this word. But it is proper to introduce it, as charrettes are extremely useful in matters of artillery. They serve the purpole of carrying and transporting ammunition; and vary in their forms or figures in different departments thereof, as the heutenant generals and commanding officers of artiliery have them constructed each according to his own me-

thod, to fuit the countries they ferve in.

CHARRIERE, JOSEPH, DE LA, in Biography, a furgeon of eminence of Annecy, in Savoy. After refiding feveral years in Paris, and receiving the instruction of the best malters there, he returned to Annecy, where he foon diffinguished himself by his superior attainments. In 1690, he published, as the result of an extensive practice, "Traité des Operations de Chirurgie," 12mo. Paris. He gives the descriptions of each of the diseases, with the reasons for, and the manner of performing the operations; and though this treatife was superfeded by the Institutiones Chirurgicæ of Heister, as Heister's has been by the works of later writers, it enjoyed, in its time, no small share of reputation, as appears by its having been reprinted fix or feven times in the space of twenty years. " Anatomie nouvelle de la Tête de l'homme," 12mo. 1703. Paris. The parts are minutely and with fufficient accuracy described, but with no addition to what was before known on the subject. Hall. Bib. Anat. et Chir. Eloy. Dict. Hift.

CHARRING of Posts, in Rural Economy, the practice of reducing that part of the furface of potts which is to be put into the ground to somewhat of the state of charcoal, so as to render it more durable and lasting. This method of preparing posts is highly useful where they are to be placed in wet fituations, or to fland between wet and dry. The practice is common in Norfolk; where, according to Mr. Marshall, it is thus performed: "A trench is dug eighteen inches wide, eighteen inches deep, and fix feet long, and aired by burning some straw and a faggot or two in it previously to laying down the posts. This being done, three poils are laid acrols the trench; placing the part to be burnt, namely, the part proposed to stand between air and moitture, immediately over the fire; thrufting the fuel (dry oven faggots) in at the windward end of the trench. As one fide becomes charred, another is turned downward;

too high up the post), the part not intended to be burnt is wetted by means of a wet straw band, tied round the post, on the part where the fire ought to be checked; pouring water from time to time upon the twifted ftraw. The polts having been repeatedly turned on all fides, until white aftes begin to form on the furface of a black coat of coal, about one-tenth of an inch thick, they are removed, and their places supplied by others. Chips, he says, are preferable to faggots, as fuel, in this operation; as they can be dropt in between the posts wherever an increase of fire is wanted."

From the great scarcity of hop-poles it has been suggested that this method may likewise be useful in preserving the bottom parts of them from decaying. As 3000 of these poles are required for an acre of land, this is conceived to be an object of great moment to the hop planter. CHARROI, Garriage, or Wainage, in Military Language.

This word ought to be regarded as extending in its meaning to all carriages, horses, mules, and, in general, to every thing destined for the transport of all kinds of provisions and am-

munition for the use of armies.

CHARRON, PETER, in Biography, was the fon of a bookseller, at Paris, and born in 1541. He was educated for the law at Orleans and Bourges, and in the university of the latter place he took his doctor's degree. He practifed as an advocate in the parliament of Paris for five or fix years; but renouncing the profession in disgust, he directed his attention to theology, took priest's orders, and became a celebrated preacher. His reputation was fuch, that he was folicited to accept the office of canon to feveral churches, and he ferved as such to several cathedrals; he was also nominated by queen Margaret her preacher in ordinary, and he was in the retinue of Cardinal d'Armagnac, legate at Avignon. After a long absence from Paris, he returned thither in 1588, and made an attempt to gain admission first among the Carthusians, and then among the Celes. tines, but he was refused, on account of his being too old to adopt their discipline; he therefore resolved to retain the office of a parish prieft. At Bourdeaux, he contracted an intimate friendship with the famous Michael Montagne, and imbibed his philosophical fentiments. Their mutual affection was such, that Montagne gave by his will to Charron the privilege of bearing his arms, and Charron made the brother-in-law of Montagne his refiduary legatee. In 1594, Charron published his treatife, entitled "Three Truths," proposing to maintain, 1. That there is a God and a true religion; 2. That of all religions the Christian is the only true one; and 3. That among Christian communions the Roman-Catholic is the only true church. This orthodox treatife procured for him from the bishop of Cahors the dignity of grand-vicar, and a theological canonship; and in 1595 he was deputed to the general affembly of the clergy, and made fecretary to that body. In 1600, he printed a volume of " Christian Discourses," and in 1601 appeared the first edition of his "Treatife on Wissom." In 1603, he went to Paris to print a fecond edition of this work, and there died fuddenly in the street. This book, though his character was unblemished, and his fincerity in his religious profession unquestionable, occasioned his being ranked among the most dangerous free-thinkers. Attached from his infancy to a system of faith inconceivable to reason, he feems to have thought it necessary, in vindication of his opinions, to depreciate the conclusions of mere reason. Hence he was led to fuggest, that strength of mind inclines to Atheism; and also to affert, that the immortality of the foul, though an univerfal dogma, is founded on very weak natural arguments. He likewise gave offence by maintaining that, although all religions derive their origin from heaven by divine infpiration, yet all have been received by human hands and means. In the fecond edition he excepted the Christian religion. He was also charged with laying undue stress on the differences that have always subsided among Christians, together with the evils resulting from them; and the strength and fairness with which he stated the arguments against revelation were disapproved by some of his adversaries. On these accounts the second edition of his work excited great alarm and opposition among theologians, and the impression was allowed, after some alteration in the work itself, by particular favour. Although the author in this treatise, which was evidently formed on the principles of Montaigne's essays, has introduced many original and ingenious observations, he exhibits upon the whole a gloomy picture of human nature and society. Charron himself, however, was of a gay and cheerful disposition; ready in conversation; and liberal, considering the age in which he lived, as to his mode of philosophisng. Gen. Dict. Nouv. Dict. Hist. Brucker's Phil. by Enfield, vol. ii.

CHARRONS, cartwrights, workmen very necessary in the suite of an army, and particularly of the artillery.

CHARROUX, in Geography, a town of France, in the department of the Allier, and district of Gannat; 5 miles N. of Gannat.

CHARROUX, a town of France, in the department of the Vienne, and chief place of a canton, in the district of Civray, $\mathbf{1}_{\frac{1}{2}}$ league E. of it. The place contains 1581, and the canton 6808 inhabitants: the territory includes $237\frac{1}{2}$, killometres and 9 communes.

CHART, or Hydrographical Map, in Navigation, is a reprefentation, in plano, of a part, or of the whole of the water on the furface of the globe, and the adjacent coast. There are various kinds of charts, as Plane, Merca-

Charts were first introduced into the marine by Prince Henry, duke of Visco, fon of John I. king of Portugal, about the year 1400. These were of the kind denominated plane charts, and continued in use for many years, and for very fmall portions of the coalt, even to the prefent time. For any confiderable extent, charts of this construction were foon found to be very erroneous; and their errors were fuccessively exposed by Martin Cortes, a Spaniard, in his treatife, intituled Breve Compendio de la Sphera, y de la Arte de Nauegar con nueuos Instrumentos y Reglas, printed at Seville in the year 1556: by Petrus Nonius, a Portuguese, in his treatife de Arte et Ratione Navigandi, printed at Basil in 1587; by Mr. Edward Wright, in his Certain Errors in Navigation detected and corrected, of which the first edition was printed at London in 1599; and by others. These errors, as enumerated by this last author, in his own words, are the following: " 1. Error in the proportion of the length and breadth of places in the common fea chart. 2. Error in finding out the difference of longitude by the common fea chart. 3. Error in the lying and bearing of places one from another, in the common sea chart. 4. Error in setting of places out of the common fea chart into the globe. 5. Error in flewing the diffances of places in the common fea chart."

In order to correct these errors of the plane chart, Gerard Mercator, in the year 1556, published a chart, in which the meridians and parallels of latitude are straight lines, as in the plane chart; but in order to compensate the errors arising from the parallelism of the meridians, he increased each degree or portion of the meridian with its distance from the equator. It, however, appears, that his charts had no claim to accuracy; for the intervals between the parallels of each Vol. VII.

ten degrees of latitude in the chart, as given by Blundeville in his Exercises, page 756, do not agree with the differences of the corresponding meridional parts of those parallels. Thus, the difference, according to the chart, between the parallels of 50 and 60 degrees, is 11 less than the difference of the meridional parts of those parallels; and that between the parallels of 70 and 80 degrees is upwards of 4 degrees lefs than the truth. It is hence evident Mercator had no certain fixed rule for dividing the enlarged meridian. The difcovery of a rule for this purpose was left to Wright, who published the first table for that purpose in his book above mentioned; in the preface to which he expresses himself as follows: " But to come to those that may perhaps object, I doe but actum agere, in doing no more then hath bin done alreadie by Gerardus Mercator in his univerfall mappe of the world many years fince. I must answer, that indeed by occasion of that mappe of Mercator, I first thought of correcting so many, and grosse errors, and absurdities, as I have alreadie touched, and are hereafter at large shewed in the common fea-chart, by increasing the distances of the parallels from the æquinoctial towards the poles, in such fort, that at every point of latitude in the chart, a small part of the meridian might have the same proportion almost to the like part of the parallel, that it hath in the globe. But the way how this should be done, I learned neither of Mercator, nor of any man elfe. And in that point I wish I had been as wife as he, in keeping it more charily to myself. For fo perhaps it might have been more beneficiall to me."

In the above paragraph, we have Wright's express declaration, that no man taught him the true method of enlarging the meridian line; and as all charts prior to his discovery were erroneous in this increase of the degrees of latitude, he, consequently, was the first discoverer of the true method of constructing this kind of a chart. We cannot omit mentioning, in this place, Wright's very ingenious idea of transferring the several circles, &c. on the globe to a plane surface. "Suppose, says he, a spherical superficies, with meridians, parallels, rumbes, and the whole hydrographical description drawn thereupon, to be inscribed into a concave cylinder, their axes agreeing in one.

Let the sphærical superficies swell like a bladder, (whiles it is in blowing), equally alwayes in every part thereof (that is, as much in longitude as in latitude) till it apply, and joyn itfelf (round about, and all alongit till towards either pole) unto the concave superficies of the cylinder: each parallel upon this sphærical superficies increasing successively from the equinodial towards either pole, until it come to be of aqual diameter with the cylinder, and consequently the meridians till widening themselves, till they come to be so far diffant every where each from other as they are at the aquinoclial. Thus it may most easily bee understood, how a sphærical superficies may (by extension) be made a cylindrical, and consequently a plain parallelogram superficies; because the superficies of a cylinder is nothing else but a plain parallelogram wound about two equal equidifiant circles that have one common axtree perpendicular upon the centers of them both, and the peripheries of each of them equal to the length of the parallelogram as the distance betwixt those circles, or height of the cylinder is equal to the breadth thereof. So as the nauticall planisphære may be defined to be nothing elfe but a parallelogram made of the sphærical fuperficies of an hydrographical globe inferibed into a concave cylinder, both their axes concurring in one; and the sphærical superficies swelling in every part equally in longitude and latitude, till every one of the parallels thereupon be inscribed into the cylinder, (each parallel growing as great as the equinoclial,) or till the whole sphærical superfieies touch and apply itself every where to the concavity of the cylinder.

In this nautical planifphere thus conceived to be made, all places must needs be fituate in the fame longitudes, latiudes, and directions or courfes, and upon the fame meridians, parallels, and rumbes, that they were in the globe, because that at every point between the equinocital and the pole, we understand the spherical superficies whereof this planifphere is conceived to be made, to swell equally as much in longitude as in latitude (til it joyn itself unto the concavity of the cylinder) so as hereby no part thereof is any way distorted or displaced out of his true and natural fituation upon his meridian, parallel, or rumbe, but only dilated and enlarged: the meridians also, parallels, and rumbes, dilating and enlarging themselves likewise, at every point of latitude in the same proportion.

Now then let us diligently confider of the geometrical lineaments, that is, the meridians, rumbes, and parallels of this imaginary nautical planifphere, that we may in like manner expresse the same in the mariners chart. For so undoubtedly we shall have therein a true hydrographical description of all places, in their longitudes, latitudes, and directions, or respective situations each from other, according to the points of the compasse in all things correspondent to the globe, without either sensible or explicable error.

Since, in this projection, the parallels are all made equal to the equator, it is evident they are enlarged in the proportion of the radius to the co-fines of their respective latitudes: wherefore, the meridian, in order to preserve every its proportion to the feveral parallels thus encreased, must, at the latitude of each parallel, be enlarged in the proportion of the radius to the co-fine of the latitude, or fo that the length of a minute of the true or proper meridian, which upon the globe is the same in all latitudes, and equal to the length of a minute of the equator, may be to the length of a minute on the enlarged in any latitude, as the co-fine of the latitude to radius; or, which is the fame, as radius to the fecant of the latitude: Therefore, the length of a minute on the proper meridian must be to the length of a minute on the enlarged meridian, at any latitude, as radius to the secant of that latitude. Hence, a table of natural fecants, to every degree and minute of the quadrant, and whose radius is 1, will express the feveral lengths of the enlarged meridian at the latitudes belonging to those secants respectively. And, hence, the sum of the secants of all the minutes from the beginning of the quadrant, to the degree and minute of any parallel's latitude, will be, in minutes of the equator, or nautical miles, the length of that part of the enlarged meridian which is contained between the equator and the given parallel. In this manner Mr. Wright constructed his "Table of Latitudes for graduating a Meridian in the general Sea-Chart," to every degree and minute of the quadrant, which has fince obtained the general name of " A Table of Meridional Parts;" and by the French, that of " Latitudes Croissantes."

The above method of dividing the meridian is not strictly geometrical; and, in order to shew that Wright knew this to be the case, we cannot avoid extracting the following paragraph from his Correction of Certain Errors, &c. p. 12. But in this table it was thought sufficient to use such exactness, as that thereby (in drawing the lineaments of the nautical planisphere) sensible error might be avoided. He that listent to be more precise, may make the like table to decades or tennes of seconds, out of "Joachimus Rhocticus his Canon Magnus Triangulorum." Notwithstanding, the geometrician that desireth exact truth, cannot be satisfied neither: for whose sake and surther satisfaction, I thought

good to adjoyn also this geometrical conceit of dividing a meridian of the nautical planisphære."

"Let the aquinotial and meridian be drawn upon a globe: Let the meridian (divided into degrees, minutes, feconds, &c.) roul upon a ftreight line, beginning at the aquinotial, the globe swelling in the mean time in such fort, that the semidameter thereof may be alwaies equal to the second of the angle, or arch conteined between the aquinotial and semidiameter, institute at right angles upon the foresaid straight line: the degrees, minutes, and seconds, &c. of the meridian, noted in the streight line, as they come to touch the same, are the divisions of the meridian in the nautical planisphære. And this conceit of dividing the meridian of the nautical planisphære may satisfie the curious exactness of the geometrician; but for mechanical use, the table before mentioned may suffice."

The above paragraph feems to have induced feveral eminent mathematicians to endeavour to discover a more accurate method of enlarging the meridian: and, in the year 1645, a method, ftrictly accurate, was published, as an addition to Norwood's Epitome of Navigation, by Mr Henry Bond. This method appears to have been discovered by chance; but neither the name of the discoverer, nor the time when it was discovered, are known. The demonstration of this method was flill wanting: this, however, was given, for the first time, by the excellent Mr. James Gregory of Aberdeen, in his Exercitationes Geometria, published in the year 1668, but not without a long train of reasoning: and in the year 1690, a more concife demonstration was given by Dr. Halley in the Philosophical Transactions of London, N° 219. vol. xix. Both these demonstrations are reprinted in the 2d volume of Baron Maseres' Scriptores Logarithmici, printed in the year 1791.

In Dr. Halley's demonstration, it is shewn, that if, "in the common tables of logarithmic tangents, the indices alone be considered as integers, and all the rest of the places as decimals; then the difference between the logarithm of the radius, and the logarithmic tangent of half the complement of any given latitude, divided by 0.000 126 331 14, &c. will be the meridional parts corresponding to that latitude." For the demonstration of this proposition, the reader is referred to the article Meridional Parts. Dr. Halley has shewn various other methods of constructing a table of meridional parts.

CHART, globular, is a projection fo called from the conformity it bears to the globe itself. This projection was proposed by Mess. Senex, Wilson, and Harris, in which the meridians are inclined, the parallels equidistant and curvilinear, and the rhumb-lines real spirals, as on the surface of the globe. From this last property, it is evident it can be of very little use in navigation; as a map, however, it has its advantages.

Chart, reduced, is that in which the meridians and parallels are reprefented by ftraight lines; thefe latt are parallel to, and equidiflant from, each other; but the former being directed to the pole, are not parallel: and hence a rhumbline on this chart is a curve, and, therefore, it is of little use in navigation. The degrees of latitude are equal, but those of the extreme and intermediate parallels are unequal; the length of each extreme parallel being equal to the length of a degree on the meridian, multiplied by the cosine of the corresponding parallels. A chart of this kind will answer tolerably well for the equatorial parts of the earth, but not for parts distant from the equator, unless for a small country, and then only as a map.

CHART, Spheroidal, a chart adapted to the spheroidal figure of the earth. In Mercator's chart, the figure of the

carti

earth is supposed to be that of a perfect sphere: but theory confirmed by observation has shewn it to be an oblate spheroid. Sir Isaac Newton, from theory, found the ratio of the equatorial to the polar axis to be as 230 to 229. By comparing mensurations made at different parts of the earth, this proportion has been found to vary confiderably, fome making it more, and others less, than what fir Isaac Newton affigned. From a comparison of the measure of a degree in France with that at the polar circle, the diameter of the equator to the axis of the earth was found to be as 178 to 177. Vide Degree du Meridien, &c. Paris, 1741, p. lvi. According to Don George Juan, this proportion is as 266 to 265; and agreeable thereto he calculated a table of meridional parts for the spheroid. Again, M. Du Sejour, from a comparison of the lengths of pendulums vibrating seconds in different latitudes, concludes the proportion to be as 321 to 320. Traite Analytique, tom. ii. p. 270. And, agreeable to this proportion, J. De Mendoza Rios, efq. calculated a table of meridional parts for the spheroid, which is inserted in the Connoissance des Temps pour l'année 1793.

In the year 1758 Mr. Benjamin Martin published the first spheroidal chart, in his "New Principles of Geography and Navigation," adapted to don George Juan's proportion of the equatorial diameter of the earth's axis. These charts

have not, however, come into general use.

CHART, variation, a Mercator's chart, upon which are laid down curve lines, reprefenting the variation of the compals at those places through which they pass. This chart was first constructed by Dr. Halley, in the year 1700, with a view to find the longitude. Since the variation at the same place is liable to an annual change, the above chart, in a few years, became almost useles. In the years 1744 and 1750, it was republished in London by Mess. Mountain and Dodon, from nearly one hundred thousand observations. It was also published at Paris, in 1765, by M. Bellin, and again at London in the years 1788 and 1794. Variation charts, adapted to different years, have been published by Mr. Samuel Dunn. Vide Dr. Mackay's Longitude, vol.i. p. 264. For the method of finding the longitude at fea by this method, the reader is referred to the article Longitupe; see also Variation.

CHART of the Inclination, or Dip of the Mognetic Needle, contains curve lines exprelling the quantity of the inclination or dip of the needle at those places through which they pass. A chart of this kind, for a finall portion of England and France, was published by Mr. William Whitton, in his treatise entitled "The Longitude and Latitude found by the Inclinatory or Dipping Needle," printed at London in 1721. In the year 1768, M. Wilcke of Sweden published a general chart, exhibiting the lines of equal dip, in the most frequented parts of the globe. This chart was re-published by M. Le Monnier, in his treatise "Loix du Magnetisme," printed at

Paris in 1776.

It has been proposed to find the latitude by means of a chart of the inclination of the needle; and by both inclination and declination of the needle, the latitude and longitude might be found, provided the theory of the variation was known, and instruments could be constructed to shew the quantity of the variation and dip, with sufficient accuracy.

CHARTS, Construction of. 1. Of the plane chart.

The number of degrees of latitude which the chart is intended to contain, and the extent from east to west being fixed upon; a line is to be drawn near the side or end of a sheet of paper, in length equal to the whole length of the chart, from north to south; and this line is to be divided

into degrees, and numbered accordingly. From each end of this line perpendiculars are to be drawn, and made equal to the intended extent of the chart from ealt to well, and their extremities are to be joined by a flraight line. If the chart is to commence at or near the equator, and to extend only a few degrees of latitude, the divisions of the parallels may be equal to those of the meridian: but if the chart begins at any considerable distance from the equator, it will conduce to accuracy to make the length of each degree of the parallel equal to the co-fine of the mean latitude, the radius being 60 minutes; or, the extreme parallels may be divided according to the above proportion, and in that case it will become a reduced chart. Meridians and parallels are there to be drawn at convenient distances.

A feale is now to be made of stiff paper or pasteboard, equal in length to the extent of the chart from east to west, and divided and numbered accordingly. By this scale, the positions of those places contained within the limits of the chart are very easily laid down, by placing the divided edge of the scale over the latitude of the given place; and under the given longitude, a mark being made will represent the

polition of the place on the chart.

A compais is to be inferted in any convenient place of the chart, an arrow flewing the direction of the flood tide or current. The times of high water at full and change are to be marked in their proper places, expressed in Roman characters; foundings and quality of the ground at bottom, the leading marks to avoid dangers, &c.

II. Of a Mircator's Chart.

A Mercator's chart, for any given portion of the furface of the globe, is constructed as follows:

The limit of the proposed chart is first to be determined, that is, the number of degrees of latitude and longitude which it is to contain, and the degree of latitude and longitude of its commencement.

Find the meridional parts answering to each degree of latitude within the intended limits of the chart, and take the difference between each, and that corresponding to the least degree of latitude in the chart; and reduce these differences

to degrees, by dividing by 60.

A parallel, repreferting that of the least latitude, is to be drawn; upon which the number of degrees in the proposed difference of longitude, from a scale of equal parts, is to be laid off, and divided, into degrees, and smaller portions if convenient, and numbered at each sist or tenth degree. From each end of this parallel a perpendicular is to be drawn, and made equal to the difference of the meridional parts of the extreme latitudes taken from the divided parallel; and the ends of these meridians are to be joined by a straight line, which will represent the other extreme parallel, and which is to be divided and numbered in the same manner as the first drawn parallel; the meridians are then to be divided into degrees, and numbered at every sist or tenth

Take the meridional difference of latitude between the beginning of the chart, and the next fifth or tenth degree of latitude from the divided parallel, and lay it off from the first parallel on each of the scale meridians, and join these points by a straight line. In like manner, the meridional difference of latitude answering to each successive interval of sive or ten degrees, is to be taken from the first drawn parallel and laid off, and the corresponding parallels are to be drawn and numbered accordingly, and the intermediate spaces are to be subdivided. If the chart is upon a large cale, the meridional difference of latitude answering to each degree, is to be laid off from the least parallel.

multiples of the intervals are to be taken, fuch as will answer

to the proposed extent of the chart.

A flip of strong paper is to be divided and numbered in the same manner as the first drawn parallel. Now, each place within the limits of the chart is to be laid down, by placing the flip of paper fo that its extreme points of division may be at the latitude of the given place on each meridian; then, under the longitude of the place a mark is to be made, which will represent the position of that place. In like manner, all the places on the coast are to be laid down and connected by observations made on the coast; or if no sketch had been previously made, the contour of the coast is to be drawn agreeable to the best charts. Meridians and parallels are to be drawn through every fifth or tenth degree of latitude and longitude and extended to the coaft.

A compass is to be inserted in some convenient part of the chart, and the points extended to the land: an anchor is to be drawn where there is good anchoring ground, and in places where it is fafe only to stop a tide, an anchor without a stock is to be laid down. The foundings, the quality of the ground, the times of high water at full and change,

&c. are to be marked in their proper places.

For the method of laying down a Mercator's chart by means of a scale of logarithmic tangents, the reader is referred to Dr. Mackay's Treatife on Navigation, from which the greater part of the preceding, and also the remaining part of this article are extracted.

III. Of the Variation Chart.

Having constructed a general chart according to Mercator's projection, mark down with dots all the places in which the declination of the magnetic needle has been afcertained; then draw lines through those points having the same declination. These lines, or arcs, are called lines of declination; and by proceeding in this manner as far as the variation is known the chart will be completed.

CHARTS, manner of using.

The principal use of a chart is, to find the course and distance between any two places within its limits, and to lay down the place of a ship on it, so that the position of the ship with respect to the intended port, the adjacent land, islands, &c. may be readily perceived.

As it is incompatible with the plan of the prefent work to infert large charts, therefore, in performing the following examples, it is supposed, the practitioner has the necessary

charts beside him.

I. USE OF THE PLANE CHART.

PROBLEM I.

To find the Latitude of a Place, on the Chart.

Rule .- Take the nearest distance between the given place and the nearest parallel of latitude, which being applied the same way on the divided meridian, from the point of interfection of the parallel and meridian, will give the latitude of the proposed place.

Example.—Required the latitude of Port Louis, in the

ifle of France.

The least distance between Port Louis and the nearest parallel being laid the fame way on the meridian, from the extremity of that parallel, will reach to 20°8' S. the latitude required.

PROBLEM II.

To find the Cours and Distance between two given Places on

Rule. - Lay the edge of a scale over the given places, and

If the chart is intended to be upon a larger scale, equi-take the nearest distance between the center of any of the compasses on the chart and the edge of the scale, move this extent along, so as one point of the compass may touch the edge of the scale, and the straight line joining the points may be perpendicular thereto; then will the other point shew the course, and the interval between the places being applied to the scale, will give the required dif-

> Example. - Required the course and distance from Cape St. André to Cape St. Sebastian, both in the island of Ma-

The edge of a scale being laid over the two places, then, by moving the compals as directed, the course will be found to be N.E. 1 E. and the interval between them will measure 105 leagues.

PROBLEM III.

The Course and Distance sailed from a known Place being given to find the Ship's Place on the Chart.

Rule .- Lay the edge of a scale over the place failed from, parallel to the given courfe; then take the given distance from the scale on the chart, and lay it off from the given place by the edge of the fcale, and it will give the point on the chart representing the place of the ship.

Example. The correct course of a ship from Cape St. Maria, on the N. fide of the entrance of the river La Plata, was N.E. by E. and the distance 238 leagues. Required

the place of the ship on the chart?

The edge of the scale being laid over Cape St. Maria, in a N.E. by E. direction, and the distance 238 leagues, laid off from Cape St. Maria by the edge of the scale, will give the place of the ship, which will be found to be in latitude 28° 15' S.

PROBLEM IV.

Given the Latitude in, and Meridian Distance, to lay down the Place of the Ship on the Chart.

Rule .- Through that place from which the meridian diftance is reckoned, let a meridian be drawn, then lay a scale over the given latitude, and the meridian distance being taken from the feale on the chart, and laid off by the edge of the scale from the point of its intersection with the meridian, will give the ship's place.

The manner of performing this problem is obvious; and the various other problems that may be refolved on the plane chart, require no further explanation, being only the coastruction of the remaining problems in plane failing.

II. Use of Mercator's Chart.

PROBLEM I.

To find the Latitude of a Place with the Chart.

Rule .- This is performed in the fame manner as Problem I; on the plane chart.

PROBLEM II.

To find the Longitude of a Place on the Chart.

Rule .- Take the least distance between the given place and the nearest meridian, which being laid off on the equator, or divided parallel, from the point of interfection of the parallel and meridian, will give its longitude.

Example.-Required the longitude of Funchal in the

island of Madeira?

The least distance being taken between Funchal and the nearest meridian, and laid off from the intersection of that meridian with the divided parallel, will give 17° 6' W. the longitude required.

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PROBLEM III.

To find the Course between two given Places on Mercator's Chart.

Rule .- For the manner of performing this problem, the reader is referred to the use of the plane chart, Problem II.

PROBLEM IV.

To find the Distance between two given Places on the Chart.

r. When the given places are under the fame meridian. Rule .- Find the latitude of each; then, the difference,

or fum of their latitudes according as they are on the fame, or on opposite sides of the equator, will be the diftance required.

Example .- Required the diffance between the nearest extremities of the islands of Grenada and Gaudaloupe?

Latitude of fouthernmost extremity of

15° 52' N. Gaudaloupe Latitude of northernmost extremity, of 12° 14' N. Grenada

Distance 338=218 M. 2. When the given places are under the fame parallel.

Rule .- If that parallel is the equator, the difference, or fum of their longitudes, found by Problem II. is the diftance between them. If not, take half the interval between the given places, lay it off on the meridian on each fide of the given parallel, and the intercepted degrees will be the distance between the places.

If the given parallel is near the north or fouth extremity of the chart, the following method may be used. Take an extent of a few degrees from that part of the meridian where the given parallel is the middle of the extent; then the number of extents, and parts of an extent, contained between the given places, being multiplied by the length

of an extent, will give the required distance.

Example.- Required the distance between Cape Cautin and Funchal, both lying nearly in the same parallel? By proceeding as directed above, the distance will be

found to be 6° 44', or 1342 leagues.

3. When the given places differ both in latitude and longitude.

Rule.-Find the difference of latitude between the given places, and take it from the equator, or graduated parallel; then, lay the edge of a scale over the given places, and move or flide one point of the compass along the edge of the scale, until the other point just touches a parallel. Now, the diltance between the place where the point of the compals rested, and the point of intersection of the edge of the scale and parallel being applied to the equator or divided parallel, will give the distance between the places in degrees and parts of a degree; which, multiplied by 60, will give the diltance

Example. - Required the distance between Cape Finisterre and Porto Santo

Take the difference of latitude between the given places, viz. 9° 54', from the graduated parallel, and move one point of the compass along the edge of the scale, laid previously over these places, until the other point just touches a parallel; now, the interval between the place where the point of the compass rested, and the point of intersection of the feale and parallel, being applied to the divided parallel, will measure 11° 24', or 228 leagues.

Remark. To some charts a fet of scales is adapted to

each degree of latitude within the limits of the chart; by which the distance between any two places is easily meafured, by applying that distance to the scale answering to the middle parallel of latitude of the two places.

PROBLEM V.

Given the Latitude and Longitude in, to find the Ship's Place on the Chart.

Rule .- Lay the edge of a feale over the given latitude and lay off the given longitude from the first meridian, or the difference of longitude from the nearest meridian, by the edge of the scale, and the ship's place will be obtained.

Example.—The latitude is 47° 30' N. and longitude 12° 15' W.; it is required to lay down the ship's place on

the chart?

Lay the edge of the scale over the latitude 47° 30' No; then take, from the divided parallel, the interval between 100 and 12° 15', which laid off by the edge of the scale from the meridian of 10°, will give the ship's place.

PROBLEM VI.

Given the Course steered from a known Place, and the Latitude in, to find the Ship's Place on the Chart.

Rule.-Lay the edge of a scale over the place sailed from, in the direction of the given course, and its intersection with the parallel of latitude arrived at will be the place of the ship.

Example .- A thip from the Lizard failed S.W. by S. and by observation is in latitude 45° 20' N. Required the place of the ship on the chart?

The edge of a scale being laid over the Lizard, parallel to the S.W. by S. rhumb, will interfect a parallel drawn through the given latitude, 45° 20' N. in the ship's place.

PROBLEM VII.

Given the Course steered, and Distance run from a known Place, to lay down the Ship's Place on the Churt.

Rule.-Lay the edge of a scale over the place sailed from, in the direction of the given course; then, take the distance from the equator, put one point of the compass at the interfection of any parallel with the edge of the feale, and the other point of the compass will reach to a certain place by the edge of the scale; now, this point remaining fixed, draw in the other point of the compass, until it just touch the above parallel; apply this extent to the equator, or divided parallel, and it will give the difference of latitude. Hence, the latitude come to will be known; and the point of interfection of the corresponding parallel with the edge of

the feale, will be the place of the ship.

Example.—A ship from Cape St. Vincent sailed S.S.W.

300 miles. Required the ship's place on the chart?

Lay the edge of a scale over Cape St. Vincent, parallel to the S.S.W. rhumb. Take the diltance five degrees from the divided parallel; place both points of the compass close to the edge of the scale, so that one of them may be at the interfection of a parallel with the edge of the feale, and the other on that fide of the parallel on which is the acute angle formed by the scale and parallel. Now this last point of the compals remaining in the fame polition, diminish the extent of the compais, until the other point touches the parallel, and this extent applied to the divided parallel, will meafure 4° 37'; hence, the latitude in, is 32° 25' N.; and a parallel drawn through 32° 25', will interfect the edge of the feale in the place of the ship.

PROBLEM VIII.

Given the Latitude and Longitude failed from, the Courfe fleered, and Longitude come to; to find the Ship's Place on the Chart.

Rule. - Draw a meridian through the longitude come to;

then, lay the edge of a scale over the place sailed from, in the direction of the course, and its intersection with the me-

ridian will be the place of the ship.

Example.—The true course of a ship from Cape St. Bernard, in the island of Bourbon, was N.E. & N. and the longitude come to 59° 46' E. Required the ship's place on the chart?

The edge of a feale laid over Cape St. Bernard, in a N.E. 1 N. direction, will interfect a meridian drawn through the given longitude 59° 46' E. which will reprefent the ship's

place; the latitude of which is 15° 18' S.

CHART, Biographical, See BIOGRAPHY. See also Play-

fair's Chronology, p. 247. CHART, Chorographic, is a delineation of particular

CHART, Heliographic, a description or delineation of the body of the fun and of the maculæ or spots observed on it.

CHART, Historical. See HISTORY.

CHART, Scienographic, a representation of particular appearances of the spots of the moon, or of her appearance and maculæ.

CHART, Telegraphic, a description or delineation of the

telegraph on paper.

CHART, Topographie, is a specific delineation of military posts and positions in given tracts of country. This ought always to be as correct as possible in regard to their relative distances of the positions and more especially with regard to their relative heights. It is in this respect particularly that military surveys and reconnoissances are defective. The French have formed companies of topographers for the purpose of correctly and expeditiously pointing out to generals and other commanding officers all the leading points and relative situations of ground and locality. A general, however, should not rely implicitly on their reports or delineations, but ought if practicable to examine the principal positions himself, particularly those that he sixes on for his encampments.

CHARTA primarily fignifies a fort of paper made of

the plant papyrus or biblus.

CHARTA emporetica, in Pharmacy, &c. a kind of paper made very foft and porous, and used as a filtre.

CHARTA, is also used in ancient customs for a charter or

deed in writing. See CHARTER.

CHARTA de foresta. See CHARTER of the forest.

CHARTA magna, the great charter, is an ancient inftrument, containing feveral privileges, and liberties, granted to the church and flate, by Edward the Confessor, together with others relating to the feudal laws of William the Conqueror, granted by Henry I., all confirmed by the succeeding princes about thirty times. See MAGNA charta.

CHARTA mercatoria, a charter or declaration of protection and privileges granted to foreign merchants, firt published by Edward I. in 1303; who also ascertained the customs or duties, which those foreign merchants, in return for the said charter, were to pay on merchandize exported and imported. Upon the grounds of this samous charter, historians agree that this king was the first who established the great customs on merchandize. This charter was confirmed by Edward III. in 1328.

CHARTA pardonationis fe defendendo, is the form of a pardon for a person's killing another man in his own de-

fence.

CHARTA pardonationis utlagaria, is the form of a pardon of a man who is outlawed.

CHARTA simplex, is a fingle deed, or deed-poll. See DEED.

CHARTA, in Ancient Geography, a place of Asia in Mefopotamia, where the Romans had a garrifon.—Also, a town of Palestine, mentioned in the book of Joshua as belonging to the tribe of Zebulun; it was granted to the Levites of the family of Merari.

CHARTAGNE, in Military Language, a folid retrenchment almost always withdrawn from the enemy's view, that is thrown up in a wood or forest for the defence of an im-

portant pass.

CHARTAIA, in Ancient Geography, a large and rich town of Asia, situated to the call of Hircania.

CHARTAN, a town of Palestine, in the tribe of Nephtali. It was granted to the Levites of this tribe, who

were of the family of Gerston.

CHARTANI, a people of Africa, placed by Ptolemy in Libya near Egypt.

CHARTARIUS, the same with CHARTOPHYLAX.
CHARTEL. See CARTEL, CHAMPION, COMBAT,

CHARTER, Charta, in Law, an infirmment or written evidence of a thing under the feal of a prince, lord, church, chapter, or community.

The word charter comes from the Latin charta, anciently used for a public or authentic act; from Xagras, thick paper or pasteboard, whereon public acts were used to be written.

Bracton fays, donations are fometimes made in charters, in perpetuan rei memoriam; and Britton, in his 39th chapter, divides charters into those of the king and those of private

perfons.

CHARTERS of community, were certain privileges first obtained by violence, or purchase, and afterwards freely beflowed by emperors, kings, and barons; whereby the inhabitants of towns and cities were enfranchised, all marks of fervitude abolished, and these cities, &c. were formed into corporations and bodies politic, to be governed by a council and magistrates of their own nomination. The first person who conferred these privileges, was Lewis the Gross in France, about the beginning of the twelfth century: and his example was foon very generally followed. These charters convey a very striking representation of the wretched condition of cities previous to the institution of communities, when they were subject to the judges appointed by the fuperior lords of whom they held, and had fearcely any other law but their will. Each concession in these charters must be considered as a grant of fome new privilege which the people did not formerly enjoy, and each regulation as a method of redressing some grievance under which they formerly laboured. The charters of communities contain likewife the first expedients employed for the introduction of equal laws and regular governments. For an account of the most important articles in these charters ranged under the two general heads, of fuch as respect personal fafety, and such as respect the security of property; See Robertson's Ch. V. vol. i. p. 348. &c. See CITIES.

Among royal charters granted to communities, it appears that in the reign of Edward IV. by his letters patent under the great feal of his realm of England, bearing date the 24th of April, 1469, in the ninth year of his reign, this prince, did "for him and his heirs, give and grant licence unto Walter Haliday, Marfhall, John Cuff, and Robert Marshall, Thomas Grane, Thomas Calthorne, William Cliff, William Chriftian, and William Eyneysham, then minstrels of the faid king, that they by themselves should be in deed and name one body and cominality, perpetual and capable in the law, and should have perpetual succession; and that as well the minstrels of the faid king, which then were, as other minstrels of the faid king and his heirs which should be after-

wards,

wards, might at their pleafure, name, chufe, and ordeine, and fucceffively constitute from among themselves, one marshall, able and fit to remain in that office during his life, and also 2 wardens every year to govern the faid fraternity and guild."

The original charter is preferved in Rymer's Fordera, tom. xi. Pro fraternitate minstrallorum regis. James the First, upon what beneficial principle it is now difficult to discover, by letters-patent incorporated the mulicians of the city of London into a company, and they still continue to enjoy privileges in confequence of their constituting a fraternity and corporation; bearing arms azure, a fwan argent, within a treffure counter-flure, or: in a chief, gules, a rofe between two lions, or; and for their creft the celeftial firm Lyra, called by aftronomers the Orphean Lyre, Unluckily for the bons-vivans of this tuneful tribe, they have no hall in the city for feltive delights! However, on days of greatelt gourmandife, the members of this body are generally too bufily employed in exhilerating others, comfortably to enjoy the fruits of good living themfelves. And here historical integrity obliges us to fay, that this company has ever been held in derition by real professors, who have regarded it as an inflitution as foreign to the cultivation and prosperity of good music, as the train bands to the art of war. Indeed the only uses that have hitherto been made of this charter feem the affording to aliens an easy and cheap expedient of acquiring the freedom of the city, and enabling them to purfue fome more profitable and respectable trade than that of fiddling; as well as empowering the company to keep out of processions and city feaths every street and country dance player of fuperior abilities, to those who have the honour of being flyled the waits of the corporation.

The charter granted by Charles I. to the musicians of the city of Westminster, had lain dormant from that time till the refloration; but immediately after that event, the persons named in it, who were still living, determined to refeue music from the disgrace into which it had fallen, and exert their authority for the improvement of the science, and interest of its professors. Fifty-two musicians, confishing of the king's band and other professors, natives and foreigners, the most eminent of the time, were enrolled in this charter as the king's muficians; " and all fuch as are, and shall be the mulicians of his majesty, his heirs and successors, shall from henceforth for ever, by force and virtue of the faid graunt, be a body corporate and politique, in deed, fact, and name."

The other powers granted by this charter, allowed the corporation to meet from time to time, in order to make bye-laws and impose fines on such as transgressed them,

" which fines they shall have to their own use.

In purfuance of these powers, the corporation hired a room in Durham Yard, in the Strand, within the city and liberty of Westminster. Their first meeting was on the 22d day of October, 1661, Nicholas Laniere then being marshal; from which day they proceeded to make orders, fummoning, fining, and profecuting the first professors who dared "to make any benefit or advantage of mulique in England or Wales," without first taking out a licence from their fraternity. Among the instances of the exercise of their power, Jan. 13th, 1663, it was " ordered that Matthew Lock, Christopher Gibbons, Dr. Charles Colman, and William Gregory, do come to the chamber at Durham Yard, on Thursday next, at two of the clock in the afternoon, and bring each of them ten pounds, or shew cause to the contrary."

This feems to have been one of the most oppressive and unmeaning monopolies with which the Stuarts had long vexed the nation. Such a tyranny as this over the professors of a liberal art, there is reason to fear, would be abused in

whatever hands it was lodged. The College of Phylicians, which superintends the dispensations of life and death, may have its use by preventing or detecting Charlatanerie; but that the minister of our innocent amusements should be subject to any other controll than that which the common law of the realm is empowered to exercise over men of all ranks and degrees in the state, seems at best but a wanton and uteless, if not a noxious delegation of power, which was less likely to benefit the public, or accelerate the progress of the art, than to enable artifts to torment and harafs each other.

It appears by the transactions of this corporation, the minutes of which are extant in the British Museum among the Harleian MSS. No. 1911, that the meetings of its members continued no longer than 1670; when finding themselves involved in law suits and incapable of enforcing the power they affumed, and penalties they threatened, it was thought most adviseable to leave the art and artists to

the neglect or patronage of the public.

The fund for the support of decayed musicians or their families, established in 1738, and formed into a regular society of mulicians, after the commemoration of Handel, in 1784, having been honoured by his majetty's immediate countenance and protection, and graciously allowed to assume the title of Royal Society of Mulicians, had a charter granted them. See Commemoration of HANDEL, and FUND for

decayed Musicians and their families.
CHARTER of the forest, is that wherein the laws of the forest are comprised and established. In the time of king John, and that of his fon, Henry III. the rigours of the feodal tenures and the forest laws were so warmly maintained, that they occasioned many insurrections of the barons or principal feudatories; which at last produced this effect, that first king John, and afterwards his fon, confented to the two famous charters of English liberties, magna carta, and carta de foresta. The latter, in particular, was well calculated to redrefs many grievances and incroachments of the crown in the exertion of forest law. This charter, as well as the other, was established, confirmed, and fettled in the reign of Edward I. See Forest.

CHARTER, Great, Magna charta. See MAGNA charta.

CHARTERS of immunity or franchife, were granted to some towns and villages by the lords on whom they depended, long before the inflitution of communities in France. But these are very different from such as became common in the 12th and 13th centuries. They did not erect these towns into corporations; they did not establish a municipal government; they did not grant them the privilege of bearing arms; they contained nothing more than a manumifion of the inhabitants from the yoke of fervitude; an exemption from certain fervices which were oppreffive and ignominious; and the establishment of a fixed tax or rent which they were to pay to their lord in lieu of impositions which he could formerly lay upon them at pleasure. Two charters of this kind to two villages in the county of Roufillon, one A. D. 974, the other A. D. 1025, are still extant. Such conceffions, it is probable, were not unknown in other parts of Europe, and may be confidered as a flep towards the more extensive privileges conferred by Lewis the Gross on the towns within his domains. See CHARTERS of community.

CHARTERS of the king, are those whereby a king makes a grant to a person or community; v. gr. a charter of exemption, that a person should not be impannelled on a jury,

&c. See LETTERS patent.

CHARTER of pardon, is that whereby a person is forgiven a felony, or other offence against the king's crown and dignity, of which there are feveral forts. See PARDON.

CHARTERS of private perfons, are deeds and inflruments for the conveyance of lands, &c. And the purchaser of lands thall have all the charters, deeds, and evidences as incident to the same, and for the maintenance of his title. Co. Litt. 6. Charters belong to a feoffee, although they be not fold to him, where the feeffee is not bound to a general warranty of the land; for there they shall belong to the feoffor, if they be fealed deeds or wills in writing; but other charters go to the ter tenant. Moor. Ca. 687. The charters belonging to the feoffor, in case of warranty, the heir shall have, though he hath no land by descent, for the pos-

fibility of descent after. I Rep. I CHARTER governments in the British colonies, are in the nature of civil corporations, with the power of making byelaws for their own interior regulation, not contrary to the laws of England; and with fuch rights and authorities as are specially given them in their feveral charters of incor-poration. The form of government is borrowed from that of England. They have a governor named by the king (or in fome proprietary colonies by the proprietor), who is his representative or deputy. They have courts of justice of their own, from whose decision an appeal (as some fay, in the nature of a reference by way of arbitration) lies to the king in council here in England. Their general affemblies, which are their house of commons, together with their council of state, being their upper house, with the concurrence of the king, or his reprefentative, the governor, make laws fuited to their own emergencies. But it is particularly declared, by ftat. 7 and 8 W. III. c. 22. that all laws, byelaws, ulages, and customs, which shall be in practice in any of the plantations, repugnant to any law, made or to be made in this kingdon, relative to the faid plantations, shall be utterly void and of none effect. These are called charter governments, by way of distinction from the provincial establifbments, the constitutions of which depend on, the respective commissions issued by the crown to the governors, and the instructions attending them; under the authority of which, provincial affemblies are conflituted, with the power of making local ordinances, not repugnant to the laws of England; and also from proprietary governments, granted out by the crown to individuals, in the nature of feudatory principalities, with all the inferior regalities, and subordinate powers of legislation, which formerly belonged to the owners of counties palatine. See farther Blackstone's Comm. vol. i. p. 108.

CHARTERER is in some places, as Cheshire, used for a freeholder.

CHARTER-HOUSE. See CHARTREUSE.

CHARTER-LAND, in Law, is fuch as a man holds by charter, that is, by evidence in writing; otherwise called freehold. This the Saxons called book land; which Lam-

bard renders, terra ex scripto. See BOCK-LAND.

It was held on more easy conditions than the folk-land, or terra fine fcripto, held without writing : the former being hareditaria libera & immunis; whereas the latter censum penstabat annuum, atque officiorum quadam servitute erat obligatus. This kind of land was held by deed under certain rents and free services, and in effect was in no respect different from free focage lands; and hence have arisen most of the freehold tenants who hold of particular manors, and owe fuit and fervice to the fame

CHARTERPARTY, in Commerce, denotes the instrument of freightage, or articles of agreement for the hire of a vessel. This, among merchants and sea-faring men, is commonly called "a pair of indentures," containing the covenants and agreements made between them, touching their merchandize and maritime affairs. 2 Inft. 673.

The charterparty is in writing; and it is to be figned both by the proprietor, or the mafter of the flip, and the merchant who freights it.

The charterparty is to contain the name and the burden of the veffel; those of the matter and the freighter; the price, or rate of freight; the time of loading, and unload-

It is properly a deed, or policy, whereby the mafter, or proprietor of the veffel, engages to furnish immediately a tight found veffel, well equipped, caulked, and stopped, provided with anchors, fails, cordage, and all other furniture to make the voyage required, as equipage, hands, victuals, and other munitions; in confideration of a certain fum to be paid by the merchant for the freight. Lastly, the ship, with all its furniture, and the cargo, are respectively subjected to the conditions of the charterparty.

The charterparty differs from a bill of lading, in that the first is for the entire freight, or lading, and that both for going and returning; whereas the latter is only for a part of the freight, or at most only for the voyage one way.

The common law construes charterparties, as near as may be, according to the intention of them, and not according to the literal fense of traders, or those that merchandize by fea; but they must be regularly pleaded. In a case of covenant by charterparty that the ship should return to the river of Thames by a certain time, "dangers of the fea excepted," and afterwards, in the voyage, and within the time of the return, the ship was taken upon the sea by pirates, fo that the mafter could not return at the time mentioned in the agreement; it was adjudged that this impediment was within the exception of the charterparty, which extends as well to any dangers upon the fea by pirates and men of war, as dangers of the fea by ship-wreck, tempest, &c. Stile 132. 2 Rol. Abr. 248. A ship, freighted at a certain premium per month of the time that the shall be out, and covenanted to be paid after her arrival in the port of London, is call away in coming up from the Downs, but the lading is all preferved; in this cafe the freight shall be paid, for the money becomes due monthly by the contract, and the place mentioned is only to afecrtain where the money is to be paid; and the ship is entitled to wages, like a mariner that ferves by the month, whose executors, if he dies in the voyage, are to be answered " pro rata." Molloy de Jur. Marit. 260. If a part-owner of a ship refuse to join with the other owners in the fitting out of the ship, he shall not be entitled to his share of the freight; but by the course of the Admiralty, the other owners ought to give fecurity if the ship perish in the voyage, to make good to the owner standing out, his share of the ship. Sir L. Jenkins, in a case of this nature, certified that by the law marine and course of the Admiralty, the plaintiff was to have no fhare of the freight; and that it was fo in all places; for otherwise there would be no navigation. Lex Mercat. See FREIGHT and INSURANCE.

The president Boyer says, the word comes from hence, that per medium charta incidebatur, & sic fiebat charta partita; because in the time when notaries were less common, there was only one inflrument made for both parties: this they cut in two, and gave each his portion, and joined them together at their return, to know if each had done his part. This he observes to have seen practised in his time; agreeable to the method of the Romans, who, in their hipulations, used to break a staff, each party retaining a moiety thereof

CHARTER-SCHOOLS, are schools in Ireland, of which there are 38, defigned for the instruction of the children of the Papills and other poor natives, in the English tongue and

the principles of morality and true religion; besides two beturned to with facility; yet in the opinion of Freind, and called the "Ranelagh Schools," which admit only the children of Protestants. The excellent Mr. Howard, in his journey to Ireland, examined the state of these schools, and made a report upon them to the committee of the House of Commons in 1788. He has given a particular account of them, with appropriate remarks in his "Account of the principal Lazarettos in Europe," &c. p. 101, &c. See

CHARTIER, ALAIN, in Biography, a native of Bayeux, one of the first French citizens who aspired to elegance, flourished about the year 1430. Hie was secretary to the kings Charles VI. and VII. and employed in feveral embassies. His compositions in profe excelled those that were poetical, and he spoke as well as he wrote, so that he was effeemed the father of French eloquence. The following curious anecdote relating to him is recorded. Margaret of Scotland, first wife to the dauphin, afterward Lewis XI., as the passed through the Louvre, observed Alain asseep, and went and kiffed him. When her attendants expressed their furprize that the should thus distinguish a man remarkable for his ugliness, she replied, " I do not kiss the man, but the mouth that has uttered fo many charming things." His works were published by the elder Du Chesne, in 1617, in 4to .: the first part consisting of his works in profe, viz. the "Curial," a "Treatife on Hope," the "Luadrilogus Invectif" against Edward III.; and others, partly spurious; And the fecond part containing his poems, which are, for the most part, obscure and tedious. Alain Chartier died at Avignon in 1449. Nouv. Diet. Hilt.

CHARTIER, JOHN, brother of the preceding, was a Benedictine monk, and chanter of St. Denys. He was the author, at least the compiler, of a dry work, displaying much credulity and inaccuracy, entitled the "Great Chronicles of France," commonly called "Chroniques de St. Denys," from Pharamond to the death of Charles VII., 3 vols. fol. Paris, 1493. His "History of Charles VII." was published at the Louvre, in 1661, fol. by the learned Godefroid, who enriched it with his notes and feveral unedited pieces.

Nouv. Dich. Hift.

CHARTIER, RENÉ, born at Vendome, where he received the rudiments of his education. He was fent thence to Paris, and having completed his studies, was made doctor in medicine on the 14th of August 1608. He was soon after appointed by the faculty of medicine professor in furgery and pharmacy. In 1612, he was made physician in ordinary to the king, and to the princesses of France. With one or other of the princesses, in their turn, he visited the courts of Spain, Savoy, and England. Returning at length, and fettling at Paris, his whole time feems to have been employed in forming the splendid edition of the works of Hippocrates and Galen, which goes under his name, and in which he is faid to have expended fo large a fum of money, (cinquante mille ecu, his biographer fays) as to reduce him-felf nearly to a state of indigence. The work is printed in 13 volumes, though usually bound in 9, and the volumes came out at different times, but not in the order of their numbers. Of the ten volumes, which were published in the life-time of the editor, the first fix, the eighth, and the thirteenth, appeared in the year 1639, the feventh and the eleventh ten years after, viz. in 1640; the ninth, the tenth, and the twelfth volumes, which completed the work, were printed under the care and direction of doctors Blondel and Le Maine, and did not appear until the year 1672. Though the editor spared neither labour nor expence in his endeavours to give perfection to the work, and has arranged his materials fo that any of the treatifes, by either writer, may YOL. VII.

crates, as here exhibited, are more imperfect than in some earlier editions.

Chartier also edited "Ludovici Dureti Scholia ad Jacobi Hallerii Librum, de M rbis internis," Parisiis, 1611, 4to. " Bartholomæi Perdulcis, Universa Medicina," ibidem. 1630, 4to. His fon John, who was created doctor in medi cine in 1634, published, translated from the Greek, "Palladii de Febribus, concisa Synopsis," 1646, 4to., and in 1651, "La Science du Plomb facra des Sages, ou de l'Antimonic. ou font decrites ses rares et particulieres virtus, puissances, et qualités," 4to. This work gave great offence; the fa-culty of medicine at Paris, with Guy Patin at their head, being particularly hostile to antimonial medicines. To ridi cule their foolish prejudices, Chartier placed at the head of his book the figure of an owl, with the following lines:

> " Le hibou fuit la clarte vivifique Et bien qu'il ait lunettes et flambeaux. Il ne peut voir les fecret les plus beaux De l'antimoine, et du vin emetique."

John Chartier was also professor in surgery, and physician in ordinary to the king, in which honour he was succeeded by his younger brother Philip, who was created doctor in medicine in the year 1656. Haller Bib. Med. Eloy Dict.

CHARTIER, in Geography; a township of America, in the county of Washington and state of Pennsylvania.

CHARTIER, ST. a town of France, in the department of the Indre, and district of La Châtre; 13 league N. of it.

CHARTIER'S Greek. See CANONSBAY and MORGANZA. CHARTIS reddendis, a writ which lay against him that had charters of feoffment intrusted to his keeping, and refused to deliver them to the owner. Reg. Orig. 150.

CHARTOPHYLACIUM, a place where records were kept.

CHARTOPHYLAX, an officer in the church of Constantinople, intrusted with the custody of the archives.

The word is formed from xagra, and Cuharle, custodio;

and fignifies charter-keeper.

Codin calls the grand chartophylax the judge of all causes. and the right arm of the patriarch. He adds, that he was the depositary or keeper of all the charters relating to the ecclefiaftical rights; and that he prefided over matrimonial causes, and was judge of all the clergy. He drew up all fentences and decilions of the patriarch, who figned and fealed them: he prefided in the grand council of the patriarch: he took cognizance of all matters and causes ecclesiaftical and civil, whether among the clergy, the monks, or the

He took place of all the bishops, though himself only a deacon; and, on occasion, discharged the functions of the

priests: he had twelve notaries under him.

The chartophylax was much the fame at Constantinople

with the chartulary at Rome.

There were, in reality, two officers who bore this title; the one for the court, the other for the patriarch; the first was called also registrator, and the latter scriniarius: though the two are usually confounded together. Leunclavius, and others, confounded chartophylax with chartulary.

CHARTRAIN, in Geography, a small county of France. fo called before the revolution, in the environs of Chartres.

CHARTRE, LA, a town of France, in the department of the Sarthe, and chief place of a canton in the diltrict of St. Calais; two leagues E.N.E. of Chateau-du-Loir. The

CHARTRES, a city of France, and principal place of a district in the department of the Eure and Loire, one of the most ancient towns of the country, and before the revodral is esteemed one of the most beautiful churches in the kingdom. It is fituated on the Eure, over which is a bridge, constructed by the celebrated Vauban. Its principal trade is in corn. The place contains 14,400, the north canton 16,783, and the fouth canton 16.321 inhabitants: the territory includes 4671 kiliometres and 35 communes. N. lat. 28° 46′ 49". E. long. 1° 28′ 55

CHARTRES, a fort built by the French on the eastern fide of the Missippi, three miles northerly of La Prairie du Rocher, or the Rock-Meadows, and 12 miles northerly of St. Genevieve, on the western side of that river. It became unterable on account of the constant washings of the high floods of the Missisppi, and was abandoned in 1772. South of the fort is a village which was very inconfiderable in 1778; above this is another village, settled by 170 warriors of the Piorias and Mitchigamias tribes of Illinois Indians, who are

CHARTREUSE, a celebrated monastery of Carthufians; fo called from the name of a fleep rocky place, in a frightful defart, five leagues from Grenoble in France; where St. Bruno retired from the world, and first instituted the order of Carthufians, which fee.

The name has fince passed to all houses of Carthusians; and that near Grenoble is now distinguished by the name of

the Great Chartreufe.

That of London, corruptly called Charter-house, was before the suppression of monasteries by Henry VIII. a priory belonging to that order, and from the powers by which it was first erected into an hospital, it was denominated "The Hospital of king James." On occasion of a dreadful plague which filled all the common burial grounds with the dead, Walter de Manny, a Flemish nobleman, purchased in 1349, of the master and brethren of St. Bartholomew's Hospital in Smithfield, 13 acres and a rod of land, denominated "The Spital Croft," and appropriated the same, after it had been inclosed and consecrated, as a common cemetery for the accommodation of such deceased persons as could not have place in their respective parish grounds. A chapel was also erected in the faid cemetery by the right honourable proprietor, in which many liberal oblations were made for feveral fuccessive years. In 1371, Manny founded in this place a Carthufian monastery; and the revenues of this convent amounted, at the time of its suppression in 1538, to 6421. 41 d. per annum, which was conferred upon Sir Thomas Audley, speaker of the House of Commons, and from him descended to Thomas, earl of Suffolk, who disposed of it to Thomas Sutton, efq. by the name of "Howard-house," commonly called the "Charter-house," consisting of divers courts, a wilderness, orchards, walks, and gardens, &c. for which he paid the fum of 13,000 l. in 1611. By letters patent obtained in this year, the hospital was established, and confirmed by parliament, in 1628.

The charge of the establishment for the admission of pensoners and scholars, together with the original purchase-money, amounted to 20,000/. Besides this sum, Sutton endowed his hospital, called "Sutton's Hospital," with 15 manors, and other lands, to the amount of 44931. 19s. 101d. per annum. After considerable losses, which this hospital Sustained in 1623, 1624, and 1649, Sir Richard Sutton, one of the founder's executors, improved the estate belonging to the foundation to much, that in the year 1673, it amounted

place contains 1551 and the canton 10,152 inhabitants: the to 5391% 131. Sd. yearly. It has fince amounted to about 12,000/. This establishment is to consist of decayed gentlemen, foldiers, and merchants; eighty of whom have a plentiful maintenance of diet, lodging, and inflead of apparel, a gown once in two years, and 14/. per annum, physic, &c. living together in a collegiate manner: and of scholars, or youths, forty of whom are taught, and supplied with necessaries; and fuch of them as are fit for the univerfity fent thither, with an exhibition of 40/. per ann. for the first four years, and 60/. for the four last, on condition of constant residence, viz. eight months in the year; the rest are put to trades, with a premium of 401. each. As a farther encouragement to the scholars brought up in this foundation, there are feveral ecclefiaftical preferments in the patronage of the governors, who, according to the conflitutions of the hospital, are to confer them upon those that were educated in this school.

For the superintendency of this hospital there are fixteen governors, generally of the prime quality; vacancies being supplied by the election of the remaining governors. The ordinary officers are, a master, preacher, register, treasurer,

school-master, &c.

CHARTREUX, religious of the order of St. Bruno, called also CARTHUSIANS.

CHARTREUX, poudre des. See KERMES mineral. CHARTULARY, Chartularius, a title given to an ancient officer in the Latin church, who had the care of charters and papers relating to public affairs.

The chartulary prefided in ecclefialtical judgments, in lieu

of the pope.

In the Greek church, the chartulary was called chartophylax; but his office was there much more confiderable; and fome even diftinguish the chartulary from the CHARTOPHY-LAX in the Greek church.

CHARUS, in Ancient Geography, a river of Asia, in that part of the Colchide which was to the right of the Phasis. Strabo fays, that the town of Sebaltopolis or Dioscuria,

was fituated near this river.

CHARWELL, in Geography, a river of England, which runs into the Thames, at Oxford

CHARYBDIS, a supposed whirlpool in the strait of Messina, between the coast of Calabria and that of Sicily, and thought in ancient times to be very dangerous to navigators. According to the fables of the poets, Scylla (which fee) and Charybdis were two fea-monsters, whose dreadful jaws were continually diffended to fwallow unhappy mariners; the one fituated on the right, and the other on the left extremity of the firait of Meilina, where Sicily fronts Italy. Thus Virgil describes them:

"Dextrum Scylla latus, lævum implacata Charybdis Obsidet, atque imo barathri ter gurgite vastos Sorbet in abruptum fluctus, rurlusque sub auras Erigit alternos, et fidera verberat unda: At Scyllam cœcis cohibet spelunca latebris Ora exertantem, et naves in saxa trahentem. Prima hominis facies et pulchro pectore virgo Pube tenus; pottrema immani corpore pristis Delphinum caudas utero commissa luperum."

Æn. lib. iti.

" Far on the right her dogs foul Scylla hides; Charybdis roaring on the left prelides, And in her greedy whirlpool fucks the tides. Then spouts them from below; with fury driv'n The waves mount up, and wash the face of heav'n. But Scylla from her den, with open jaws, The finking veffel in her eddy draws,

Then dashes on the rocks: a human face, And virgin bosom, hide her tail's disgrace; Her parts obscene below the waves descend, With dogs inclos'd, and in a dolphin end." Dryden.

Charybdis is fituated within the strait, in that part of the sea which lies between a projection of land named "Punta Secca," and another projection on which stands the tower called "Lanterna," or the light-house; a light being placed at its top to guide vessels which may enter the harbour by night. The ancient and modern authors who have written concerning Charybdis, have all (Spallanzani excepted) supposed it to be a whirlpuol. Homer is the first writer who has represented Charybdis as a monster which three times in a day drinks up the water, and three times emits it forth.

" — ξια Χαρυβδις αναβιαβία μεταν τίδος. Τρις μεν γας τ' ανιπουν επ' τμαλι, τρις διαναβραβδα Διειον." Ηοιπ. Odyff. xii.

Beneath Charybdis holds her boifterous reign 'Midfl roaring whirlpools, and abforbs the main: Thrice in her gulphs the boiling feas fubfide, Thrice in dire thunders the refunds the tide. Pope.

The description of Virgil, above cited, differs from that of Homer only in placing a deep gulph below. Strabo, Ifidorus, Tzetzes, Hesychius, Didymus, Eustathius, &c. con-cur in the same opinion. The Count de Busson adopts the idea of Homer in full confidence, and places Charybdis among the most celebrated whirlpools of the sea. "Charybdis," fays he, "absorbs and rejects the water three times in 24 hours." Strabo tells us, (lib. vi.) that the fragments of ships swallowed up in this whirlpool are carried by the current to the shore of Tauromenium (the present Taormina) 30 miles diltant from Charybdis. In confirmation of this tradition, an amufing though tragical anecdote is related of one Colas, a Messinean diver, who had acquired, from his being able to remain a long time under water, the furname of "Pesce" the fish. It is reported, that Frederic, king of Sicily, who came to Messina on purpose to see him, tried his abilities by throwing a golden cup into Charybdis, which, if he brought up, was to be the reward of his re-folution and dexterity. The hardy diver, after having twice aftonished the spectators by remaining for a long time under water, plunged into it a third time and appeared no more : but, some days after, his body was found on the coast near Taormina. Spallanzani determined to investigate, by his own observation, the truth of the opinion which had been entertained with respect to Charybdis.

It is diffant from the shore of Messina about 750 feet, and is called by the people of the country "Calofaro," from x2 λ 0 α and α 2 α 0 α 5, i. e. "the beautiful tower," from the lighthouse erected near it for the guidance of vessels. The phenomenon of the Calofaro is observable when the current is descending: for when the current fets in from the north, the pilots call it the "descending rema," or current; and when it runs from the south, the "ascending rema." The current ascends or descends at the rising or setting of the moon, and continues for 6 hours. In the interval between each ascent or descent there is a calm which lasts at least a quarter of an hour, but not longer than an hour. Asterwards at the rising or setting of the moon, the current enters from the north, making various angles of incidence with the shore, and at length reaches the Calofaro. This delay sometimes continues 2 hours. Sometimes it immediately falla into the Calofaro, and then experience has taught that

it is a certain token of bad weather. Spallanzani, apprifed by the pilots that there was no danger in vifiting the Calofaro, approached it in a bark managed by some expert mariners, who affured him of his fafety. When he observed Charybdis from the shore, it appeared like a group of tumultuous waters, which became more excessive and more agitated in his nearer access to it: but upon being carried to the edge he was convinced that what he faw was by no means a vortex or whirlpool. Hydrologills teach us, that by a whirlpool in a running water we are to understand that circular course which it takes in certain circumstances; and that this course or revolution generates in the middle a hollow inverted cone, of a greater or lefs depth, the internal fides of which have a spiral motion. But nothing of this kind was perceived in the Calofaro. Its revolving motion was circumferibed within a circle of at molt 100 feet in diameter, within which limits there was no incurvation of any kind, nor vertiginous motion, but an incessant undulation of agitated waters, which fell, beat, and dashed against each other. Yet these irregular motions were so far placid that nothing was to be feared in passing over the spot; though his little bark rocked very much from the continual agitation; fo that the mariners were obliged constantly to make use of their oars to prevent its being driven out of the Substances thrown into the stream that were heavier than the water, funk and were no more feen; those which were lighter remained on the furface, but were feen driven out of the revolving circle by the agitation of the water. Spallanzani, thus convinced that there was no gulph under the Calofaro, because in that case there would have been a whirlpool, which would have carried down into it the floating fubstances, founded the bottom with a plummet, and found that its greatest depth did not exceed 500 feet. From these facts he concluded, that at the time of his observation, there was no whirlpool in Charybdis; though it might have been different when the fea was tempessuous. In order to satisfy himself concerning this circumstance, he questioned the pilots who had frequently seen Charybdis in its greatest fury, and obtained from them the following account: When the current and the wind are contrary to each other, and both in their greatest violence, especially when the south wind blows, the fwelling and dashing of the waves within the Calofaro are much more impetuous and extensive. It then contains three or four small whirlpools, or even more, according to the degree of its extent and violence. If at this time small vessels are driven into the Calofaro by the current or the wind, they are feen to whirl around, rock, and plunge; but are never drawn into the vortex. They merely link when filled with water by the waves beating over them. When veffels of a larger fize are forced into it, whatever wind they have they cannot extricate themselves; their fails are useles; and after having been for some time toffed about by the waves, if they are not affifted by the pilots of the country, who know how to bring them out of the course of the current, they are furioufly driven upon the neighbouring shore of the Lanterna, where they are wrecked, and the greater part of their crew perish in the waves. Spallanzani having evinced the erroneoulnels of the opinion with respect to Charybdis, that has been transmitted from Homer to the prefent time, further observes, that Homer wasnot exact with regard to the fituation of Charybdis. The ancient poet, probably mifled by the account which he had received from others, and not having had an opportunity of observing it himfelf, places Charybdis near Seylla: the diltance from one of these rocks to the other being an arrow's flight, which does not at all accord with the prefent fituation 3 7 2

of Scylla. Although within the present certury the strait of Meffina has become parrower, yet we know from various and unquestionable tellimonies that, long before this event, Charybdis was fituated where it is at prefent, on the fide of Sicily, a little beyond Messina. Our ingenious writer proceeds to inquire what foundation there is for the

" Incidit in Scyllam, cupiens vitare Charybdin:" i.e. he who endeavours to avoid Charybdis, dashes upon Scylla; which proverb was applied by the ancients to those who, while they fought to thun one evil, fell into a worfe. The Meffinele pilots informed him, that this misfortune, though not always, yet frequently happens, unless proper measures are taken in time to prevent it. If a ship be extricated from the fury of Charybdis, and carried by a strong foutherly wind along the strait, towards the northern entrance, it will pals out fafely; but should it meet with a wind in a nearly opposite direction, it will become the sport of both these winds, and, unable to advance or recede, be driven in a middle course between their two directions, that is, full upon the rock of Scylla, if it be not immediately affifted by the pilots. They added, that in these hurricanes a land wind frequently rifes which descends from a narrow pass in Calabria, and increafes the force with which the ship is impelled towards the rock. If it be asked, how it happens that Scylla and Charybdis are now lefs dangerous than they were in former times, as Scylla still remains such as it was in the time of Homer, and Charybdis must at present be more perilous because the strait of Messina is become narrower; the answer is, that the difference arises from the improvement of the art of navigation which, formerly in its infancy, dared not launch into the open fea, but only ventured to creep along the thore; but time, fludy, and experience, have rendered her more mature, better informed, and more courageous; fo that she can now pass the widelt seas, brave the most vioient tempells, and laugh at the fears of her childhood. See Spallanzani's Travels in the Two Sicilies, vol. iv. Thucydides (lib xi.), and some other approved historians, use the term Charybdis to fignify the whole flrait betwixt Sicily and Calabria.

CHARYBDIS, a place of Syria, between Antioch and Apamwa. Strabo fays, that the river Orontes is loft in this place, and that it rifes again to view about 40 stadia below it.

CHARYBDIS is also a word used by Dr. Plott to express certain openings which he supposes in the bottom of the fea, by which its waters are received and conveyed by a subterranean circulation to the origin of fountains and springs. The fluxus moschonicus, or maalstrome on the coalt of Norway, is inpposed to be owing to some such subterranean indraught; and it is advanced also, that the Mediterranean sea could not be emptied of the valt quantities of waters which it receives, but must overflow the land of Egypt, unless swallowed by some such charybdis, which is either in some part of the bason of that sea, or near the mouth of it; in which case, it may be the occasion of that throng under-current, described by all those who have treated of this fea. An immense charybdir, placed near the ftrait's mouth, may be hid under the immensity of waters there; but as it would absorb the deep waters continually, and that in large quantities, it would necessarily cause such an under-current there. See VAPOUR.

CHARYBDIS, in Mythology, was a female robber, who, according to the fable, stole the oxen of Hercules, for which fhe was ftruck with a thunder-bolt by Jupiter, and turned into a whirlpool dangerous to strangers.

CHASE, in Agriculture, is a word fometimes employed

to denote a row or rank of thorns, &c. Thus, in the planting of quicklets, a fingle chale fignifies a fingle row; and a double chase a row planted below the first, not immediately underneath the upper plants, but under the middle of intermediate spaces or vacant parts.

CHASE, or Chace, in Law, is used for a driving of cattle

to or from any place; as to a diffress, a fortlet, &c.

CHASE, or Chace, in a general fense, denotes a great extent of woody ground lying open, and privileged for wild beatts and wild fowl; the beatts of the chale comprehending not only the buck, doe, fox, martin, and roe, but, in a common and legal fense, all the beasts of the forest. Co. Litt. 233. A chase differs from a park in not being inclosed, and also in this particular, that a man may have a chase in another person's ground, as well as in his own; it being indeed the liberty of keeping beafts of chafe or royal game therein, protected even from the owner of the land, with a power of hunting them there. Bl. Comm. vol. ii. 38. But if a man have a chase within a forest, and he kill or hunt any flag, or red deer, or other beafts of the forest, he is finable. I Jones's Rep. 278. A chase is of a middle kind, between a forest and a park; being usually less than a forest, and not possessed of fo many privileges; but wanting, v. gr. courts of attachment, fwainmote, and juffice-feat. Yet it is of a large extent, and flocked both with a greater diversity of wild beafts, or game, and more keepers, than a park. Crompton observes, that a forest cannot be in the hands of a Subject, but it forthwith loses its name, and becomes a chase; in regard all those courts lose their nature when they come into the hands of a subject; and that none but the king can make a lord chief justice in the eyre of the forest.

By the common law, no person is at liberty to take or kill any beafts of chafe, but fuch as hath an ancient chafe or park;

unless they be also beatls of prey.

Yet the fame author adds, that a forest may be granted by the king to a fubject, in fo ample a manner, as that there may be courts equivalent to a court of attachment, fwainmote, and justice-feat. It is not lawful to make a chase, park, or warren, without licence from the king under the broad feal. See FOREST, GAME, and PARK.

CHASE, beafts of. See BEASTS.

CHASE, or Chace, wild goofe, a term used to express a fort of racing on horseback, used formerly, which resembled the flying of wild geefe, those birds generally going in a train one after another, not in confused flocks as other fowls do. In this fort of race, which is never used except in matches, the two horses, after running twelve score yards, had liberty, which horse soever could get the leading, to ride what ground the jockey pleafed, the hindmost horse being bound to follow him within a certain diffance agreed on by articles, or elfe to be whipped in by the tryers or judges who rode by; and whichever horse could diffance the other, according to the interval fettled when the match was made, won the race. If the horse which at the beginning was behind, can get before that which first led, then he is likewise bound to follow, till he can either get before, or elfe the match be loft or won. This fort of racing was not long in common use, for it was found inhuman and deltructive to good horses, when two fuch horses were matched together. For in this case neither was able to distance the other, until they were both ready to fink under their riders, and often two very good horses were both spoiled, and the wagers forced to be drawn at laft. The mischief of this fort of racing soon introduced the method now in use, of running only a certain quantity of ground, and determining the plate or wager, by the coming in first at the post. It is well known that

this chase full preserves its name in a common proverb, and cut her off; and, steering continually on that course, you come at last together at the point where the courses run by the read of the transfer and proverby the run results interfer a continually on that course, you

CHASE, in Sea-Language, fignifies a veilel pursued by another, apprehended or known to be an enemy. Hence, to chase is to pursue a ship; which is called also giving

chaje

A veffel that chases another ought to have the advantage of sailing; because, if the ship that is chased were as good a sailer as the chaser, she could never come up with her, if they maneavered equally and at the same time. It is therefore useless to chase a ship, with respect to which you have not the superiority in sailing, unless it be found that she does not know how to take the benefit of her equality. In order, to ascertain whether or not your ship sails quicker than your adversary, you must get in the same track, under the same fails, and keep the same course with the vessely you wish to chase, and fet her exactly with a compass. If you sail best, the chase will soon be drawn a point more aft; but if she has the advantage, you will in a short time bring her a point farther forward: if you sail equally, she will remain in the point you set her at first.

In chafing at fea, the following rules are to be observed, as the ship that is chased is either to windward or leeward of the chaser. When the chaser is to leeward of the vessel he means to purfue, he ought to veer on the fame tack as the enemy, till he brings her to bear exactly perpendicular to his course, if he has not already passed that point : then tack, and continue the second board till he brings the chase again perpendicular to the direction on which he is flanding by the wind, and he must then heave about again; always continuing the fame manœuvre, by tacking every time he brings the chase perpendicular to his course on either board. In this manner, the chafer will, by the superiority only of his failing, join the other by the shortest method. You continue on the same tack as the enemy, when first seen, in order to lofe no time; because you will always bring the ship you are in chase of right on your beam, when you have a superiority of failing, whatever may be the tack she is on, provided you are careful not to pass that point; but, if perchance you should, you must get on the other tack with all possible dispatch. The chaser heaves about as foon as the vessel he is in pursuit of is on his beam; because she is, at this time, at the thortest possible distance, if he chases on . the same tack, and steers the same course with the vessel chased. If the chaser runs on a different tack from the veffel chased, he is still to tack when the latter is on his beam, because the distance is the least possible between them on the different boards they hold. This mode is preferable to all others; it not only being the shortest, but because you force the chase to fly from you close upon a wind, preffing her more and more from the leeward, by never paffing the point at which the distance between the two vessels, in plying to windward, is the shortest possible. The weather ship, which slies, will always be joined by the chaser, fince it is granted she does not fail so well as the pursuing veffel. It is therefore her advantage constantly to keep one course, without losing time to heave about, as tacking cannot be so favourable to her as to her adversary, whose failing is superior. If the chaser should mistakenly stand on a long way, and tack in the wake of the chafe, the best thing the can do is to heave in stays, and pass to windward of him on the other tack, unless you suppose your vessel would have alarge superiority. If the chaser persists in tacking in the wake of the other thip, the chase will be very much prolonged.

When the ship you wish to chase is to leeward, or when you are to windward of her, keep the ship away, to

come at last together at the point where the courses run by the two veffels interfect each other. This will be exactly executed by the chafing ship, if, in the course she has chosen, she constantly keeps chase in the same degree of the compass as at the beginning of the pursuit. This principle applies equally to all the courses which the retreating thip fleers; for overtaking can only be obtained by keeping in a straight line, which is the shortest possible that can be drawn between any two points. If you take another course than that which keeps you in the same point of bearing you were in with respect to the vessel pursued, at the beginning of the chafe, you would fail, by being either too far a-head or too far a-stern; that is to fay, if the chaser keeps his wind too close, he will be too much a-head, and confequently prolong the chase; and, if he keeps too much away, he will be too far a-stern. These are the only two considerations to be regarded for the performance of this manœuvre; confiderations which are eafily observed, and corrected with an azimuth compais; for when you fee that, at the end of a certain time, you bring the chafe more aft than the first point of bearing, it is evident you keep your wind too much: if, on the contrary, you draw her forward, it is a proof that you keep too much away. These errors are eafily corrected, by iteering, for the first case, so as to see that the chafe is always kept exactly on the same degree of the compass; and, for the second, you keep your wind a little more, till you see that you rest in the same point of bearing with respect to one another. Then, it is evident you chase by the shortest and most certain method, since you reach the chafe, in running on a straight line.

The veffel that is to leeward, and chased, ought to run in the course that will carry her most immediately from the chaser. Some vessels have greater advantage in going large than others; fome with the wind right aft; and others again are to be found which go best close-hauled. Attention should therefore be paid to the known qualities of a ship, in order to take the most advantageous and most convenient directions capable of effecting a retreat. It is however almost certain, that if the chase does not fail at least at an equal rate with the chaser, whatever manœuvre she may practise, she will at length be overtaken by a skilful chaser adhering to principles. If the chase be found right a head, and so the chafer be put to a stern-chase, then the best failer shall carry i', if there be fea-room and day-light. Being come up c'ofe with the chase, endeavour to cross her fore-foot; and by that means you will both hinder her way, and avoid the fury of her ordnance (except those in her chase), and use your own, if required, to more advantage; and that as well your chase-pieces, at your first getting up within reach, as your broad-fide and quarter-pieces, as you pass thwart her hawle, and fcour her decks from them to thern. If the makes away from you, ply your guns, as many as possible, at her fails, yards, masts, and general tackling; and, being near, spare not your case-shot, or cross-bar-shot, to make

the greater damage.

CHASE, fern, is when the chaser follows the chased aftern, directly upon the same point of the compass.

To lie in a ship's fore-foot in a chase, is to sail, and meet with her by the nearest distance, and so to cross her in her

way, or to come across her fore-foot.

A fhip is faid to have a good chafe, when she is so built forward on, or a-stern, that she can carry many guns to shoot forwards, or backwards; according to which, she is said to have a good forward, or good stern-chafe.

CHASE-guns, are such whose ports are either in the head called bow-chases (and then they are used in chasing of others);

for in the stern, called flern-chases, which are only useful when they are pursued or chased by any other ship.

CHASE of a gun. See CANNON.

CHASE astragal, fillets, and girdle. See CANNON.

CHASE-LAND, in Agriculture, is fuch fort of waste land as was formerly in the state of chase. There are still large tracts of this fort of land in different parts of the kingdom, though much within thefe few years has been cleared and brought into a state of cultivation. It has been observed by the author of the Middlesex Agricultural Report, in speaking of a tract of this fort of land, in the vicinity of London, that has lately been attempted to be brought into a state of improvement, that it abounded with trees and rushes, which rendered it necessary for the cultivators to dig up the foil and stock out the roots, before any of the ordinary operations of husbandry could take place. These were works which not only required, he says, much labour to effect, but also a very large expenditure of money, for which there was no immediate prospect of return. Oats was the only article which found a ready fale. The very unufual and extraordinary fupply of flack-wood and bavins, fo far exceeded the demands for these articles, that the price fell far below the woodman's labour. Inexperienced farmers became alarmed at these circumstances, and in consequence fet themselves about trying confined, partial, and penurious, experiments, certainly very ill-calculated to fucceed on a raw crude foil, which had from the earliest ages been shut up by a thick foliage in an excess of damp, excluded from the benign influence of the folar rays, and every other power of evaporation. It is added, that the wood in the first instance, being only cleared away from fmall patches of land at a time, fuch cleared ground was necessarily still left furrounded on all fides by woods, which by the redundancy of damp they occasioned, continued the disorder under which the foil naturally laboured. Again, the stocking up the roots, and digging the foil, as before-mentioned, would unavoidably bury a great part of the furface mould, which was by much the best, and in its stead turn up a worthless clay, a perfect enemy to the whole vegetable world: or at least it would mix fo much bad foil with the fmall portion of good, as to produce together a new furface, certainly much inferior to the one deltroyed by this operation. It ought not therefore, he thinks, to excite furprite, that, "under all these disadvantages, the soil should, as it were fullenly and reluctantly, yield back again even fo much as the feed fown. In fact, it could not otherwise happen till such time as the woods being more generally cleared, the superabundant water drained off, and the excessive damps evaporated, the foil should obtain a proper degree of dryness. Nor even then could great returns be expected, without the application of some stimulating ingredient, as turf-ashes, lime, marl, &c. to correct the natural acidity and crudeness of the soil. But in order to make it permanently productive, manure should have been dealt with a liberal hand.

At length, however, the fire-wood being grubbed, and marketed in lefs quantities, increased its price; and by the meney it produced opened the way for a more extended clearing of the foil. The half-yard wood, which was originally given as a recompence to the labourer for clearing the ground, now yielded to the proprietor feven fillings a stack; the spikes twenty-four shillings; the bavins, when drawn to town, from fixteen to twenty-four shillings per hundred; and the spray, being made up into what they called pimps, several shillings profit.

The account between the proprietor and the labourer therefore now stood thus, viz.

					Sold by the Pro-		
	Labourer.				prietor for		
To one flack of half-yard w	ood,	16.	5.	d.	£,·	5.	d.
14 feet long, 3 feet high, a	nd 3	>0	4	0	0	16	0
feet wide							
Ditto yard wood ditto -		0	2	0	0	16	0
To 100 spikes		0	I	6			
To 100 bavins	-	0	2	0	0	6	0
Roots, and collier's ware,	per "	}					
flack, the fame meafure as			8	0	0	12	0
half-yard wood							
Ditto, rough roots			7	0	0	1.1	0
Pimps per hundred		0	í	6		6	
4 4					-		
Togetl	her	(I	6	0	12	3.5	0
2000		40 *			200	.9	
O+ 41 1: 1: 11 1	1 . 1		1 .		1		

On this it is well remarked that "this rife in the value of the above articles plainly evinced, that, though under a parsimonious management the foil refused to repay the toils and expence of husbandry on the produce of grain, it would, at least for a short time, yield, in the value of fire-wood, fufficient to answer the demands of the crown for rent. This circumstance no doubt was the means of its being cleared from wood. But unfortunately, the occupiers not knowing how to cultivate this kind of foil to advantage, and without being apprehensive of incurring a considerable lofs by any mistake in the management of it, let it lie in a state of waste for several years; and it would probably have continued fo till this time had not the more spirited and well-directed exertions of a few enterprising and intelligent individuals shown the way to success." And it is stated as a matter of fome doubt, " whether the best mode of improving such a soil as that of this chase, was then known in this part of England; but it is certain that it was not practised. It is also clear to demonstration, that unless a welldigested system be pursued, the profit must be precarious, and the fuccels of the undertaking uncertain.

It is added, that "if the parties concerned in the cultivation of it had fet out upon a liberal and judicious plan, in the first instance, and began by felling the timber in the proper scason, and disposing of it at the best market; next pared the old fward, and flocked out all the roots; and, as foon as they were dry burn the roots, bushes, and sward, into ashes; then ploughed these ashes in with a very thin furrow (in order to avoid bringing up to the furface the wretched fubfoil); after this, spreading lime, and harrowing it in; had, he fays, this method been adopted by the first cultivators of the chase, he thinks he may venture to affert, that he should not now have heard complaints against the foil, or that it would be called fullen and unproductive. At least, it would have grown tares and perhaps cole, which should have been eaten by stock on the land which produced them. This should have been annually repeated, and the land plentifully suppled with manure brought from town, (if nigh such) and the farm-yard, until the foil had acquired a sufficient degree of richness to be laid down to permanent grass."

The land of this chase is, he says, in its nature too stubborn to answer in a course of aration, particularly as it is so nigh the metropolis, and where the expence of horse-keep and men's labour are so high that they would consume all the produce of such land. It should therefore be only pared, burnt, ploughed, drained, limed, and manured, and then laid down clean and in good heart, to permanent grass. Indeed, wherever there is a clean skin of good plants already, it will be sufficient that it be well drained and manured, in which case the grasses will be sure to improve, and in a few years become good meadow."

Thefe

These remarks shew the vast importance of beginning upon a good plan in the cultivation and management of this fort of waste land, as it is only in this way that advantage can be gained, or encouragement held out to the cultivation

of fuch ground.

CHASIDEANS, or ASIDEANS, in Ancient Geography, so called on account of their great zeal for the law, and their voluntary engagement to observe it more rigidly than other mep, were a valiant people of Judæa, who, after the fettlement of the Jewish church on the return of the Jews from the Babylonish captivity, superadded to the law the constitutions and traditions of the elders, and other rigourous observances, to which, by way of supererogation, they voluntarily devoted themselves; and who, from the superior degree of holiness to which they aspired, were called Chafidim, i.e. the Pious. These persons were dillinguished for their valour, and joined Mattathias and his companions when they fled from Jerusalem to the mountains and defarts of Judæa, in order to avoid the perfecution of Antiochus. The Chasidwans reckoned it one of the chief points of that piety which they professed, to fight zealously for their religion, and the defence of the temple and its worship, which had been profaned by the Heathens. They concurred with Mattathias in his efforts for purging the land of the idolatry which the perfecutors had imposed upon it, and re-establishing the true worship of God.

CHASING, a method of working, or enriching, gold, filver, &c. properly called enchasing.

CHASIRA, in Ancient Geography, a town of Asia in Armenia Minor, according to Ptolemy.

CHASLEU. See CISLEU.

CHASLUHIM, in Ancient Geography. See CASLU-

CHASM, Xarun. See GROTTO and HIATUS.

CHASME, or CHASMOS, among Ancient Phylicians, de-notes of citation or gaping. Hippocrates informs us that long respiration is a cure for continual oscitation.

CHASPHON, CHASPHORA, or CHASBONA, in Ancient Geography, a town of Paleiline, in the country of Galaad, according to the book of Macchabees and Josephus. It was

taken by Judas Macchabæus.

CHASSAIR, or CASAIR, in Geography, a town of Africa, in the kingdom of Morocco, about 6 leagues from mount Atlas, near which are mines of lead and antimony, which the inhabitants dispose of at Fez.

CHASSE, in Military Language, a charge of powder roughly bruifed, which is put at the bottom of a cartouche, the better to force and throw out the materials with which

it is filled.

CHASSE-COOUINS. See BANDOLEUR.

CHASSE-CRAPAUD, in Ornithology, the European goat-fucker, caprimulgus Europaus, is deferibed under this name by Salerne.

CHASSELAY, in Geography, a town of France, in the department of the Rhone and Loire, and district of Campde-Lyon; 2 leagues N. of Lyons.

CHASSENEUIL, a town of France, in the department Charente, and diffrict of Angouleme; 11 miles N.E. of La

Rochefoucault.

CHASSENEUX, BARTHOLOMEW DE, in Biography, an eminent lawyer, was born at Ipi l'Evêque, near Autun, in 1480; and after fuithing his findies with a view to the law in Italy, was made mafter of requests to Charles d'Amboile, governor of the Milanefe, who employed him at the court of Rome. In 1531, he was appointed counteilor of the parliament at Paris, and in the following year prefi-dent of the parliament of Provence. He occupied this post in 1540, when this body iffued its fanguinary decree against the Vaudois of Merindol and Cabrieres. These people, whose general character appears under another article, incurred, for deviating in their fentiments, worship, and practice from the prescriptions of the church of Rome, the charge of being peffilential heretics, and it was determined to extirpate them by fire and fword. Chassenex, it is thought, did not in his judgment approve these severities, though he was officially obliged to fign the parliamentary decree. He contributed, however, by a variety of humane artifices to delay the execution of it, whilft he lived; and his death, in 1541, has been afcribed to those who wished to fee the commencement of the bloody perfecution. The works of Chaffeneux are, "A Latin Commentary on the Customs of Burgundy, and of almost all France," fol. printed five times during his life, and more than fifteen times fince; the last edition being that of president Bonhier, at Paris, 1717, 4to; "Catalogus Gloriæ Mundi," Lyons, 1529, fol. "Confilia," Lyons, 1531, fol. "Les Epitaphes des Rois de France, jusqu'a Francois I. en vers, avec leur Effigies," and the same in Latin. Nouv. Dict. Hist.

CHASSENSAL, in Geography, a river of France, which

runs into the Ardeche, not far from its fource.

CHASSER L'ENNEMI, in Military Language. This phrase is of the same import as the word deposter, to drive an enemy before you, forcing him to quit a post that he oc-

CHASSERADES, in Geography, a town of France, in the department of the Lozère, and district of Mende; 8 miles N. of Villefort.

CHASSEURS. See CAVALRY.

CHASSIERS, in Geography, a town of France, in the department of the Ardeche; 10 miles W. of Viviers.

CHASSIRON, Tower of, a light-house on the north point of the island of Oleron, near the coast of France, which has two fires by which it is dillinguished from the tower of Cordovan.

CHASSIS DE GALERIE, in Military Language. Thefe are small beams, or posts of different heights, which the miners make use of for supporting the earth, in proportion as they advance in the gallery. These support other pieces of timber laid transversely upon them, which hinder the tumbling down of the earth; and this is what is called chapeau du mineur, or the miner's hat.

CHASTE-TREE, in Botany and Gardening. See

CHASTELAIN, CLAUDE, in Biography, was born at Paris in 1639; and occupied the office of canon in the cathedral of his native city. With a view of fludying the usages peculiar to each church, he travelled through France, Italy, and Germany, and acquired an extensive acquaintance with liturgies and religious rites and ceremonies. Accordingly Harlay, archbishop of Paris, placed him at the head of a committion for preparing formularies for the use of his diocefe, and he was also employed by other bishops in correcting and altering their breviaries and church books. He likewife compoled the offices for feveral religious orders. The " Hagiological Dictionary," which he published, was inferted by Menage in his etymologies of the French tongue; and he bears this tellimony to his protound and various knowledge; viz. " Cattellanum faculum fuum non intellexit;"-His own age did not comprehend his merit; and an intelligent person, who visited Rome 17 times, affirmed that Chaftelain shewed him more curiofities, and taught him more facts than he had gained any knowledge of in all his other viits. In 1705, Chastelain published his "Roman Martyrology," translated into French, &c. 4to.; containing only the two first months of the year. In 1709, he published "An Universal Martyrology," upon the same plan. The Bollandista who wrote the lives of the faints, were thus led to seek his acquaintance, and they dedicated to him one volume of their work. He died in 1712, leaving among various other works in MS. a journal of his own life.

CHASTELET, GABRIELLE EMILIE DE BRETEUIL, marchionels of, was born in 1706; and became celebrated both for the beauty of her person, and the culture of her mind. In the course of her education, which was of a superior kind, the acquainted herfelf with the best ancient and modern authors; but her attention was more particularly directed to mathematics and natural philosophy. She began her literary career, with an institute of the philosophy of Leibnitz, under the title of " Institutions de Physique," Svo.; but the afterwards transferred her respect from the reveries of the German philosopher to the discoveries and reasonings of Newton. Accordingly, the translated the Principia, and added a commentary; which were published after her death under the superintendence of the celebrated Clairaut. She died in 1749, at the palace of Luneville. Although the was a mathematician and philosopher, she was far from being a recluse; for the converted with perfons of her own rank with fuch a degree of freedom and eafe, and partook fo much of their pleafures, that even the ladies who had the honour of affociating with her had no reason to suspect that the was the commentator of Newton. Her memory was fingularly retentive, her eloquence ready and impressive, her talke for poetry correct and lively, and the manifested that indifference to popular applause, which is the usual characteriffic of a great mind. But notwithstanding these various mental qualities and attainments, it is generally admitted, that she had no pretensions to the character of chastity. Nouv. Dict. Hift.

CHASTELET, in Geography, a town of Germany, in the circle of Weltphalia, and bilhopric of Liege, fituate on the fouth fide of the Sambre; 30 miles S.W. of Bruffels, and 70 W.S.W. of Liege.

CHASTELLAN, a town of Savoy; 81 miles N.E. of

Chambery

CHASTELLUX, Le Chevalier de, in Biography, brigadier des armies du roi at the time of the revolution, was born 1734, and received in the French Academy in 1775. had early in life a strong passion for poetry and music. His professional employment, as a military officer, has never impeded the fuccefsful cultivation of those talents. Many of his comedies, written for private theatres, and heard with transport, would have been fure of success if represented on a public stage, had he had courage sufficient to make the experiment. But his " Essay on the Union of Poetry and Mufie" is the chief production which entitles him to a place here as a mufical writer. This little book, which first appeared in 1765, is but a pamphlet of about 90 or 100 pages 12mo. Yet next to Rouseau's " Lettre sur la Musique Franç isle," it is the best piece of musical criticism in the French language. It called the attention of persons of talke to Italian poetry and music, which the abbé Arnaud and M. Suard had attempted before ; but we think with lefs knowledge of the subject and more party-spirit. M. De Chastellux lackily produced his tract before the Gluck and Piceini factions had birth, and feems to write from feeling and zeal for the mufical drama, apart from all contention for victory over writers of opposite opinions. He has many ideas concerning aucient as well as modern mulic, which were new, at least in France, when his tract appeared, and which have been fince adopted by fublequent mulical writers, and rendered com-

mon: fuch as lymmetry of air, not only in the number of bars, but in the general cast of each bar, which is a rule of much the same tendency as Rousseau's "Unity of Melody." In speaking of ancient music, the author thinks, though inferior to the modern, that the great effects of its modes were produced by their being severally confined to particular keys and measures. If a whole nation were to hear a particular melody in a particular key only on occasions of religious ceremonies, and another was confined to military purpoles, their effects would be greatly heightened. If, for initial ce, in the midst of a tumult, a band of good musicians was to play a religious air in its ufual key, it would excite piety and respect in the most turbulent. And if, during a religious ceremony, a military air was unexpectedly to be performed in its original key, there can be little doubt but that the people would immediately fly to arms. The effect of the ancient Greek music must greatly have depended on its appropriation; as in China, from time immemorial, particular mufical airs have been confined to particular purpoles. This is only applicable to instrumental music; but for vocal, the author wishes poets to become musicians, and musicians poets, otherwise they have different interests, and mutually injure and degrade each other. On this subject, he says most truly, that the lyric poet should never forget that he is writing for mulic; that he should facrifice wit and point to fentiment and effect. Though there is a constant jealousy between poetry and music, he says it is impossible to deny that music is the principal object in an opera. Metastasio, whose dramas were juitly admired and respected as poetry, never was jealous of the applaufe which compofers and fingers acquired, or thought it was at his own expence. The French perhaps do wifely in allowing few airs in their operas, and those, short, easy, and simple; having no singers capable of performing bravura, and still less airs in a grand style of cantabile: but why Italy, and all Europe who have Italians, or fingers of the Italian school, capable of performing in all flyles, should conform to the present plan of French operas, and banish good singing from their lyric theatres, or be accufed of ignorance of the true style of dramatic music, we know not. That a people just emerging from barbarism in music of all kinds, should arrogantly dictate to nations long polished, refined, and accustomed to perfection, gives but too just grounds for imagining, that prefumption, though confined to individuals in some countries, is, in others, a national

The chevalier Chastellux seems the first writer in the French language (after Rousseau) who truly comprehended the merit of Italian vocal music and performance, and selt the merit of Metastasio. He seems to have a correct idea of dramatic poetry, and words to be set to such music as will display the abilities of a composer as well as larger. He says very truly, that to obviate, or at least to fosten, the radical evil of mixing song with declamation, the poet, in going from speech to song, can only render the contrast and unnatural mixture bearable, by increase of interest or passion, which seems to call for a different expression. He should avoid the introduction of airs, in coldand uninteresting situations; or in the midst of a dialogue, before the characters are sufficiently animated; and by this means avoid the being too lavish of those airs which should be retained for occasions as sold in and the temperation of some

CHASTISEMENTS, or CORRECTIONS, in the Manege, are the fevere and rigorous effects of the aids; for when the aids are given with leverity, they become punishments. See

CORRECTION.

CHASTITY, a virtue deified by the Romans. On the reverse of a medal of Faustina the younger, it is represented fitting,

fitting, and dreffed in the habit of a Roman matron, holding a fceptre in her hand, with two doves at her feet. They called her, fays Mr. Spence, the goddess " Pudicitia," and exhibited her in the form of a Roman matron, with her veil, in the modelt attitude of pulling it over part of her face. Juvenal speaks of her personally, and humorously observes, 66 that he believes she was once upon our earth in the reign of Saturn, but that the quitted it when Jupiter began to have a beard." At Rome there were two of this name, viz. " Pudicitia Patricia," and " Pudicitia Plebeia."

The Roman law justifies homicide in defence of the chaftity either of one's felf or relations (Ff. 48.8. 1.); and according to Selden (De Leg. Heb. lib. iv. cap. 3.) the law in the Jewish republic had the same latitude. The English law also justifies a woman in killing one who attempts to ravish her. Bac. Elem. 34. 1 Hawk. P. C. 71. And the father or hulband may justify killing a man, who attempts a rape upon his wife or daughter: and the forcible attempt of a more detellable crime may be equally refitted by the death, east side of the Enisei, 156 miles N. of Turuchansk. of the unnatural aggressor. Blackst. Comm. vol. iv. p. 181.

In China, at the death of the fovereign, all his women are removed to a separate building, called by a term, which divested of its metaphor, implies the " Palace of Chastity," where they are doomed to refide during the re-

mainder of their lives.

CHASUARII, or CHATTUARII, in Ancient Geography, a people of Germany, who formed part of the Chattæ. They

are mentioned by Tacitus, Strabo, and Ptolemy.

CHASZAVENICA, a place which had a Roman garrison, under the orders of the commandant of Armenia, mentioned in the Not. Imp.; but its fituation is not ascertained. CHAT, CAPE, in Geography, a cape on the fouth coast of the river St. Lawrence. N. lat. 49° 10'. W. long. 66°.

CHAT, Cat, in Gunnery, a piece of iron with one, two, or three very sharp prongs or claws, which, when it has three of them, are arranged in a triangular form or shape. This piece of iron is fixed to a fhaft or handle. It is used for fearching and examining a piece of ordnance. By being in-

troduced into the bore, it shews or discovers whether it is

honey-combed, damaged, or otherwise defective.

There is another fort of chat, that differs a little from this. It confilts of two branches of iron fixed to one end of a piece of the fame metal, which have each of them two fleel prongs or claws. One of these branches has a hinge with a spring fo fixed, that when the chat is put into the bore, the smallest cavity releafes the fpring, and the defect is immediately difcovered. This invention does credit to the inventor. Founders who do not like it, call the common chat the diable, or the devil, and the one with two branches la malice du diable, the malice of the devil.

Also a fort of tower, that anciently was made CHAT. use of in France for carrying foldiers at the belieging of

places.

CHAT, in Zoology. See CAT and FELIS catus.

CHAT-bizaam of Volmaer, &c. See VIVERRA tigrina.

CHAT cervier, the lynx. Sec FELIS lynx.

CHAT d'Espagne of Ridinger, and Chat de Constantinople. See VIVERRA genetta.

CHAT-huant, in Ornithology, the brown owl, STRIX firidula, Linn. Chat-huant is also the common name of owls in general.

CHAT manoul, in Zoology. See FELIS manul.

CHAT-pard. See PARDUS.

CHAT rochier, in Ichthyology, the name given by Brouffonet and others to the greater cat-fish. See SQUALUS fellaris, Linn.

CHATA, in Geography, a town of America, in the Tennessee government; 22 miles S.S.W. of Knoxville.

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CHATABOUCHEE, or CHATABUTHE. See CHA-

CHATA-HATCHI, or HATCHI, a river of America, the largest which falls into St. Rose's bay in West Florida. It is also called Pea River, and runs from N.E. entering the bay by feveral mouths, but so shoal, that they can only be pailed by a small boat or canoe. About 25 leagues up this river, Mr. Hutchins found a small settlement of Coussac Indians. The foil and timber on its banks very much refemble those of Escambia.

CHATAIGNERAYE, LA, a town of France, in the department of Vendée, and chief place of a canton in the diffrict of Fontenay-le-Comte; 15 leagues S.E. of Nantes, and 3 & N. of Fontenay-le-Comte. The place contains 1045 and the canton 15,006 inhabitants; the territory includes 350 kiliometres and 21 communes.

CHATAISKA, a river of Siberia, which runs into the Enisei, near Turuchansk .- Also, a town of Siberia, on the

CHATANGA, a river of Russia, which runs into the Frozen sea; extending itself by the addition of many rivers into a large gulf at its mouth. N. lat. 74° 40'.

CHATAS, a name given to one fort of barks employed on the river Chagre in America, those of the other fort are

called bongos. See CHAGRE.

CHATAUCHE, or CHATABOUCHE, in Geography, a river of America, which rifes in the Apalachian mountains, on the borders of the Tennessee government, traverses the flate of Georgia, and uniting with the Flint in N. lat. 31°, forms the Apelachicola, which fee. It is about 30 rods wide, very rapid, and full of shoals. The foil on its banks is light and fandy, and the clay of a bright red colour. The lower creeks are fettled in dispersed clans and villages from the head to the mouth of this river. Their huts and cabins refemble, by the colour of the clay, clusters of new-burned brick-kilns. The distance from this river to the Talapose river is about 70 miles, by the war-path, which croffes at the falls, just above the town of the Tuckabatche.

CHATAUGHQUE, a lake of America, in the county of Ontario and state of New York, about 18 miles long and 3 broad. It is connected with Alleghany river by the river Conewango, which runs a S.S.E. courfe. This lake ferves to form an eafy communication between lake Erie and the Ohio: there being water sufficient for boats from fort Franklin in the Alleghany, to the N.W. corner of this lake; and from thence there is a poltage of nine miles to Chataughque harbour in lake Erie over ground capable of being made a good waggon road. This communication was once used by

the French.

CHA-TCHEOU, or QUA-TCHEOU, a town of Asia, . in the country of Thibet; 160 miles S.S.E. of Hami. N.

lat. 40° 22'. E. long. 95° 19'. CHATE, in Botany, Alp. See Cucumis chate. CHATEAU, Castle, in Military Language, a place fortified either by nature or art, in a town or city, or in a diftrict or tract of country, the passage through which it is wished to defend. A castle, unless it be naturally strong and peculiarly fituated, cannot at prefent make much refiltance. Castles, however, are still preserved in certain places. as ferving like citadels to furnish retreats for prolonging capitulations, or overawing towns in cases of popular sedi-

CHATEAU ARNOUX, in Geography, a town of France, in the department of the Lower Alps, and diffrict of Sille-

ron; 7 miles S. of Sifteron.

CHATEAUBELAIR BAY, a bay on the west coast of the island of St. Vincent in the West Indies. N. lat. 13° 14'. W. long. 61° 17'.

CHATEAU-BOURG, a town of France, in the department of the Ille and Vilaine, and chief place of a canton in the district of Vitre; 21/2 leagues W. of Vitre. The place contains 1242 and the canton 7255 inhabitants; the territory includes 1021 kiliometres and 10 communes.

CHATEAU-BRIANT, a town of France, in the department of the Lower Loire, and principal place of a diftrict; 11 leagues N. of Nantes, and 9 S.S.E. of Rennes. N. lat. 47° 44'. E. long. 1° 29'. The place contains 3049 and the canton 706S inhabitants; the territory comprehends

1571 kiliometres and 4 communes.

CHATEAUBRUN, JOHN BAPTIST VIENIE DE, in Biography, was born at Angoulême in 1586, and became fleward of the household to the duke of Orleans, member of the French Academy, and a writer of tragedy. His first publication in 1714, was a piece entitled "Mahomet II." His best work, written soon after, was " Les Troyennes," which was not acted for 40 years, and the reason he alleged for delaying the exhibition of it, was the fear of giving offence to the devout prince, his master. He also wrote the tragedies of "Philoctetes" and "Astyanax," which, though feeble in poetry, abound with fentiment, and are conducted with skill. He was admitted into the academy in 1753, and died in 1755. His tafte was formed by the fludy of the Greek and Latin poets. His private character was that of a true philosopher, mild, virtuous, tolerant, and difinterested. Nouv. Dict. Hist.

CHATEAU-CAMBRESIS, in Geography. See Ca-

TEAU CAMBRESIS

CHATEAU-CHALONS, a town of France, in the department of Jura, and district of Poligny; 2 leagues N.

of Lons-le-Sannier.

CHATEAU-CHINON, a town of France, in the department of the Niévre, and principal place of a district, lituate near the fource of the Yonne. It has a confiderable trade in cloth, leather, wood, and wool; 11 leagues E. of Nevers, and $5\frac{1}{2}$ W.N.W. of Autun. N.lat. 47° 3'. E. long. 3° 49'. The place contains 3156, and the canton 12,837 inhabitants; the territory includes 395 kiliometres, and 14 communes.

CHATEAU-CORNET, a fortress of the island of

Guernfey.

CHATEAU-DAUPHIN, a strong fortress of Piedmont, in the marquifate of Saluzzo, ceded to the duke of Savoy by the treaty of Utrecht. It was taken by the combined armies of France and Spain in 1744; 15 miles W. of Saluzzo, and 30 S.S.W. of Turin. N. lat. 44° 33'. E.

long. 63 58'. CHA'l'EAU-DUN, a town of France, in the department of the Eure and Loire, and principal place of a district; 25 miles S. of Chartres. N. lat. 48° 4'. E. long. 1° 15'. The place contains 6146, and the canton 13,467 inhabitants; the territory includes 3021 kiliometres, and 19 com-

CHATEAU-FORT, a town of France, in the department of the Seine and Oife; I league N.E. of Chevreufe.

CHATEAU GAY, a town of France, in the department of the Puy-de-Dôme; 1 league S.W. of Riom.

CHATEAU-GERARD, a town of France, in the department of the Yonne, and district of Tonnerre; 14 miles S.S.E. of Tonnerre.

CHATEAU-GIRONS, a town of France, in the department of the Ille and Vilaine, and chief place of a canton, in the diffrict of Renne's; 2½ leagues S.E. of it. The place contains 1413, and the canton 11,761 inhabitants; the territory includes 1574 killometres, and 10 communes. CHATEAU-GOMBERT, a town of France, in the

department of the mouths of the Rhone, and diffrict of Marfeilles: 4 miles N.E. of Marfeilles.

CHATEAU-GONTHIER, a town of France, in the department of Mayenne, and principal place of a diffriet, feated on the Mayenne. It has a manufacture of linen and woollen. The place contains 4656, and the canton 17,776 inhabitants: the territory includes 250 kiliometres, and 17 communes. It is diffant 5 leagues S. from Laval, and 5 W. from Sable. N. lat. 47° 57'. W. long. 0° 49'.

CHATEAU D'IF, a fortress and three small islands near the coast of France, in the Mediterranean; about 3

miles W.S.W. of Marfeilles.

CHATEAU-JOUX, a fortress of France, in the department of the Doubs, near Pontarlier.

CHATEAU-LANDON, a town of France, in the department of the Seine and Marne, and chief place of a canton in the diffrict of Fontainebleau; 21 leagues S. of Nemours. The place contains 1950, and the canton 8493 inhabitants; the territory comprehends 2921 kiliometres, and 16 communes.

CHATEAU-LAUDREN, a town of France, in the department of the North coasts, and district of St. Brieuc; 21 leagues N.W. of St. Brieuc. The place contains 869, and the canton 13,085 inhabitants: the territory includes

132½ kiliometres, and 9 communes. CHATEAU-LIN, a town of France, in the department of Finisterre, and principal place of a district. place contains 3172, and the canton 13,583 inhabitants: the territory includes 2971 kiliometres, and 11 communes. This town has a confiderable trade in flates for tiling houses; and in its vicinity are a medicinal spring, and fome mines of copper and iron. It is four leagues N. of Quimper. N. lat. 48° 12'. W. long. 4° 11'.

CHATEAU-DU-LOIR, a town of France, in the department of Sarthe, and chief place of a canton, in the diffrict of St. Calais. The place contains 2652, and the canton 13;082 inhabitants; the territory includes 187 kiliometres, and 14 communes. A confiderable quantity of claret-wine is manufactured in the vicinity of this town. It is distant 7 leagues N.N.W. from Tours, and 7 S.S.E. from Le Mans. N. lat. 47° 12'. E. long. 0° 20'.

CHATEAU-LOMBARD, a fortress of Asiatic Lom-

CHATEAU-EN-MARCHE, a town of France, in the department of the Lower Seine; 2 leagues N. of

CHATEAU-MEILLANT, a town of France, in the department of the Cher, and chief place of a canton, in the district of St. Amand, having an ancient cattle, which is 2238, and the canton 9101 inhabitants: the territory comprehends 325 killometres, and 11 communes. It is 101 leagues S. of Bourges. N. lat. 46° 34'. E. long. 2° 6'. CHATEAUNEUF, L'Abbé de, in Biography, author

of an agreeable little book on the music of the ancients, entitled "Dialogue fur la Mulique des Anciens," published anonymoully in 1725, but feeningly written about 1705, during the heat of the controverly between the exclusive admirers of the ancient and nathern literature, and not long after "The Battle of the U.oks." The interlocutors a composed of Eurages on both sides, and the author seems to have affumed the office of Moderator.

CHATEAU-NEUF, in Geography, a town of France, in the department of the Higher Alps; 10 miles S. of Serres .- Alfo, a town of France, in the department of the Charente, and chief place of a canton, in the district of Cognac: 10 miles W. S.W. of Angouleme. The place

contains 2184, and the canton 9981 inhabitants: the ter- tains 1972 and the canton 8695 inhabitants; the territory ritory includes 165 kiliometres, and 18 communes .- Alfo, a town of France, in the department of the Cher, and chief place of a canton, in the dilbrict of St. Amand. The place contains 1719, and the canton 6499 inhabitants: the territory includes 230 kiliometres and 12 communes .- Alfo, a town of France, in the department of the Côte d'Or, 17 miles S.W. of Dijon .- Alfo, a town of France, in the department of the Eure and Loire, and chief place of a canton, in the district of Dreux: the place contains 1271, and the canton 10,744 inhabitants: the territory includes 2721 kiliometres, and 29 communes .- Alfo, a town of France, in the department of the Ille and Vilaine, and chief place of a canton, in the district of St. Malo; 7 miles S. of it. The place contains 539, and the canton 9639 inhabitants: the territory includes 1271 kiliometres, and 7 communes. -Alfo, a town of France, in the department of Loiret, and chief place of a canton, in the district of Orleans; 12 miles E. of it. The place contains 3127, and the canton 7444 inhabitants: the territory comprehends 2671 kiliometres, and 10 communes .- Alfo, a town of France, in the department of the Mayne and Loire; 13 miles N. of Angers. The place contains 916, and the canton 9985 inhabitants: the territory includes 265 kiliometres, and 15 communes .-Also, a town of France, in the department of the Saone and Loire; 3 leagues E.S.E. of Marcigny .- Alfo, a town of France, in the department of the Upper Vienne, and chief place of a canton, in the district of Limoges; 17 miles S.E. of it. The place contains 1136, and the canton 9039 inhabitants: the territory includes 2671 kiliometres, and 10 communes .- Also, a town of France, in the department of the Var, and diffrict of Graffe; 3 miles N.E. of Graffe.

CHATEAUNEUF du Faon, a town of France, in the department of Finisterre, and chief place of a canton, in the district of Chateaulin; 16 miles N.E. of Quimper. The place contains 2163, and the canton 13,596 inhabitants: the territory includes 330 kiliometres, and 11 communes.

CHATEAUNEUF de Galaure, a town of France, in the de-

partment of the Drôme; 13 miles N. of Romans.

CHATEAUNEUF de Mazene, a town of France, in the department of the Drôme; nine miles east of Mon-

CHATEAUNEUF du Pape, a town of France, in the department of the Mouths of the Rhône; 3 leagues N. of Avignon.

CHATEAUNEUF de Randon, a town of France, in the department of the Lozere, and chief place of a canton inthe diffrict of Mende; 4 leagues N.E. of it.

CHATEAUNEUF de Rhône, a town of France, on the E.

fide of the Rhône, opposite Viviers.

CHATEAUNEUF-au-Val de Bargis, a town of France in the department of the Nievre; 10 miles N.E. of La Cha-

CHATEAU D'OLERON, a town of France in the department of the Lower Charente, and chief place of a canton in the diffrict of Marannes. The place contains 2116 and the canton 5151 inhabitants; the territory includes

102 ½ kiliometres, and 3 communes. CHATEAU-PONSAC, a town of France, in the department of the Upper Vienne, and chief place of a canton in the diltrict of Bellac; 18 miles N. of Limoges. place contains 3900 and the canton 10,297 inhabitants; the territory includes 185 kiliometres and 7 communes.

CHATEAU-PORCIEN, a town of France, in the department of the Ardennes, and chief place of a canton, in the district of Rethel: 2 leagues W. of it. The place con-

includes 230 killometres and 17 communes. CHATEAU-REGNAULT, a town of France, in the department of the Indre and Loire, and chief place of a canton in the diffrict of Tours; 5 leagues N.E. of Tours. The place contains 2518 and the canton 2534 inhabitants; the territory comprehends 2971 kiliometres, and 17 com-

CHATEAU-RENARD, a town of France, in the department of the Loiret, and chief place of a canton in the diffrict of Montargis; 41 leagues E. of it. The place contains 2088 and the canton 9454 inhabitants; the territory includes 250 kiliometres, and 10 communes .- Alfo, a town of France, in the department of the Mouths of the Rhone, and chief place of a canton in the district of Tarafiori; 9 miles N.E. of Tarascon, and celebrated for its excellent white wine.—Alfo, a town of France, in the department of the Ardennes; 10 miles N.W. of Sedan. CHATEAU-ROUX, a town of France, in the depart-

ment of the Higher Alps; 5 miles N. of Embrun .- Alfo, a town of France, in the department of the Indre, and principal place of a district; seated on the Indre in a fruitful country, and having a large woollen manufacture. The place contains 8148 and the canton 14,960 inhabitants; the territory includes 3621 kiliometres, and 11 communes. N. lat. 46° 49'. E. long. 1° 35'.

CHATEAU-SALINS, a town of France in the depart: ment of the Meurth, and principal place of a diffrict, deriving its name from its extensive falt-works; 5 leagues-

N.E. of Nancy. N. lat. 48° 49'. E. long. 6° 24'. CHATEAU-THIERRY, a town of France, and principal place of a diffrict, in the department of the Aifne, feated on the Marne, and having in its vicinity a medicinal fpring. The place contains 4160 and the canton 12,918 inhabitants; the territory includes 1872 kiliometres and 21 communes. N. lat. 49° 3'. E. long. 3° 18'.

CHATEAU-LA-VALLIERE, a town of France, in the department of the Indre and Loire, and chief place of a canton in the diffrict of Chinon; 5 leagues N. of Langeais. The place contains 686 and the canton 10,992 inhabitants; the territory comprehends 240 kiliometres, and

CHATEAU-VILLAIN, a town of France, in the dcpartment of the Upper Marne, and district of Chanmont; 51 leagues W.N.W. of Langres .- Alfo, a town of France, in the department of the Isere; 16 miles E. of Vienne.

CHATEEN, a town of Little Bucharia.

CHATEL, or CHATE, a town of France, in the depart-

ment of the Ardennes; 5 miles S.E. of Grandpré. CHATEL, a town of France, in the department of the Vofges, and chief place of a canton in the diffrict of Epinal. The place contains 1165 and the canton 9178 inhabitants; the territory includes 2572 killiometres, and 28 com-

CHATEL-CENSOY, a town of France, in the department of the Yonne, and chief place of a canton, in the dif-trict of Avalon; 4 leagues W. of it. CHATEL-GUION, a village of France, in the de-

partment of Puy-de-Dôme, celebrated for its mineral water; one league N. of Riom

CHATEL-DE-NEUVE, a town of France, in the department of the Allier, and diffrict of Moulins; 10 miles S. of Moulins,

CHATELARD, a town of France, in the department of Mont Blanc, and chief place of a canton in the diffrict of 4 A 2 Chambery.

The place contains 1000 and the canton Chambery. 10,412 inhabitants; the territory includes 237 2 kiliometres,

and 13 communes

CHATELDON, a town of France, in the department of Puy-de Dôme, and chief place of a canton in the dittrict of Thiers; 6 leagues E.N.E. of Riom. The place contains 1587 and the canton 6,558 inhabitants: the territory comprehends 157½ kiliometres, and 6 communes. CHATELET, was anciently a fmall chateau or for-

trefs, and the officer who commanded in it was called cha-

t. in.

The word is a diminutive of chateau, formed from caftellum, a diminutive of castrum; or from castellatum, a diminutive of castellum, castle. The term in later times has been used at certain courts of justice established in several cities of France: the grand chatelet in Paris, v. gr. was the place where the prefidial, or ordinary court of justice of the prevot of Paris was kept; confifting of a prefidial, a civil chamber, a criminal chamber, and a chamber of policy. The term fignified the fame at Montpelier, Orleans, &c.

The little chatelet at Paris was an ancient fort which ferved

as a prifon.

CHATELET, LE, in Geography, a town of France, in the department of the Seine and Marne, and chief place of a canton, in the diffrict of Melun; 2 leagues E. of Melun. The place contains 10e4 and the canton 8970 inhabitants; the territory includes 2371 killiometres, and 16 communes.

CHATELLERAULT, a town of France, in the department of the Vienne, and principal place of a diffrict, feated on the Vienne; and principally employed in the ma-nufacture of clocks and cutlery. The place contains 8426, and the canton 12,728 inhabitants; the territory includes

102 kiliometres and 8 communes

CHA! TELLET, a town of France, in the department of the Cher, and chief place of a canton, in the diffrict of St. Amand; 2 leagues N.N.E. of Chateau-Meillant. The place contains, 1107, and the canton 5202 inhabitants; the territory comprehends 180 kiliometres, and 8 communes.

CHATELLUX, a town of France, in the department of the Creuse, and chief place of a canton, in the district of Boussac; 4 leagues S.W. of Boussac. The place contains 776 and the canton 8536 inhabitants; the territory includes 1871 kiliometres, and 12 communes

CHATELLUX-LE-MARCHIEUX, a town of France, in the department of the Creuse, and district of Bour-

ganeuf; 5 miles N.E. of it. CHATENAY, a town of France, in the department of

Paris; 2 leagues S. of Paris.

CHATENOIS, a town of France, in the department of the Vofges, and chief place of a canton in the diffrict of Neufchâteau; 2 leagues S. of it. The place contains 1379 and the canton 9839 inhabitants; the territory includes 175 kiliometres, and 26 communes .- Also, a town of France, in the department of the Lower Rhine; one league W. of Schelestatt

CHATHAM, in Geography, a town of Kent, England, is celebrated for its naval arienal; and is joined to the ancient city of Rochester. This town has been mostly built since the reign of queen Elizabeth. The houses united with those of Rochester, and the village of Stroud, make one long ftreet, of more than two miles in length, through which the high road passes from London to Dover. Many of the houses extend along the banks of the river: and, like most sca-ports, the fireets are narrow, disagreeable, and ill built.

The victualling office, fome officers' houses in the dock vard. two breweries, and a few private houses, are however commodious and handsome. At the east end of the town is the parish workhouse, which was built on a large and extensive plan in 1725; but the principal objects of this place, and from which it has obtained its prefent population and importance, are the docks, victualling-offices, and other naval establishments. Among these is a foundation called the Chest of Chatham, which was instituted in 1558, when the feamen in the fervice of queen Elizabeth agreed to allow a portion of each man's pay for the relief of their fellow-failors, who had been wounded in the battle with the Spanish armada. The fame cuftom has been continued to the prefent time, and many wounded failors have derived temporary relief and comfort from this fund. See CHEST. Here are two docks respectively denominated the Old Dock, and the Royal Naval Dock. The former, with its connected wharf, florehouses, &c. are the places of deposit for royal stores and ordnance. The guns belonging to the royal shipping are collected and ranged on this wharf in long tiers, and large pyramids of cannon-balls, shells, &c. are accumulated here to be ready for fervice. In a continued range of itorehouses are deposited the carriages for the guns, and almost every other article of naval flores. In one apartment is a small armoury furnished with muskets, pistols, cutlasses, pikes, pole-axes, and other warlike instruments, classed and arranged in regular order. The whole of this department is under the management of a storekeeper, who has a good house, a clerk of the survey, and clerk of the cheeque, who have each handfome falaries, and feparate offices. Befide thefe, here are two extra clerks and fome inferior officers, labourers, &c. The Royal Naval Dock-Yard connects with the former, and ranges along the eathern bank of the river for nearly one mile in extent. The increase of the navy during the reign of Elizabeth occasioned these docks to be enlarged, and in the subsequent reigns of James and Charles I. they were confiderably extended; within the last fifty years, they have been greatly enlarged and improved; and within the fortified walls are now concentrated almost every requifite for the fitting out, repairing, &c. of a fleet. The storehouses, shops, and most of the buildings are extremely spacious and commodious; whilst those belonging to the commissioner and other principal officers are provided with every comfortable and elegant accommodation. One of the storehouses is fix hundred and fixty feet long; and the fail-loft, where fails are made, is two hundred and nine feet in length. A new rope-house measures 1140 feet in length; in this the cables are manufactured, some of which are one hundred and twenty fathoms long, and twenty-two inches round. Some of the masts made here are one hundred and thirty-fix feet in length, and thirty-fix inches in diameter. Here are two spacious basons of water, where the timber for masts, &c. is kept continually floating till wanted for use. The smith's shop contains twenty-one forges, which are almost constantly in use, in making anchors, &c. Some of these weigh nearly five tons each. this yard are four spacious docks for docking and repairing veffels belonging to the royal navy; in thefe there are fix flips or launches, on which ships are constantly building. Among the large vessels that have issued from this yard are the Victory of 110 guns, the new Royal George of 100 guns, finished in 1788; this was the first ship of that rate ever launched from a flip; the Royal Charlotte of 100 guns was launched here in 1790, and the Ville de Paris of 110 guns, with fome others of larger dimensions, have been finished here fince that period. The whole of this yard, except on the fide of the river, is guarded and environced by a high thick wall; it is entered through a large handsome gateway, which is flanked by two towers. In time of war every stranger is precluded access within the walls, unless he has

a fatisfactory paffport.

The business of this yard is transacted by a commissioner, who has three clerks under him; a clerk of the cheeque, florekeeper, mafter-shipwright or builder, clerk of the furvey, and two master-attendants, master shipwrights' affistants, master caulker, clerk of the rope-yard, master ropemaker, a boatfwain, purveyor, furgeon, and feveral other inferior officers. To provide greater fecurity to this national arfenal, two acts of parliament were obtained in the reign of queen Anne for vefting certain lands and tenements in truffees, for the purpose of fortifying and giving additional fecurity to this dock; among others, a large quantity of contiguous land, with many houses, was accordingly purchased for the crown; but nothing further was done till 1758, anno 31 George II. when the French having threatened to invade this country, it was deemed necessary to put these acts in force relating to the dock-yards. Another act was however passed that year for purchasing more lands, &c. and extensive lines of fortifications were immediately formed round the land fide of this dock, with ramparts, pallitades, and a deep broad ditch. These extended from the river above the old dock, to the same again below the dock at Gillingham, about one mile in length. Large and commodious barracks were also erected within the lines fufficient to accommodate five regiments of foldiers, and a battalion of artillery, which have been constantly quartered here; these fortifications have been progressively augmented and repaired; a new redoubt has been made, and other collateral works have been added. Another act was passed in 1782, for veiting other lands on the fouth side of the town in the crown.

At the entrance of Chatham from Rochester, is the Victualling Office, containing a cooperage, pickling, baking, the been added to it, and additional buildings have been crecked for the convenience and service of this department

of the navy.

In digging for the fortifications round the dock, various Roman coins, pateræ, &c. were found. The prefent church was erected in 1788, and is constructed mostly with brick. Chatham and the contiguous hamlets are extremely populous. Here is a large market on Saturdays; and two annual fairs of three days each. Chatham is 30 miles E. from London; it contains 1729 houses and 10505 inhabitants. Hasted's History of Kent, 12 vols. 8vo. 1798, vol. iv.

CHATHAM, a maritime township of America, in the county of Barnstaple and state of Massachusetts, seated on the exterior extremity of the elbow of Cape Cod, conveniently for the fishery, in which the inhabitants have usually about 40 vessels employed. It has 1140 inhabitants, and lies 95 miles S.E. of Boston. See Cape Con .- Aifo, a township in Grafton county, New Hampshire; incorporated in 1767 and 1790, containing 58 inhabitants .- Alfo, a flourishing township in Middlesex county, Connecticut, on the eastern bank of Connecticut river and opposite Middleton city; it was a part of the township of Middleton till the year 1767 .- Alfo, a township in Essex county, New Jersey, seated on Passaic river; 13 miles W of Elizabeth town, and nearly at the same distance from Newark .- Also, a township of Columbia county, New York. By the state cenfus in 1796, 380 of its inhabitants were electors .-

Alfo, a county in Hillfborough district, North Carolina, about the center of the state. It contains 9221 inhabitants, of whom 1632 are flaves; the chief town is Pittfburgh. The court house is a few miles W. of Raleigh, on a branch of Cape Fear river .- Alfo, a town of South Carolina in the Cheraws diffrict, fituate in Chesterfield county on the west fide of Great Pedee river. Its fituation, in a highly cultivated country and at the head of a navigable river, promifes to render it a place of great importance.-Also, a county in the lower district of Georgia, lying in the north east corner of the state, having the Atlantic ocean on the east, and Savannah river in the north-west. It contains 10,760 inhabitants including 8201 flaves. The chief town is Savannah. -Alfo, a large bay called Punjo bay, on the west side of the fouth end of the promontory of East Florida. It receives North and Delaware rivers.

CHATHAM ifland, a fmall island in the Indian ocean, within the harbour of the island of Andaman on which is fituated the fettlement of Port Cornwallis: the utmost length of this fmall island does not exceed two miles, and its breadth is little more than half a mile; the fouthern extremity terminates in a narrow neck of land, fordable at

low water to the main.

CHATIGAN, a town of Asia, in the kingdom of Bengal, on the most easterly branch of the river Ganges; which is now a mean place, although it was the first in which the Portuguese established a settlement. It has a sew cotton manusactures, and furnishes excellent timber. The inhabitants are so suspensions of each other, that they always go armed with a sword, pittol, and blunderbuss. It is subject to the

Great Mogul. N. lat. 23°. E. long. 91° 10'. CHATILLON, a large town of France, in the department of the Côte-d'Or, and principal place of a district, built on both fides of the Seine, and having iron forges in its vicinity. The place contains 3700, and the canton 14,287, inhabitants: the territory comprehends 450 kiliometres and 29 communes; 38 miles N.N.W. of Dijon.—Alfo, a town of France, in the department of the Drôme, and chief place of a canton in the district of Die; 31 leagues N.W. of Lyons. The place contains 1380, and the canton 6533, inhabitants: the territory includes 355 kiliometres and 10 communes .- Also, a town of France, in the department of the Indre, and chief place of a canton in the district of Châteauroux; 3 miles S.W. of it. The place contains 2609, and the canton 8139, inhabitants: the territory comprehends 247 ½ kiliometres and 10 communes .- Alfo, a town of France, in the department of the Marne, and chief place of a canton in the district of Reims; 9 miles W.N.W. of Epernay. The place contains 1002, and the canton 7702 inhabitants: the territory includes 165 kiliometres and 21 communes .- Alfo, a town of France, in the department of the Seine; 11 league S.S.W. of Paris .- Alfo, a town of Savoy, in the department of Leman, and district of Geneva; 3 miles S.S.E. of St. Julian .- Alfo, a town of Picdmont, in the duchy of Aosta, feated on the Doria Baltea; 9 miles S.E. of Aofta.

CHATILLON-en-Bazois, a town of France, in the department of the Nièvre, and chief place of a canton in the diltrict of Château-Chinon; 8 miles N.W. of Moulins. The place contains 663, and the canton 9138, inhabitants: the territory includes 332½ kiliometres and 16 commune*.

CHATILLON-fur-Chalaronne, a town of France, in the department of the Ain, and chief place of a canton in the dittrict of Trevoux. The place contains 3119, and the canton 10,876, inhabitants: the territory includes 1871 killiometres and 15 communes.

CHATILLON-fous-le-Côtes, a town of France, in the depart-

ment

ment of the Meufe, and diftrict of Verdun; 6 miles E. of

CHATTLEON-fur-Gourtine, a town of France, in the department of Jura, and diffrict of Lons-le-Saulnier; 25 leagues

CHATILLON-les-Dombes, a town of France, in the department of the Ain; 4 leagues S.W. of Bourg-en-Breffe.

N. lat. 46° 7'. E. long. 4° 51'.

CHATILLON fur Loing, a town of France, in the department of Loiret, and chief place of a canton in the diffrict of Montargis; 4 leagues S. of it. The place contains 1996, and the canton 8489, inhabitants: the territory comprehends 3324 kiliometres and 13 communes.

CHATILLON-fur. Loire, a town in the fame department with the last, and chief place of a canton in the district of Gien; 3 leagues S.E. of it. The place contains 1980, and the canton 6585, inhabitants: the territory includes 2272

CHATILLON-de-Michailles, a town of France, in the department of the Λ in, and chief place of a canton in the diffrict of Nantua; $2\frac{1}{2}$ leagues E. of it. The place contains 1270, and the canton 8171, inhabitants: the territory includes 157 kiliometres and 16 communes.

CHATILLON-fur-Saone, a town of France, in the department of the Volges; 3 leagues S.S.E. of La Marche.

CHATILLON-fur-Sevre, a town of France, in the department of the Two Sevres, and chief place of a canton in the diffrict of Thouars; 7 leagues W. of it. The place contains 512, and the canton 6842, inhabitants: the territory includes 3171 killiometres and 13 communes.

CHATILLON-en-Vendelais, a town of France, in the department of the Ille and Vilaine, and district of Vitré; 2

leagues N. of Vitré.

MILITAIRES, military punishments. Thefe, generally speaking, consist in the execution of fentences pronounced by courts-martial on military delinquents. But, in our fervice, military punishment more particularly means the inflicting of a certain number of lashes upon a reduced non-commissioned officer or on a private man. Military punishments have been different in different ages, and in different countries, as they are at prefent. The Romans had fome institutions respecting them; which, though they are truly admirable, have not been adopted by any of the moderns. The Turks never inflict them but in the night. A janizary condemned to death is delivered up into the hands of civil justice, after having his name struck out of the regifter of the corps, who pretend to be exempt from the ig-nominy of punishment. Those in our service are simple, and in general very fummary, particularly with regard to officers. In some foreign services it is customary to fend officers, found guilty of certain offences, from their regiments to garrifoned towns for certain periods, during which they loft all the advantages of promotion. Hence the phrase être énvoyer en garrijon, to be fent into garrifon, implies a species of military challifement.

A judicious application of punishments contributes much to the prefervation of discipline, a punctual obedience of order, and the fuccess of military operations, both in garrison

CHATONNAY, in Geography, a town of France, in

CHATRACHARTA, in Ancient Geography, a town of Afia, in Bactriana, near the Oxus, according to Ptolemy .-Alfo, a town of Alia. placed by Ptolemy in Affyria.

CHATRÆI, a people of India, placed by Ptolemy on this fide of the Ganger.

CHATRAMIS, a country of Arabia Felix, over against CHATRAMMITÆ, a people of Arabia Felix, on the

CHATRE, LA, in Geography, a town of France, and principal place of a diffrict in the department of the Indre; which has a woollen manufacture, and carries on a large trade in cattle. The place contains 3463 and the canton 14.425 inhabitants: the territory includes 462 killiometres and 21 communes; 6 leagues S.S.E. from Chateauroux. N. lat. 46° 35'. É. long. 1° 53'. CHA'I'S, in Agriculture, a term employed in some dif-

tricts to fignify the keys of the ash, sycamore, and some

other trees.

CHATS, Lake, in Geography, a lake of Lower Canada, on the north fide of the river Utawas, between the Grand Calumet and the lake Des Chaudieres. At the extremity of the latter is the "Portage des Chats," over which the canoes and lading are carried with great difficulty 274 paces. The river is here barred by a ridge of black rocks, rifing in pinnacles, and covered with wood, which, from the small quantity of foil that nourishes it, is low and thinted. The river makes its way over these rocks, in numerous channels, falling 15 feet and upwards. From hence two trips are made through a ferpentine channel, formed by the rocks, for feveral miles, when the current flackens, and is accordingly called the " Lake des Chats."

CHATSWORTH, a town of America, in the state of

Virginia; 4 miles S.E. of Richmond.

CHATTÆ, in Ancient Geography, a people of Germany.

CHATTENIA, a country of Arabia Felix, near the Erythræan sea, attributed by Steph. Byz. to the Gerræans.

CHATTELS, Catalis, Catalla, in Law, a Norman term which primarily fignified only beafts of hufbandry, or (as we still call them) cattle; but in its fecondary fense comprehended all moveable goods. In the grand Coustumier of Normandy, (c. 87.) a chattel is described as a mere moveable, but at the same time it is fet in opposition to a fief, or feud; so that not only goods, but whatever was not a feud, were accounted chattels.

Spelman defines chattels to be bona quacunque mobilia & immobilia; proprie tamen ca bonorum pars, que in animalibus consistat, à quorum capitibus res ipse, alias capita, alias capitalia

dicta funt.

In the modern fense of the word, chattels are all forts of goods moveable or immoveable, except fuch as are in nature of freehold, or parcel thereof: and they are either personal or real.

CHATTELS perfonal, are fuch as do either belong immediately to the person of a man, as his horse, sword, &c. or fuch things as being injuriously withheld from him, a man has no way to recover but by personal action: or, strictly speaking, they are things moveable, which the owner may carry with him from one place to another; fuch as animals, household furniture, money, jewels, corn, garments, and every thing that is capable of being removed.

Chattels personal are, immediately upon the death of the testator, in the actual possession of the executors; whereas chattels real are not in his possession till he hath made an entry, or recovered them. An owner of chattels is faid to be poffessed of them; but a person is said to be seised of a freehold.

CHATTELS real, are either fuch as do not appertain immemediately to the person, but to some other thing, by way of dependence; or fuch as necessarily issue out of some immoveable thing to a person; as a lease, or rent for years.

Sir Edward Coke observes (1 Inft. 118.) that chattels real are fuch as concern, or favour of, the realty: as terms for years of land, wardships in chivalry, (while the military tenures sublisted), the next presentation to a church, estates by flatute-merchant, flatute-staple, elegit, or the like. These are called real chattels, as being interests issuing out of, or annexed to, real estates; of which they have one quality, jviz. immobility, which denominates them real; but want the other, viz. a sufficient, legal, indeterminate duration, and it is this want that conslitutes them chattels. The utmost period for which they can last is fixed and determinate, either for such a space of time certain, or till such a particular fum of money be railed out of fuch a particular income: fo that, in the eye of the law, they are not equal to the lowest estate of freehold, a lease for another's life. Their tenants were considered upon feodal principles, as merely bailiffs or farmers; and the tenant of the freehold might at any time have destroyed their interest, till the reign of Henry VIII. (See ESTATE for years). A freehold, which alone is a real estate, and seems to answer to the fief in Normandy, is conveyed by corporal investiture and livery of feifin; which gives the tenant fo ftrong a hold of the land, that it never after can be wrested from him during his life, but by his own act of voluntary transfer or of forfeiture; or else by the happening of some future contingency, as in estates "per autre vie," and certain determinable freeholds. (See Estates for life, and Freehold.) And even these, being of an uncertain duration, may by possibility last for the owner's life; for the law will not presuppose the contingency to happen before it actually does, and till then the estate is to all intents and purposes a life-estate, and there-fore a freehold interest. On the other hand, a chattel inte-rest in lands, which the Normans put in opposition to sief, and we to freehold, is conveyed by no feifin or corporal inveftiture, but the possession is gained by the mere entry of the tenant himself; and it will certainly expire at a time presixed and determined, if not sooner. Thus, a lease for years must necessarily fail at the end and completion of the term; the next prefentation to a church is fatisfied and gone the instant it comes into possession, that is, by the first avoidance and prefentation to the living; the conditional estates by statute and elegit, are determined as foon as the debt is paid; and so guardianships in chivalry expired of course the moment that the heir came of age. And if there be any other chattel real, it will be found to correspond with the rest in this essential quality, that its duration is limited to a time certain, beyond which it cannot fubfift. Blackft. Com. Book II.

CHATTER les pieces, in Gunnery, to search pieces, or to probe and examine pieces of ordnance with a chat, in order to discover whether there are any defects on the inside of it,

or within the bore.

CHATTERER, in Ornithology; the Bohemian or Waxen chatterer, Ampells garrulus of Linneus. This bird is about eight inches in length. It is diftinguished by having the hind part of the head crested, and the secondary quill-leathers tipped with red horny appendages. This is an inhabitant of Europe, America, and the north of Asia. CHATTERPOUR, in Geography, a town of Hindoof-

CHATTERPOUR, in Geography, a town of Hindooftan, in the country of Allahabad; 212 miles S.S.E. from Agra, 150 miles S.W. from Allahabad, 237 from Banares, 747 N.E. from Bombay, 803 N.W. from Calcutta by Moorfhedabad, nd 698 by Ei boom, 623 N.N.E. from Hydraud, 77. S.W. from Lucknow, 975 N. from Madras. N. lst. 25. E. long, 80°.

CHATTERTON, THOMAS, in Biography, a youth of very extraordinary genius, was born after the death of

his father, at Briftol, on the 20th of November, 1752. The life of this young man was short but eventful: it began and terminated in indigence and misfortune. His mother, by the lofs of a hufband, was left in poverty, and the fon, owing to the same unfortunate event, was deprived of that attention which might have conducted his early years through all the difficulties that circumstances, and an untoward dispofition opposed to the attainment of knowledge. He could not be persuaded to learn his letters, till he fell in love, as Mrs. Chatterton expressed herself, with the illuminated capitals of a mufical manuscript in French; the afterwards taught him to read from an old black-lettered bible. When he was about eight years old he was admitted into a charity school, where he might learn the elements of reading, writing, and common arithmetic. The first years of his relidence at this feminary paffed without notice, and with fearcely any effort on his part. When he was about ten years of age, he acquired a tafte for reading, which became from that period a kind of ruling passion, and out of the trisle allowed him by his mother for pocket-money, he began to hire books from a circulating library. His disposition as well as his tafte differed much from what was observable in other children. He was grave, pensive, and not unfrequently of a melancholy cast. At times he seemed lost in contemplation, and for days together scarcely spoke to any one. His intimates in the school were few, and those of the most serious cast. Before he was 12 years old, he drew up a catalogue of the books which he had read, and which amounted to more than 70; foon after this, it is certain that he had composed some verses, and he now began to exhibit that ardour of mind by which he was afterwards fo strongly characterised. At fifteen he was bound apprentice to a ferivener at Briffol, in which fituation his leifure allowed him ample time to follow his literary pursuits. He had not continued in this course of life for more than a year, before he began to attract public notice, by the publication of an article in the Brittol Journal.

In the church of St. Mary Redcliffe, Briftol, which was founded or re-built by W. Canynge, an eminent merchant, during the reign of Edward IV. there is a room containing feveral large chefts, in one of which, called Canynge's coffer, were depolited some title-deeds; these, about the year 1727, were wanted, and an order was given to break open the chest. The deeds were taken, but the other manuscripts were left exposed as of no value. Many of them were carried away, but Chatterton's father, who was nephew to the fexton, removed feveral baskets full of parchments, which he put to no better use than that of covering copy-books and bibles for the school over which he presided. Young Chatterton, foon after the commencement of his apprenticeship, was struck with one of these parchments converted into a thread paper; he foon got possession of all that were left of the hoard, and from this period, at least, he feems to have formed the delign of converting them into a fythem of literary forgery. Upon the opening of the new bridge at Brittol, an article appeared in Farley's Brittol Journal, in 1768, entitled, " A Description of the Fryar's first passing over the Old Bridge, taken from an Ancient Manuscript. This was traced to Chatterton, who, after much equivocation, avowed that it came from the old chest. He next caused a rumour to be propagated, that certain ancient pieces of poetry had been obtained from the same place, the authors of which were Thomas Canynge, and the friend of Sir Thomas Rowley, a prieft. The report gained credit, and he was applied to by some respectable inhabitants of Bristol, whom he presented, without any kind of reward, with various poetical pieces, under the name of Rowley.

Til

In 1769 he wrote to the Hon. Horace Walpole, offering to furnish him with accounts of feveral eminent painters, who had flourished in early times at Bristol, inclosing in the same packet, two specimens of the old poems, with a relation of their discovery. By the poets Mason and Gray, to whom they were shewn, these were instantly pronounced to be forgeries, and were, after a considerable lapse of time, returned.

Chatterton, prior to this, had commenced a correspondence with the Town and Country Magazine, and had inferted in that work various articles relative to antiquity, of extracts from the pretended Rowley, and of pieces entitled "Saxon Poems, written in the Style of Offian." He alfo became a writer of Satire, particularly of the poetical kind, in which he did not spare even those who had been his friends. His character began now to be developed, and it did not appear in the most favourable light. The confidence which he felt in his own powers rendered him proud and impatient of controul. Whatever plan he adopted he entered upon with an almost unexampled earnestness. Poetical enthusiasm was never more strongly exhibited than in Chatterton. He fancied he could write with effect, only at particular feafons, and the full of the moon was the time when he imagined his genius was in perfection; at this period, as if the immediate presence of that luminary added to the inspiration, he frequently devoted a considerable por-

tion of the night to composition.

proper place, as he thought, for the display of his talents: yet he knew not how to free himself from his indentures. At length, having avowed himself an unbeliever in the Christian religion, he threatened to put an end to his life, on Easter day, 1770; his master, on learning this fact, immediately difmissed him from his service. Chatterton now fet out for the metropolis, and in an answer to some inquiries from a friend, was given an exposition of his plans. " My first attempt," said he, " shall be in a literary way: the promifes I have received are fufficient to dispel doubt; but should I, contrary to my expectation, find myself deceived, I will, in that case, turn methodist preacher. Credulity is as potent a deity as ever, and a new fect may be eafily devised. But if that should fail me, my last and final resource is a pillol." From a young man of 17, who could deliberately avow fuch fentiments, much moral worth was not rationally to be expected. A contempt for the truths of revealed religion is almost always succeeded by a laxity of principle very inaufpicious to real and progressive improvement. Upon his arrival in Lon-don he engaged in many projects with the booksellers;

London was become the first object of his views, the only

a history of England, and another of the metropolis; essays in a magazine, and in the newspapers, and songs for places of public entertainment were among his projected plans.

He was particularly attached to party politics, and con-

nected himself with what was deemed the popular fide of the question: he was introduced to the Lord Mayor Beckrord, who received him kindly, but from whom, it appears, Chatterton was not able to get any remuneration for his exertions in the cause which his heart espouled. Stung with diappointment, he observed, that he must be a poor author who could not write on both fides. Upon this maxim he acted; but prosperity was not the attendant upon his derelication of principle. For some time indeed he indulged the most sanguine hopes of attaining to distinction, and even affluence, by the exertions of his pen; and, to his honour be it spoken, no circumstance, with these prospects in anticipation, gave him more pleasure than the hope of being

able to affift his widowed mother and beloved fifters in their need. From his first earnings, scanty as they were in comparison of what he had fancied they would prove, he devoted a part for prefents to his relations at Briftol. a very fhort time after he had boafted of his prospects with regard to the future, he experienced some change in his expectations. The reverse was fudden, and the dream of hope was speedily converted into the anguish of despair. The particular cause of this depression of spirits has never been exactly ascertained. He perhaps perceived that he had nothing to hope from the patronage of the great; and he felt, that a fublishence depending on booksellers must be feanty, and hardly earned. He had anticipated celebrity and affluence; he had a tatte for diffipation, and public amusements seemed necessary as food to his existence: ill prepared, therefore, was he for regular and habitual induffry. His pride was mortified, and he was difgufted with the labours of a literary life. He determined to quit the fcene of his disappointment, and made an ineffectual attempt to be fent out a furgeon's mate to the coast of Africa: his last hope was blasted; and from this time he fell into a flate of extreme indigence, which cannot be accounted for but on the prefumption that he preferred death to the moderate exercise of those talents with which he was endowed. He was reduced to the want of necessary food; yet his pride even at that period was too great to allow him to accept of a dinner from the person with whom he lodged, the day before his death. In these desperate circumstances, his mind reverted to what he had been accustomed to regard as his last resource: on the 24th of August 1770 he swallowed a quantity of arienic in water, which proved fatal to him in a few hours. He was interred in the burying-ground belonging to the work-house in Shoe Lane. Thus terminated the life of the unfortunate Chatterton, before he had completed eighteen years. What must increase our regretfor this rash step, is the circumstance, that Dr. Fry of Oxford went to Brittol within two or three days of the unhappy catastrophe, in order to fearch into the history of Rowley and Chatterton, and to patronife the latter if he appeared to deferve and stand in need of assistance-when alas! all the intelligence he could procure was, that Chatterton had, within a few days, destroyed himself.

The authenticity of the poems afcribed to Rowley was at first defended by persons of considerable rank in the antiquarian literary world: but the advocates for this opinion have long fince been filenced, and Chatterton is almost univerfally admitted to be the author; and the measure of his reputation, as an author and a poet, is taken from them. They conflit of pieces of all the principal classes of poetical composition; tragedies, lyric and heroic poems, paltorals, epiftles, ballads, &c. &c. Many of them abound in jublimity and beauty, and display wonderful powers of imagination and facility of composition. They are however very unequal in merit; yet, after all their defects, they must ever be regarded as very extraordinary productions for a mere lad of 15 or 16 years of age. The other writings of Chatterton display many excellencies, but they are inferior to thefe.

The person of Chatterton, like his genius, was premature. He had a manlines and dignity beyond his years; and there was about him something remarkably preposlessing. He had an uncommon ardour in the pursuit of knowledge, and a great facility in the attainment of it. His ruling passion, that which governed his whole conduct, was the desire of literary distinction. This passion intruded itself in his letters, and in his conversation it seemed to absorb all his attention. It was his favourite maxim, that "man is equal

to any thing, and that every thing might be achieved by diligence and abstinence." His ambition was evident to all who knew him, from his earliest youth. His melancholy was extreme on fome occasions, and then he was ever eager to argue in favour of fuicide. The natural gloominess of his disposition was probably increased by the principles of fcepticism which he had unfortunately imbibed; and to these may be attributed his death. He has been charged with licentious conduct, and with indulging strong refentments against these who had offended him. His faults have been probably exaggerated; at any rate, they are much exceeded by the good qualities that have been fairly attributed to him. His temperance was exemplary : he was a lover of truth from the earliest dawn of reason; but the most amiable feature in his character was his generous attachment to his mother and relations. Every favourite project for his advancement in life was accompanied with promifes and encouragement to them. In this respect his whole conduct is deferving the imitation of those in more fortunate circumstances, and under the influence of better principles than this unfortunate young man cherished. Biog. Brit.

CHATUGA, in Geography, a town of America, in the

Tennessee government; 3 miles S.W. of Teilico. CHATUS, in Middle Age Writers, a kind of gold coin. CHATUS was also called, by some French writers, mailles

Du-Cange makes it a question, whether the chatus was the fame coin as the chapotenfes, and supposes that the latter might be formed from chati Pillavenses; in French, chats de

CHATZAN, in Geography, a town of Asia, in the Moultan country, W. of the Indus; 90 miles W. of Moultan. N. lat. 31° 8'. E. long. 69° 45'.

CHAVABEDA, a principality of Arabia Deferta, whose chief towns are Chavabeda, Tangia, Merah, and Megiarah. This principality, and also that of Argia, are in all respects unknown to us, except in the Arabian tables.
CHAVAIGNES, a town of France, in the department

of the Maine and Loire; 4 leagues S. of Angers.

CHAVANAY, a town of France, in the department of

the Rhone; 7 leagues S. of Lyons.
CHAVANGES, a town of France, in the department of the Aube, and chief place of a canton, in the district of Arcis-fur-Aube; 6 leagues S. of Arcis. The place contains 974, and the canton 3871 inhabitants: the territory includes 152½ kiliometres, and 14 communes. CHAVANNE, a town of France, in the department of

the Ain, and district of Bourg; 8 miles W. N.W. of it.

CHAVARIGHTS, a fect of Mahometans, who deny that God ever fent a prophet that was infallible; and who had a commission to give a law to mankind: they pretend likewife that if such an office should ever become necessary, it would not be confined to a fingle family, but that every man of probity and virtue would be capable of that honour.

CHAUBI, in Ancient Geography, a people of Lower Germany, placed by Strabo near the ocean, between the

Bructeri and Sicambri.

CHAUCER, GEOFFREY, in Biography, the earliest English classic poet, was born, it is generally supposed, in the year 1328. Of his parentage and early youth little is known, except that he was born and brought up in London. It should feem, from circumstances discovered by his biographers, that he was exposed to the inconveniences of a narrow fortune, but that he received all the instruction which the metropolis could then afford. It is admitted that he studied in both the English universities, first at Cambridge, then at VOL. VII.

Oxford, and probably at Paris also. It is evident, from his various writings, that he acquired a large acquaintance with the scholastic learning of the age. To him the Greek claffics were inacceffible; but he fuccefsfully fludied the Latin, French, and Italian. Virgil was his favourite author. The adventures of romance and the fongs of the minstrels Chaucer listened to with avidity. Tales of chivalry, of enterprife, and heroic adventure, had a double interest with him, because he knew that, when he went forth into the world, the men of whom he read, a race now extinct, would be the objects of his observation and intercourse. The whole world was then romantic, fcenic, and fublime. This was the age of reformers and robbers. Pilgrimages and crusades invited the consent of the pious. Chaucer had alfo a particular turn for subjects of humour. At college he contracted a friendship with Gower and Strode, two young Oxonians of great learning and talents, and upon his return from the continent, whither he went for improvement, by travels through France and the Low Countries, he is supposed to have studied the law at the Temple. He was, for a short time, a soldier as well as a lawyer, but he quitted each of these professions after a short trial, and his final deflination was the court, where he first obtained the post of valettus, or yeoman to Edward III. He had already diftinguished himself as a poet, a quality that was likely to recommend him to a prince who was the patron of letters. Chaucer was a courtier in the best sense of the word, not depending upon ministers, but affociating with princes; he feems, however, to have placed the chief hopes of his fortune on the friendship of John of Gaunt, duke of Lancaster; with whose family he formed an intimate connection, though not of the most creditable kind. The duke entertained as governess to his children, Catherine, the widow of fir Hugh Swynford. This lady was also the favourite miltress of John of Gaunt, by whom he had several children. She had a fifter, to whom the duke and duchefs were also attached, who recommended her to Chaucer for a wife. He married her in 1360, and from that time he speedily advanced at court. He received the gift of a house almost contiguous to the royal palace at Woodstock; and he was gratified with an annuity from the Exchequer of twenty marks, which fum was doubled on his being appointed gentleman of the king's privy-chamber. In 1372. he was fent, with other persons, as a commissioner to Genoa, on a matter of public concern; and it is affirmed by Froiffart, that Chaucer was the principal in the unfuccessful attempt to negociate a marriage for Richard, prince of Wales, with a daughter of the French king. He was made comptroller of the cultoms, and various other lucrative employments were conferred upon him, which enabled him to live in a dignified flyle. It was the cuftom of that age for the great public officers to keep their own accounts, and Chaucer was enjoined to perform the duties of his office with his own hand. He was rarely abfent from business, for one and one only written leave of absence to him for a month is formally recorded upon the patent rolls. Of himfelf, he fays, that he had no opportunity for the pleafures of study, "fill he had made an end of all his reckonings," and the business of the day was concluded. He did not, however, renounce the purfuits of literature, for feveral of his poems were written during the period of his prosperity and attendance upon the court. Still he regarded the duke of Lancaster as his peculiar patron, whose political schemes he felt himself bound to promote. The duke having espoused the cause of Wicklisse, Chaucer employed his pen in exposing the vices and ignorance of the clergy. On the fuccession of Richard to the crown, the duke of Lancatter 4 B

for a time obtained a chief share in the administration of affairs; and a renewal of some of the grants to Chaucer was among the arrangements in this reign; but he scens to have been deprived of his most lucrative office as comptroller of the customs. His affairs soon fell into disorder, and he was obliged to have recourse to the sovereign's protection against his creditors.

In a few years the duke, his patron, became unpopular, both in and out of the court, by his adherence to the followers of Wickliffe, who were confidered as the authors and abettors of the commotions that diffurbed the kingdom. London itself was divided into two parties, one favouring the reformation, the other adhering to the established clergy. Chancer fided with the former, and thereby rendered himfelf obnoxious to the officers fent to suppress the disturbances, and he would have been apprehended had he not escaped first to Hainault, and thence to Zealand, where he lived in concealment till his distresses forced him back to London. He was, however, immediately feized and fent to prison, where he was treated with the greatest feverity. As in exile he was nearly destitute of all the necessaries of life, fo in prifor he experienced the favage triumph of his enemies, and was probably the witness of many barbarous executions. The terms upon which he was liberated from confinement, after five years of oppression and difficulty, were fuch as no honourable man ought to have complied with. For the fake of pardon he disclosed all he knew of the defigns of the party whose cause he had formerly defended; thus did Chaucer obtain his liberty, accompanied with a heavy load of merited obloquy. Upon his restoration to liberty Chaucer was appointed clerk of the works, a fituation which he occupied only a very short time: he was in truth reduced to fuch a state of penury, that he fold his rensions and retired to Woodstock. Here he calmly employed himself in reviling and correcting his various writings, and of applying to practical purposes those stores of philofophy which itudy and reflection had enabled him to accumulate. In this retreat, after he was fixty years of age, he planned and composed his Canterbury Tales, which have been deemed one of the most extraordinary specimens of active genius and various talent that England has produced. The two fast years of his life he spent at Donnington castle, The return of the duke of Lancaster to court, and his marriage with Catharine Swynford, his old miltrefs, were favourable circumstances to Chaucer, who obtained a renewal of his annuity, and a grant of a pipe of wine annually, from the customs of the port of London. Chaucer lived to see his fovereign deposed, and the son of his patron John of Gaunt usurp the government. In addition to his former grants, were conferred upon him 40 marks per ann. during life: but it is to the praise of Chaucer, that as he was too old to oppose the pretensions of the usurper, or to contribute to redress the wrongs which he deplored, yet all the benefits of the new king, and all his connections with, and obligations to, the father of that monarch, could not extort from him a line of congratulation. Soon after the commencement of the new reign, his own affairs required him to vifit the metropolis, but he was too old to bear the fatigues attendant upon the journey. He died in a house that he had hired at Westminster, October the 25th, 1400, at the age of feventy-two. His remains were interred in Wellminsterabbey.

From this sketch Chaucer appears to have been a man of the world as well as a scholar, and to the variety of the scenes in which he engaged, is to be ascribed the varied character of his writings. As a courtier, a traveller, and a man of pleasure, he acquired an air of gallantry, and

a talent for rich and elegant description, which distinguish him from all other writers of that period: at the fame time a fund of ferious reading, joined to the impressions which the scenes of adversity had made upon his mind, rendered him well calculated to fustain the part of the moralist and philosopher. His works are numerous: his fame ranks high as an original poet, and his indultry is no less conspicuous as a translator and imitator from the French and Italian writers. He enriched his native language by new forms of diction and verification; but there is nothing in which he excels his contemporaries more than in possessing that true poetical character of which they were almost wholly void. In many of his tales are to be found fine figures and fplendid imagery difplayed in glowing and elegant language. The most considerable and celebrated work of this poet is his "Canterbury Tales," which are a fet of stories connected by the fiction of their being told by a company met at an inn in Southwark, for the purpose of a pilgrimage to the shrine of St. Thomas-a-Becket, at Canterbury. These tales are various in their subject; heroical, and romantic; fatirical, humourous, and moral; and the prologue by which they are introduced, is one of the most curious memorials of the age. It contains a description of all the personages forming the company, among whom are individuals of the most remarkable characters both male and female, of which fociety is composed. These are delineated and form a group highly interesting to the observer of human nature; in fhort, they exhibit a review of the private life of the fourteenth century. The Canterbury Tales have been handfomely published by Mr. Tyrwhitt in five volumes 8vo., but the editions of Chaucer's other works do no credit to the lovers of ancient English poetry. Biog. Brit.

CHAU-CHEW, in Geography, one of the 10 jurifdictions into which the province of Quang tong or Canton, in China is divided, and also a city of that jurifdiction.

CHAU CHOO-FOO, or CHAO-TCHEOU-FOU, the fecond city of the province of Canton, in China, fituate at the confluence of the river Pe-kiang, with another confluence of the river Pe-kiang, with another confluence of the river Pe-kiang, with another confluence of this city are pleafant and romantic. The plains are fown with rice and tobacco, and the riling grounds are planted with cotton and the fefat qua. The pastures are covered with numberless flocks, and the coasts teem with fish. The boats which ply from one part of the city to another, are chiefly managed by females, who are generally young and neatly dreffed, with an evident intention of attracting the attention of passengers. At this city the concurrence of two navigable rivers occasions a concourse of male strangers. The pation, after having quitted their parents, or on being abanrents themselves, taking no other intend in the chastity of their daughters than as it might contribute to an advantageous disposal of them to wealthy husbands, feel little reluctance, when no fuch profocct offers, to devote them to one employment with a view to the profits of another. The diffinction which this city has acquired is owing to a celebrated monastery of the Bonzes which lies in its vicinity. Its fituation is fingularly delightful: from the middle of a mountain called Nan-hoa, where it stands, there is a charming prospect of a defert, stretching out into an immense plain, which is bordered with hills, on the fummits of which fruit trees are planted in regular order, internixed here and there with groves, the foliage of which is always green. The country about the town belongs to the monaftery, the

origin of which is traced back 8 or 900 years. The Bonzes pretend that its founder practifed the most edifying austerity, an example, however, which they do not chuse to follow, as they abandon themselves to every kind of debauchery. The people who formerly visited this place as pilgrims, complain much of their theft and robberies; but thefe abufes have been corrected, and the devotees of the province may now vifit the place in fafety. The air of this city; however delightful its fituation, is infalubrious; and contagious diftempers, generally prevailing here from the middle of October to the beginning of December, sweep off every year a great number of inhabitants. This city has under its jurifdiction 6 other cities of the third class; near one of which grows a kind of black reed, of which various instruments are made that cannot be diffinguished from those that are made of real ebony. Emb. to China, vol. ii. Grofier's Descript. of China, vol. i.

CHAUCI, CAUCI, or CAUCHI, in Ancient Geography, a people of Germany, whose territory commenced with the Frihi, occupied part of the fea-coast, and had behind it the Chamavi, Angrivarii, Dulgibini, &c. according to Tacitus. This author, as well as Ptolemy and Pliny, diftinguished them into great and small. Strabo fays, that Drusus Germanicus was the first of the Romans who, crossing the sea, penetrated into their territory, after having gained a naval victory over the Anfibarii, and subjugated the Frisii. Tacitus fays, that Tiberius fubdued these two nations. They rebelled against the Romans under the empire of Claudius; but were defeated by Gabinus, who hence obtained the appellation of " Caucian," according to Suetonius. Tacitus fays, that they routed their neighbours, the Anfibarians, under the empire of Nero, and during the troubles of Vitellius's reign, they united with the Batavi and Frisii, and spread themselves over the empire; but they were again restored to favour. They remained in tranquillity till the reign of Aurelius, when they invaded the territory of the Batavi, but Didius Julian Ropped their progress.

CHAUD-MEDLEY, in Law, according to its proper etymology, denotes an affray that happens in the heat of

blood or passion. See Chance-Medley.

CHAUDEBURG, a village of France in the department of the Mofelle, near Thionville, celebrated for its

medicinal waters.

CHAUDES AIGUES, a town of France in the department of the Cantal, and chief place of a canton in the didtrict of St. Flour, deriving its name from its medicinal fpring, and trading chiefly in skins and glue; 12 miles S. of St. Flour. The place contains 2040, and the canton 815S inhabitants; the territory comprehends 340 kiliome-

tres and 14 communes.

CHAUDIERE, a river of Canada, which rifes in Lincoln and Hancock counties in the district of Maine, and joins the river St. Lawrence, about 7 miles above Quebec. The fall in this river is not half that of Montmorenci, or about 120 feet high; but it is no less than 250 feet broad. However the scenery round this cataract is in every respect much superior to that in the neighbourhood of Montmorenci. The banks of La Chaudiere are covered with trees of the largest growth, and amidst the piles of broken rocks which lie scattered about the place, you have some of the wildest and most romantic views imaginable. As to the fall itself, its grandeur varies with the feafon; when the river is full, a body of water rushes over the rocks in a manner that astonithes the observer; but in dry weather, and, indeed, during the greater part of the summer, the quantity of water is inconfiderable. The carrying place from boatable waters in

the Chaudiere to fimilar waters in the Kennabec, is not more than five miles.

There are feveral portages on the north fide of the river Utawas in Lower Canada, called Portages de Chaudiere; at the first portage of this name, the body of water falls 25 feet, over cragged excavated rocks, in a wild and romantic manner. At a small distance below, is the river Rideau on the left, falling over a perpendicular rock near 40 feet high, in one sheet, assuming the appearance of a curtain; from which circumstance it derives its name. To this extent the lands have been furveyed, and are very fit for culture. Many loyalists are fettled upon the river Rideau, and have thriving plantations. Some American families, preferring the British territory, have also established themselves along a river on the opposite side, where the soil is excellent; and it is apprehended, that at no very distant period, the lands will become fettled from this vicinity as far as Montreal. Over this portage, which is 643 paces long, the canoe with its whole lading is carried. The rock is so steep and difficult of access that it requires 12 men to take the canoe out of the water; it is then carried by 6 men, two at each end on the same side, and two under the opposite gunwale in the middle. From hence to the next is but a short distance, in which they make two trips over the fecond Portage de Chaudiere, which is 700 paces, to carry the loading alone. From hence to the next and last Chaudiere, or Portage des Chenes, is about fix miles, with a very firong current, where the goods are carried 740 paces, the canoe being towed up by the line, when the water is not very high. The next remove is to the Lac des Chaudieres, computed to be 30 miles in length; but though it is called a lake, it has a strong draught downwards, and its breadth is from 2 to 4 miles. At the end of this is the Portage des Chats. See CHATS.

CHAUDIERES, or Chaudieres de Magafins, are vessels made use of in military magazines, to boil pitch in for various purposes. They are necessary in all places and

particularly during fieges.

CHAUDRON, in Geography, a town of France in the department of the Maine and Loire; 15 miles S.W. of Angers. CHAVES, a town of Portugal, in the province of Tralus-Montes, near the confines of Spain, defended by a caftle, walls, and battions, feated on the Tamega, and founded by the emperor Trajan: feveral traces of its ancient magnificence ftill remain; 12 leagues W. of Braganza. N. lat. 41° 42′. W. long. 6° 31′.

CHAUFFAGE MILITAIRE, in Military Language, is an allowance of fire-wood regulated by particular orders or ordinances to officers and foldiers whether they are in barracks or not, during the continuance of cold weather.

CHAUFFAILES, in Geography, a town of France in the department of the Saone and Loure, and chief place of a canton in the didrict of Charolles, 4 leagues E. of Marcigny; the place contains 2155, and the canton 7292 inhabitants; the territory includes 142½ keliometres and 9 communes.

CHAUFFE. A fpot where the wood is collected and burnt in a foundery. The chauffe is three feet below the furnace, over every part of the infide of which the flames fpread, and by their intense heat dissolve the metal.

CHAUFFE-WAX. See CHAFFE-wax.

CHAU-KING, CHAO-KING, or CHAO-KEOUING, in Geography, one of the 10 capital jurifications into which the order of the chief city of the jurification, and the refidence of the viceroy. See Cheo-Keguing.

CHAUKUNDA, a town of Africa, near the river Gambia, in the kingdom of Jemurrow.

CHAUL, a town of Hindoostan on the coast of Malabar, with a good port, and defended by a citadel, taken in 1507 by the Portuguese; 6 leagues S. of Bombay

CHAULIEU, WILLIAM ANFOYE DE, Abbé, in Biography, a favourite French poet, was born at his father's feat at Fontenay, in 1639, and became by means of his natural genius, excellent education, and lively disposition, the delight of elegant fociety, and the esteemed friend of the great duke of Vendome, and of his brother the grand prior of Malta. Entrusted with the management of their concerns, he was recompensed by several valuable benefices; which, added to the lordship of Fontenay, enabled him to gratify his inclination by purfuing a life of pleafure. His apartments at the temple in Paris were the refort of learned friends, who were charmed by his amiable qualities and lively conversation. The poetry in which he excelled was a mixture of the voluptuous and fentimental, blending with the gaiety of Anacreon, the philosophical good-humour of Horace. Chapelle was his model, whom he imitated in the eafy negligence of his verse and the occasional use of double rhymes; and as a poet he deferves to be ranked with the careless men of genius, rather than with the masters of the art. Notwithstanding several fits of the gout, this lively Epicurean lived to his 81st year; dying at Paris in 1720. The most esteemed of the several editions of his works are that of Amsterdam in 1733, and that of Paris, in 1744, each comprised in 2 vols. Svo. Nouv. Dict. Hift.

CHAULIODONTA, from xxxxx, I put forth, and odas, tooth, among Ancient Naturalists, is applied to those animals, the teeth of which grow to a great length out of

their mouths, as the boar and the elephant.

CHAULMES, in Geography, a town of France, in the department of the Seine and Marne, and district of Melun;

71 leagues S.S.E. of Paris.

CHAULNES, the DUKE DE, in Biography, a peer of France, dillinguished as an astronomer and mathematician, was born at Paris in 1714, and manifested, in early life, a ftrong propenlity for the study of the sciences. In the tumult of armies and camps he cultivated mathematics, aftronomy, mechanics, &c. In 1743 he was named honorary member of the academy; and, at the meetings of this illultrious body, which he regularly attended, he produced various constructions and corrections of instruments in astronomy and dioptrics, and particularly of achromatic telescopes. The result of these researches was a new parallactic machine of an improved kind, and the mode of applying the micrometer to telescopes, and of accurately measuring the parts of that instrument. Whilst he was profecuting fimilar speculations and experiments for the improvement of science, his career was terminated by death in 1769. The Memoirs of the Academy of Sciences contain a variety of his communications. In the volume for 1755, we have obfervations on some experiments in the 4th part of the 2d book of Newton's Optics: in that for 1765, observations on the platform for dividing mathematical instruments; also a determination of the distance of Arcturus from the sun's limb at the fummer folllice; and observations on some means of perfecting aftronomical inftruments: in that of 1567, observations on some experiments relating to dioptrics: in 1768, the art of dividing mathematical infruments; in 1769, observations on the transit of Venus in that year; and a new method of dividing mathematical and aftronomical inftruments.

partment of the Somme, and chief place of a canton in the partition of the contains and the contains 1243, and the canton 10,002 inhabitants. The territory includes 160 kiliometres and 23 communes.

CHAUM, in Ancient Geography, a mountain of Pelo-ponnesus, in the Argolide, in which, according to Pausa-

nias, was the fource of the river Erafinus.

CHAUMERGY, in Geography, a town of France, in the department of the Jura, and chief place of a canton in the district of Dôle; 3 leagues W. of Poligny. The place contains 306, and the canton 4801 inhabitants: the terri-

tory includes 87 1 kiliometres and 17 communes.

CHAUMETTE, ANTHONY, in Biography, a furgeon. of eminence, was born at Puy, a town on the banks of the Loire, in France, in the early part of the 16th century. In his preface to his Enchyridion Chirurgicum, he informs us, he was first fent to Montpellier, where he studied medicine under Rondeletius, and that he went thence to Paris; and having completed his education in anatomy and furgery under Sylvius, he returned to his native country, where he appears to have been in great request. In 1560 he published an abridged practice of physic, to which he added a treatife on the lues venerea; in which he strongly recommends the use of mercurial frictions, which had succeeded, he tells us, when all other methods and medicines had failed. This gained to his work fuch popularity, that in the space of about thirty years from its first appearance at Paris, editions of it appeared in almost every country in Europe. The title of the work is, " Enchyridion Chirurgicum, externorum morborum remedia, tum univerfalia, tum particularia brevissima complectens. Quibus morbi venerer curandi methodus probatissima accessit." Parisiis. Eloy. Dict. Hist. Bib. Cl.

CHAUMONT, in Geography, a town of France, in the department of the Ardennes, and chief place of a canton, in the district of Rethel; 9 miles N.N.W. of it. place contains 965, and the canton 8217 inhabitants: the territory includes 2021 kiliometres and 21 communes.

CHAUMONT, a town of France, and principal place of a district in the department of the Upper Marne, seated on a mountain near the river Marne. It has a manufacture of coarse woollen cloth, and considerable trade in deer and

goat's skins. N. lat. 48° 7'. E. long. 5° 2'.

CHAUMONT, a town of France, in the department of the Oife, and chief place of a canton in the diffrict of Beauvais; 13 miles S.S.W. of it. It derives its name from an artificial mountain, on which was erected a fortress, which served as a boulevard of France when the English possessed Normandy. The place contains 1088, and the canton 12,71 inhabitants: the territory comprehends 275 kiliometres and 39 communes. N. lat. 49° 15'. E. long. 1° 47'.

CHAUMONT, a town of Savov, in the Genevois, near

the frontiers of France; 6 miles N E. of Seiffel.

CHAUMONT, a town of France, in the department of the Forêts and district of Neufchateau; 6 miles S. of Baif-

CHAUMONT fur-Tharonne, a town of France, in the department of the Loire and Cher, and chief place of a cauton, in the diffrict of Romorantin; 17 miles E. of Blois. The place contains 1140 and the canton 5404 inhabitants: the territory includes 412½ kiliometres and 7 communes. CHAUMPERT. See CHAMPART.

CHAUMUSSAY, in Geography, a town of France, in the department of the Indre and Loire; 12 miles S. of

CHAUMUZY, a town of France, in the department of CHAULNES, in Geography, a town of France, in the de- the Marne, and diffrict of Reims; 8 miles S.W. of Reims.

CHAUNAY, a town of France, in the department of the Vienne, and district of Civray; 2 leagues N.W. of

CHAUNCEY, Sir HENRY, in Biography, a topographical writer, was born of an ancient family of Hertfordshire, in that county, and educated at Caius College, Cambridge. In 1649 he entered the Middle Temple, purfued the study and practice of the law, was knighted by Charles II. in 1681, and in 1688 was appointed a Welsh judge. He died in 1700. His " Hiltorical Antiquities of Hertfordshire," though burdened with pedantic discussions, and depreciated by meanly-executed engravings; is a work in good estimation. Biog. Brit.
CHAUNI, xauva, in Ancient Geography, a people of

Greece, in Thesprotia.
CHAUNTOR, CHAUNTER. See CHANTOR.

CHAUNTRY, or CHANTRY, was anciently a church, or chapel, endowed with lands, or other yearly revenue, for the maintenance of one or more priefts, daily faying or finging mass for the souls of the donors, and such others as they appointed. Thefe chauntries were diffolved by I Ed. VI. cap. 14.

Hence, chauntry-rents, are rents paid to the crown by the

tenants, or purchasers of chauntry-lands.

CHAUNY, in Geography, a town of France, in the department of the Aifne, and chief place of a canton in the district of Laon, feated on the Oife. The place contains 3500, and the canton 14.939 inhabitants: the territory inciudes 155 kiliometres and 20 communes. N. lat. 49° 37'.

CHAUP, LA, a town of France, in the department of

the Diôme; 5½ leagues E. of Le Buis. CHAURANA, in Ancient Geography, a town of Scythia, placed by Ptolemy on the other fide of the Imaus.

CHAURIAT, in Geography, a town of France, in the department of the Puy-de-Dôme; 4 miles N.W. of

CHAURINA, in Ancient Geography, a town of Asia, in

Aria. Ptol.

CHAURUS, or CHORUS, among the Romans, the northwest-wind, or that which blew between the wind called favonius and the north.

CHAUS, or Shaus, in Geography, the most easterly and extensive province of Fez; in general mountainous, stony, and unfruitful; but in some parts fertile, and capable of feeding numerous herds of cattle.

CHAUS, in Ancient Geography, a river of Afia, towards Pifidia, and near the town of Erizza, according to Livy.

CHAUSSE, MICHAEL ANGELO DE LA, in Biography, an able antiquary of Paris, went to Rome at an early age, and fixed in that capital. His "Mufæum Romanum," published at Rome in 1696, fol. and in 1746, 2 vols. fol. contains a large collection of engravings of inedited antiques, and it is inferted in Grævius's collection of Roman antiquities. He published also " A Collection of Antique Gems," Rome, 1707, 4to. with Italian explanations; and " Picturæ Antiquæ Cryptarum Romanarum et Sepulchri Nasonum," 1738, fol. All his works display erudition and fagacity, and are esteemed by those who are led to study the subjects which they comprehend. Nouv. Dict. Hist.

CHAUSSE trape, in Conchology, the French name of the

Linnwan Alurex tribulus.

CHAUSSE-trapes, or Caltrops, in Military Language, are what we call crows-feet. They are iron inftruments with four or more spikes, each of them made in such a manner, that whatsoever way any one of them may fall, it will always lie with one of those spikes uppermost. They are well-calculated for defending breaches and passes. For when thrown up and down in them, they are very troublesome to the foot that mount the breaches, or to the enemy's horse that would pass along fome narrow places or streets. There are three forts of them, viz. fmall ones, with spikes about three inches long; middling ones, with spikes four inches long; and great ones, with fpikes four inches in length.

CHAUSSÉ trop-baut, in the Manege. A white-footed horse is said to be such, when the white marks run too high

upon the legs.

CHAUSSÉE, or Rés de chauffée, an old term for the level of

the field, or of the plain ground.

CHAUSSIN, in Geography, a town of France, in the department of the Jura, and chief place of a canton in the diffrict of Dôle; 3 leagues S. of it. The place contains 1103, and the canton 7461, inhabitants: the territory includes 190 kiliometres and 23 communes.

CHAUTLAN, a town of North America, in the country of Mexico, and province of Chiapa; the inhabitants of which carry on a confiderable trade in cocoa, pottery, falt,

and dates.

CHAUVEAU, FRANCIS, in Biography, was born at Paris in 1613; and, as his father loft his fortune by gaming, he was conftrained, after a liberal education, to apply the knowledge of the arts, which he had acquired as a polite accomplithment, to his own support and that of his destitute mother. He was instructed in the art of design by Laurent la Hire, and began with the use of the graver, but soon quitted it for the point, which was better fuited to his tafte, and the celerity of his execution. He commenced the exercise of the profession which he had assumed at the early age of 15 or 16; and his first essays were copies of the performances of his master; but such was the fertility of his invention, that he foon abandoned this fervile labour, and sketched out his own thoughts on paper, as fast as they occurred, and executed his defigns in etching with aqua fortis, which he wrought with as much rapidity as force and spirit; he seldom corrected or expunged any part of them afterwards, fo that his works are often faulty, and unequal to each other. His house became the refort of some of the first wits of the time; and about the year 1630, they were accustomed to assemble there in order to converse on various subjects. These meetings gave occafion to the establishment of the French Academy. Chauveau was admitted into the Royal Academy of Painting and Sculpture in 1663; and in 1664 he was employed by the king to engrave the feries of plates of the Caroufal; displaying in the attitudes of his men and horses an admirable variety and animation. By this work he obtained a pension for life. Many of his defigns for the romances of the day were executed by way of amusement after supper; the stories were read to him by his children, and fixing upon some of the most striking subjects, he traced his deligns upon the plate, and fo far completed them as to make them fit for the aqua fortis next morning. The number of his works is almost incredible; fome fay they amounted to 3000; others fay that he engraved 4000 with his own hand, and mostly from his own defigns, and that more than 1400 were engraved by other artists after his designs. His small plates, says Mr. Strutt, are executed in a ftyle much resembling that of Le Clerc, founded upon that of Callot. In his large prints, he approaches near to that coarfe, dark flyle, which was adopted by his tutor, La Fiire. He furnished drawings not only to painters and engravers, but to chasers, embroiderers, and various other artists, He excelled in painting to such a degree, that Le Brun admired his pictures, and bought several of them. He engraved from Le Brun and many other mafters. Among the fets of prints, executed from his own compositions,

compositions, are those for the "Bible History," the "History of Greece," the "Metamorphosis of Benferade," the "Jerusalem of Tasso," the "Fables of La Fontaine," " Alaric," or " Rome conquered," and feveral romances. Among the prints, engraved from other masters, are " Christ with the Disciples at Emmans," from Titian, a "Concert," from Dominichiao, the " Life of St. Bruno," from Le Sucur, "Apollo and Daphne," from N. Pouffin, "A Virgin and Child, with St. John and little Angels," findy etched and finished with much tathe, and "Meleager presenting the Head of the Boar to Atalanta." This artist died at Paris in 1676. Moreri. Strutt.

CHAUVEAU, RENÉ, the youngelt fon of the preceding, was also an eminent artilt, resembling his father in the vivacity of his imagination and facility of his execution. He was born at Paris in 1663, and being left an orphan, he was placed first with a carver in wood, and afterwards with Casiere, the feulptor, by whom he was employed in modelling trophics for the king. In this fituation he attracted the notice and engaged the patronage of Colbert, and feveral fucceeding comptrollers-general of the buildings; and at the age of 25 or 26 was reckoned the first of sculptors for models and sketches. After his marriage, a lodging was affigned to him at the Louvre, but on being deprived of it on some pretext, he was so much offended that he accepted an offer of going to Sweden in the service of Charles XII. under the protection of the baron Tessin. Here he continued seven years, and in his way to France, in 1700, he executed fome works at Berlin. Several of the nobility of his country employed him in fculptures and decorations about their feats, and in various works for churches and chapels. Many of his compositions, exhibiting great talk and elegance, were engraved. From several of his employers he received munificent rewards; and particularly from the bishop of Metz, who kept him at work for eight years at his feat at Frescati. Being questioned twice in one day by his last employer, the marquis of Torci, what he expected for his day's work, he was fo much piqued, that, without making any reply to a question fo degrading, he fet out immediately on foot for Paris. Fatigue and chagrin, together with vexation at a lofs he fullained by bank-notes, occasioned an illness, which terminated in his

death, in 1722. Moreri. Gen. Biog. CHAUVIGNY, in Geography, a town of France, in the department of Vienne, and chief place of a canton in the district of Montmorillon; feated on the Vienne, 4 leagues E. of Poictiers. The place contains 1608, and the canton 7347 inhabitants: the territory includes 2174 kiliometres and 11 communes.

CHAVUS, in Ancient Geography, a town in the interior of the Tauric Chersonesus, according to Strabo.

CHAUX, in Geography, a town of France, in the department of the Charente; 20 miles S.W. of Angou-

CHAUX DE FOND, a large and beautiful village of Swifferland, in the principality of Neuchatel, fituate in a broad valley which reaches to Franche Comté, and connected with Lode, by a continued range of delightful cottages, that skirt both sides of the road, and are likewise scattered over the country. La Chaux de Fond and Lode, together with the districts belonging to them, are supposed to contain about 6000 inhabitants, diffinguished for their genius, industry, and skill in the mechanical arts. They carry on an extentive traffic in lace, stockings, cutlery, and other articles of their own manufacture; and they particularly excel in watch-making, and every branch of clock-work. All forts of workmen necessary for the completion of this business,

fuch as painters, enamellers, engravers, and gilders, are found in these villages, where, upon an average, about

40,000 watches are yearly made. On these mountains every individual is sure of obtaining a comfortable maintenance; and as the people have a prospect of soon placing their children in a way of procuring a decent subfiftence, they marry early. Not many years ago, the greater part of the valleys was almost one continued forest; but the powers of industry have changed the feene into flourishing villages and fertile pastures. Besides the natural effect of frequent and early marriages in contributing to the increase of population, every stranger, who brings a certificate of his good behaviour, is at liberty to fettle, and follow any trade without the least restriction. Here no apprenticeship is necessary, nothing is The origin contraband, and industry exerts itself untaxed. of watch-making in these parts is traced to the year 1679, at which time one of the inhabitants brought a watch from London, when an ingenious artist employed to repair it, examined its mechanism, and after a whole year spent in inventing and finishing the necessary instruments, and fix months more in the work itself, completed a watch after this model. Several inhabitants of Chaux de Fond and Lode are well skilled in other branches of mechanical science, belides those already mentioned, and have invented ufeful mathematical and aftronomical inflruments. Several automatical figures of a very fingular and furprifing construction may be enumerated among the inventions of this diffrict, for which the curious are indebted to Jaquet Droz and his fon: one of these played upon the harplichord, another drew landscapes, and a third copied any word prefented to it, and wrote down whatever was dictated by any of the company. The inhabitants apply their ingenuity to convert the streams and torrents, descending from mount Jura, to useful purposes. Accordingly in the midst of the subterraneous channels formed by these waters, they have erected mills, which they ferve to put in motion; they have also constructed wheels, where t feemed fearcely practicable, invented new modes of feaffolding, and various other contrivances for the accomplishment of their object. The natives are very courteous to strangers, and, in general, well informed in various branches of knowledge; and as they spend their leifure hours in reading, many of the villages contain circulating libraries. The houses are plastered and white-washed; though small, they are commodious and well-built, and furnished with a degree of neatness, and even elegance, peculiarly thriking in thefe fequettered mountains. We shall only add, that ease and plenty reign through these mountains to such a degree, as to exclude poverty and the diffress attending it; and thus they afford a pleasing view of the valuable effects of industry under a mild and equitable government. Coxe's Switzerland, vol. ii.

CHAW-STICK, in Botany. See GOUANIA. CHAYANTAS, in Geography, one' of the jurisdictions belonging to the new vicerovalty of Buenos Ayres in South America, lying about 50 leagues N.W. from the city De la Plata, and extending in fome parts about 40 leagues. This country is famous for its gold and filver mines. The former are not at prefent wrought, though the old fuhterraneous paffages are still open; and the river Grande, which waters the province, has in its fand confiderable quantities of gold duth, and grains of this metal. The filver mines are full wrought has 2 gold mines, 3 of filver, 1 of copper, 1 of tin, and 1 of lead. The cattle of this province are barely fufficient for the

CHAYOTA, in Botany, Jacq. See SECCHIUM.

CHAZA, in Ancient Geography, a town of the interior of Africa, belonging to Ethiopia, near the Nile.

CHAZAUNI, CHAUZANEI, or CHAUZANII, a people Seythia, according to Ptolemy. CHAZELET, in Geography, a town of France, in the

department of the Indre, and district of Chateauroux; 7 miles

S.S.W. of Argenton.

CHAZELLES, JOHN MATTHEW, in Biography, an eminent mathematician and engineer, was born at Lyons in 1657, and educated in the Jesuits' college of his native place, whence he removed to Paris in 1675. M. Du Hamel, fecretary to the Royal Academy, introduced him to Cassini, and he was placed in the observatory, where he learned the practical part of aftronomy. He afterwards affilted in forming the geograpical planisphere, 27 feet in diameter, and in continuing the meridian line of France towards the fouth. After remaining five years with Cassini. he became tutor in mathematies to the duke of Montemart, who obtained for him the post of geography-professor to the gallies at Marseilles, and in this fituation he made many plans of the fea coast; and he performed various other services as hydrographer and engineer, as well as in the aftronomical department. He alfo made a voyage to the Levant, measured the pyramids of Egypt, and afcertained that the polition of the four fides of the largest pyramid exactly faced the four cardinal points of the compafs. Upon his return, he reported the particulars of his travels to the Academy of Sciences, and was admitted, in 1695, a member of their body. The memoirs of the academy previous to the year 1708, contain many of his communications. He died at Marfeilles in 1710. Eloge par Fontenelle. Gen. Biog.

CHAZELLES fur Lyen, in Geography, a town of France, in the department of the Loire, and chief place of a canton in the diffrict of Montbrison; 7 leagues W.S.W. of Lyons. The place contains 2364 and the canton 13,441 inhabitants: the territory comprehends 2321 kiliometres and 21 com-

CHAZENA, in Ancient Geography, a country of Afia in Melopotamia, placed by Strabo in the vicinity of Adiabene. CHAZINZARIANS, or CHATZINZARIANS, a fect in Armenia in the feventh century.

The word is formed of the Armenian chazus, crofs. In the Greek text of Nicephorus, they are called Chatzintza-

rione. Xarfar Zapies

They are also called Staurolatra, which, in Greek, fignifies the fame as Chazinzarians in Armenian, viz. adorers of the errofs; they being charged with paying adoration to the crofs alone.

In other respects they were Nestorians; and admitted two persons in Jesus Christ. Nicephorus, lib. xviii. cap. 54. afcribes other fingularities to them, particularly their holding an annual feast, in memory of the dog of their false prophet Sergies, which they called Artzibartzes.

CHE, in Geography, a town of China, of the third rank,

in the province of Ho-nan; 12 leagues W.N.W. of Se. CHEADLE, a town of England, in the county of Stafford, fituate in a country abounding with coal, and furrounded by copper and brass works. It has a weekly market on Friday; 15 miles N.E. of Stafford, and 146 N.N.W. of

CHEAPO, a river of America, which runs into the bay

of Panama; 30 miles E. of Panama. CHEAT, a river of America, which rifes in Randolph county, Virginia, and after purfuing a N.N.W. courfe joins Monongahela river 3 or 4 miles within the Pennfylvanian line. It is 200 yards wide at its mouth, and 100 at the Dunkards fettlement, 50 miles higher, and is navigable for boats, except in dry feafons. There is a portage of 37 miles from this river to the Potowmack at the mouth of

CHEATS, in Law, are deceitful practices in defrauding, or endeavouring to defraud, another of his known right by fome artful and dishonest device; as by playing with false cards or dice, by fraudulently obtaining the execution of deeds and trufts, by suppressing wills, by raising money under false pretences, &c.

If any one cheats with false cards or dice, or by false weights and measures, or by felling one commodity for another, an action on the case lies against him for damages. upon the contract which the law always implies, that every transaction is fair and honest. 10 Rep. 56. In contracts likewise for fales, it is constantly understood that the seller undertakes that the commodity is his own; and if it proves otherwise, an action on the case lies against him, to exact damages for this deceit. In contracts for provisions, it is always understood that they are wholesome; and if they be not, the same remedy may be had. Also if he that selleth any thing doth, upon the fale, warrant it to be good, the law annexes a tacit contract to this warranty, that if it be not fo, he shall make compensation to the buyer: also it is an injury to good faith, for which an action on the case will

lie to recover damages,

Any deceitful practice, whether in trade or otherwise, is punishable with fine, imprisonment, and pillory. I Hawk. L. C. 188. And by the flatutes 33 Hen. VIII. cap. 1. and 30 Geo. II. cap. 24. if any man defraud another of any valuable chattels by any false token, counterfeit letter, or false pretences, or pawns or disposes of another's goods without the confent of the owner, he shall suffer such punishment by imprisonment, fine, pillory, transportation, whipping, or other corporal pains, as the court shall direct. And by 9 Anne, cap. 14. if any person cheats at play, and at one time wins more than rol. or any valuable thing, he may be indicted thereupon, and shall forfeit five times the value to any person who shall sue for it, and (in case of cheating) shall be deemed infamous, and fusfer such corporal punishment, as in case of wilful perjury. Blackst. Com. vol. iv. p. 158, and 173.

CHEBIB, or TALLITZ, in Geography, a mountain in Africa, in the province of Fez, on which are many towns.

CHEBRECHIN, a town of Poland, in the palatinate of Belfkow; feated on the declivity of a hill. The walls are watered by the river Wierpi, which afterwards falls into the river Bog. The Jews in this place are very rich. N. lat. 50° 2.7°. E. long. 3° 51°.

CHEBUCTO, a bay and harbour on the S.S.E. coast of Nova Scotia. Near the head of this bay on the western

tide, stands the city of Halifax, the capital of the province.

N. lat. 44° 40'. W. long. 63° 31

CHECAYA, in Turkilb Affairs, is the fecond officer of the janizaries; and fynonymous with lieutenant, or the fecond in any office.

CHE-CHEOU, a town of China of the third rank, in the province of Hou-quang, feated on the river Yang-tle; 11 leagues E.N.E. of Fong.

CHECHMEBAND, a town of Persia, in the province of Segestan; 70 miles N.E. of Zareng

CHECHMURAT, a town of Persia, in the province

of Adirbeitzan; 200 miles N.E. of Tauris. CHECK, in Commerce, a draft or bill on a banking-

house, paid at fight to the bearer. CHECK, a term in the game of chefs, used when one party

obliges the other either to move or guard his king

CHECK-mate denotes a movement on the chefs-board that kills the opposite men, or hinders them from moving

CHECK-roll, a roll, or book, containing the names of fuch as are attendants, and in pay to the king, or other great perfons; as their household servants. Stat. 19 Car. II. cap. J.

It is otherwife called the chequer-roll, and feems to take

its ctymology from the exchequer. 14 Hen. VIII. c. 13. formed does not disclose itself until we approach a mill turned by a rapid brook that guilles out near the entrance

CHECK, clerk of the, in the king's household, has the check and controulment of the yoomen of the guard, and all the infliers belonging to the royal family; allowing their ablence or defects in attendance, or diminishing their wages for the same, &c.—He also, by himself, or deputy, takes the view of those that are to watch in the court, and has the setting of the watch. 33 Hen. VIII. c. 12.

CHECK, clerk of the, in the king's dock-yards, is also the name of an officer, who keeps a mufter or register of all the men employed aboard his majesty's ships and vessels, and of the artificers and others in the service of the navy, in the port to which he belongs.

CHECK, in *Falconry*, is where a hawk forfakes her proper game, to follow rooks, pies, or other birds that crofs her

in her flight.

CHECKER. See Exchaquer.

CHECKER-courfe, in Brick-Making. See BRICK.

CHECKY, in *Heraldry*, is where the flield, or a part thereof, as a bordure, &c. is checquered, or divided into checquers, or fquares. Where there is but one row of fquares, it is not properly called checky, but counterconfessed.

it is not properly called checky, but countercomponed.

Checky, according to Colombiere, is one of the most moble and ancient figures in all armory; and ought never to be given, but to persons who have distinguished themselves in war: for it represents a chess-board, which itself is a representation of a field of battle. The pawns and men, placed on both sides, represent the soldiers of the two armies; which move, attack, advance, or retire, according to the will of the two gamesless, who are the generals.

Checky is always composed of metal, and colour. Some authors, however, would have it ranked among the forts of furs. When the whole escutcheon is checquered, it should ordinarily contain fix ranges; there is no need of blazoning to express them; only it must be observed, to begin to blazon by the first square in chief on the dexter side. So that if that be or, and the next gules, the house, or family, is said to bear checky, or, and gules.

When the whole shield is not checquered, but only the chief, a bend, cross, or the like, the number of ranges should

be expressed.

CHECO, Kecro, or Tong-row, in Geography, a town of Asia, and capital of the country of Tonquin, situate on the river Songkoi; 100 miles from its mouth.

CHE-CONG, a town of China, of the third rank, in the province of Se-tchuen; 10 miles S.E. of Tong-tchouen.

CHE'CY, a town of France, in the department of the Loiret, and chief place of a canton, in the diltrict of Orleans. The place contains 1533, and the canton 10,087 inhabitants; the territory includes 305 kilometres, and 15 communes.

CHEDABUCTO, or MILFORD-HAVEN, a large and deep bay on the eafternmost extremity of Nova Scotia, at the mouth of the gut of Canfo. Opposite to its mouth is Isle Madame. Salmon river falls into this bay from the welt, and is remarkable for its very great fishery. N. lat. 45° 25'.

W. long. 61° 10'.

CHEDDER, a village of England, in the county of Somerset, about 7 miles N.W. of Weils; which though only a village deserves particular mention. This village is fituated under the S.W. side of Mendip hill, and yet much elevated above the level of the moor, so that the contrast between the losty brows of the hills on one side, and the fertile stats on the other, is singularly striking, and seems to render this village and its adjacent scenery peculiarly romantic. The chasm by which the cliss of Chedder are

turned by a rapid brook that guilles out near the entirence and foon afterwards lofes itself in the Ax. Proceeding along the fide of this brook, we are fuddenly struck by a gap, in the fide of the mountain, of the extent of which we at first form an erroneous idea, because the rocks project one behind another so that they feem to prevent further progress. After many deceptions, it is at length discovered that this flupendous chafm extends quite through the S.W. ridge of Mendip, from top to bottom; the length being at least 2 miles, at the end of which it divides into two branches, fo as to allow an easy ascept, in a winding direction, nearly from S.W. to N.E. to the top of the hill. In feveral points the cliffs rife perpendicularly to the height of regular fragments like thattered battlements of huge castles, and others inclining with a dreadful aspect on the observer passing under them; protecting yews growing in several of the fillures, form finady canopies; and long mantles of ivy covering some of the rocks, and contrasted against the craggy nakedness of others, heighten the picturesque effect of the scene. On the right hand, the cliss are much fleeper than on the left, and for the most part inaccessible; but, in general, the falient angles on one fide correspond with the recipient ones on the other. Every circumstance indeed ferves to impress a belief that the mountain must have been evidently rent afunder. The inclination of the strata, from one foot to three feet in thickness, is nearly to the S.W., their general direction being from N.W. to N.E .; this is the course of the hills, the height of which seems to increase northward, and particularly near the village of Loxton, where is a prodigious eminence called Crook's Peak. The rocks of Chedder are on a much grander and bolder scale than those of Dovedale, which resemble them; though they have not the advantage of a beautiful fiream, like the Dove, dividing them. Stupendous as those are, there is a contiguous part of Mendip, which is some hundred feet higher, sloping from the top with a gradual defcent, and commanding particularly to the W. and S. a most extensive prospect. The Chedder cliss produce several of the rarer plants, particularly the Dianthus cæsius, (Chedder pink), D. arenarius, and Thalictrum minus. The first of these plants, the history of which is somewhat perplexed, is diffinguished by the stems being mostly sing's flowered, the scales of the calyx roundish and short; the petals notched and braided: and the leaves rough on the margin: this elegant plant, it is faid, has never yet lasen found except on the cliffs of Chedder, where it was first gathered by Mr. Brewer in the time of Ray. The flowers make their appearance in July, and very luxuriantly decorate the rocks. Mason's Observations relative to the Natural History of the Weltern Counties of England, made in 17,4 and 1796.

Chedder is famous for its adjacent pastures and a large kind of cheese. In this place it is common for 3 or 4 dieses to join their milk in order to make one great cheese, which generally weights from 150 to 200 pounds weight.

and which is often fold at a very high price.

The goodness of Chedder cheese is chiesly owing to the land in which the cows feed, as the method of making is the same with that which is pursued throughout Some-fetshire, and the adjoining counties. Thus also the land in the north parts of Wilthine has a surprising effect both on the butter and cheese.

CHEDUBA, or SANDIVA, an island in the bay of Dagal, near the coast of Ava, said to be about 45 miles long and 9 wide. Cheduba and Ramree, called by the Birmans, Markey and Cheduba and Ramree, Cheduba and Chedub

CHE

gou Kioun and Yamger Kioun, are extensive and highly cultivated islands, which, with Arracan and Sandowy, form five distinct provinces, and comprehend the whole of the

Arracan empire. See ARRACAN.

A Portuguese, named Sebastian Gonzales, by a combination of successful events, made himself matter of the island of Cheduba, which he maintained for fome time as an independent principality; his rife was owing to a feries of heinous crimes, and his rapid fall is to be afcribed to a fimilar cause. N. lat. 18° 50'. E. long. 93° 45'.

This fertile island, which belongs to the Birman government, yields abundance of rice, and is governed by a chekey, or lieutenant, who is subject to the may woon of Arracan. The channel between this island and the main is annually navigated by large trading boats, but does not afford

a lafe pallage for thipping.

CHEEGO HILLS, hills of Hindoostan near the south

coast of the country of Gutch.

CHEEK, in Anatomy, that part of the face fituated below the eyes on either fide.

CHEEKS, wounds of the. See Suture and Wound. CHEEKS, a general name among Mechanics, for almost all those pieces of their machines and instruments that are double, opposite to, and perfectly alike to each other.

The CHEEKS of a printing prefs, are its two principal pieces: they are placed perpendicular, and parallel to each other; ferving to fultain the three fommers, viz. the head, shelves, and winter, and to bear the spindle, and other parts of the

machine.

The CHEEKS of a turner's lathe, are two long pieces of wood, between which are placed the puppers, which are either pointed, or otherwife, ferving to fupport the work, and the mandrils of the workman. These two pieces are placed parallel to the horizon, separated from one another by the thickness of the tail of the puppets, and joined with tenons to two other pieces of wood, placed perpendicularly, called the legs of the lathe.

CHEEKS of the glazier's vice, are two pieces of iron joined parallel at top and bottom; in which are the axis, or spindles, little wheel, culhions, &c. whereof the machine is composed.

In the confiruction of gun-carriages, the term cheeks is used to denote the strong planks which form their sides. See

CHEEKS of a mortar, or BRACKETS, in Artillery, are made of strong planks of wood, bound with thick plates of iron, and are fixed to the bed by four bolts; they rife on each fide of the mortar, and ferve to keep it at what elevation is given to it by the help of strong bolts of iron which go through both cheeks, both under and behind the mortar, hetwixt which are driven coins of wood; these bolts are called the bracket-bolts, and the bolts which are put one in each end of the bed, are the traverse-bolts, because with handspikes the mortar is by these traversed to the right or left.

CHEEKS, in Ship-Building, are two pieces of timber, fitted on each fide of the mast, at the top, serving to Arengthen the masts there, and to sustain the frame of the top and top-mast. The uppermost bail or piece of timber in the beak of a ship, is called the cheek. The knees which fasten the beak-head to the bow of the ship, are called cheeks; and the fides of any block, or the fides of

a ship's carriage of a gun, are called cheeks.

CHEEKS, upper and lower, are those pieces of timber on

each fide of the trail-board

CHEEN, in Geography, an ancient name of the kingdom of Pegu, as we learn from the Ayeen Akbery, (vol. iii. : p. 7.) As this country borders upon Ava, where M. Goffelin, in his Geography of the Greeks analysed, places the Vol. VII.

great promontory, the refemblance of names may feem, perhaps, to confirm his opinion, that Sinæ Metropolis was fituated on this coast, or not so far east as the kingdom of Cochin-China, where M. D'Anville places it.

CHEESADAWD, a lake of North America, on the E. end of Slave lake, in the territory of the Hudson's bay

company; about 35 miles long, and the fame in breadth. N. lat. 63° 15'. W. long. 106''. CHEESE, in Rural Economy, a well known kind of food prepared from milk by means of coagulation with rennet, and leparated from the ferum or whey, by preflure in vate for the purpose, being then dried for use. See DAIRVING.

The use of cheese seems to have been adopted more generally, and at a much earlier period than that of butter. Hippocrates, who was almost contemporary with Herodotus, fpeaking of the method practifed by the ancient Scythians of shaking the milk of their mares in wooden vessels, says, that the heavy and thick part, which subsides, when the fat part rifes to the furface, and the whey or ferum remains in the middle, being kneaded and properly prepared, is, after it has been dried, known by the name of " hippace," which evidently denotes cheefe made of mares' milk. It is not improbable, that the Scythians haftened the separation of the cafeous part from the whey by warming the milk, or by the addition of some substance proper for that purpose. Hippoctates, in another place, expressly says, that the Scythians drink mares' milk and eat cheefe made of it. Although the word butter does not occur in Aristotle, and his allusion to that fubiliance has even been doubted, yet we find that he gives very proper information respecting milk and cheese which indicates careful observation; and in one place he ascribes to milk only two component parts, viz. the watery and the cafeous; but elfewhere he mentions also a fat substance in milk, which, in certain circumstances, refembles oil. Ludolfus, in his History of Æthiopia, acquaints us, that the Habeffinians or Ethiopians made both butter and very good cheefe: and the Roman writers, who give an account of the ancient Germans, and fay that they lived principally on milk, difagree in one circumflance; viz. whillt many of them inform us, that they used cheefe, others affirm that they were not even acquainted with the method of preparing it. Cæf. de Bell. Gall. iv. 1. vi. 22. Strabo, lib. iv. Pliny, however, fays, (l. xi. c. 41.) that they did not make cheefe, but butter, which they used as a most pleasant kind of food. But the oxygala of which he speaks was evidently a kind of cheefe, the preparation of which has been described by Columella. (l. xii. 8.) In order to make it, fweet milk was commonly rendered four, and the ferum was always separated from it. Pliny also mentions, under the above name, a kind of cheefe formed from the cafeous parts which remained behind in the butter-milk, and which were ! rated from it by acids and boiling, and were mixed and prepared in various ways. It is not possible from any conthat remain to determine whether Tacitus (De Mor. Ge c. 23.) by "lac concretum," which, he fays, was th common food of the Germans, meant cheefe, or butter the term Belugos, or Boulugov, compounded of Bes, on, or cow, since Tueos, cheefe, feems to intimate, not only that cheefe . known at a much earlier period than butter, but that . Grecian and Roman authors confidered butter as a cheefe, because rugos once signified any congulated subtrance See BUTTER.

Cheefes are of different qualities and forms, in di districts, and according to the methods in which they are made. Thus, the Cheshire cheeses are mostly thick. large, and of a fine sharp or piquant flavour, while those of Gloucette: thire are mostly small, thin, and of a pleasant mild take

palate: the best of this kind (fay: Mr. liazard of Stoney-Littleton) is made from new, or, (as it is called in that and the adjoining counties) "covered milk;" an inferior fort is made from what is called "half-covered milk;" though, when any of these cheeses turn out to be good, people are deceived, and often purchase them for the best "covered milk cheefe:" but farmers who are honest have them ftimped with a piece of wood in the shape of a heart, by which they may be diffinguished.

of cows) to make a large cheefe from one meal's milk; this, when brought in warm, will be eafily changed or turned with the rennet; but if the morning or night's milk be to be mixed with that which is fresh from the cow, it will be a longer time before it turns, nor will it change fometimes without being heated over the fire, by which it often gets duft, or foot; nor should I forget smoak, (says this writer) which is

When the milk is turned, the whey should be carefully flrained from the curd, which curd should be broken small with the hands; and when it is equally broken, it must be put by little at a time into the vat, carefully breaking it as it is put in, which vat should be filled an inch or more above the brim, that when the whey is pressed out it may not shrink below the brim; if it does, the cheefe will be worth very little. But first, before the curd is put in, a cheese-cloth, should be so large, that when the vat is filled with the curd, the end of the cloth may turn again over the top of it; when this is done, it should be taken into the press, and there remain for the space of two hours, when it should be turned, and have a clean cloth put under it, and turned over as before: it must then be pressed again, and remain in the prefs fix or eight hours, when it should again be turned, and rubbed on each fide with falt, after which it must be prested again for the space of twelve or fourteen hours more; when, if any of the edges project, they should be pared off; it may then be put on a dry board, where it should be regularly turned every day.

It is a good way to have three or four holes bored round the lower part of the vat, that the whey may drain fo perfeelly from the cheese as that not the least particle of it

may remain.

The prevailing opinion of the people of Gloucestershire and the neighbouring counties is, that the cheefes will fooil if they are not scraped and washed when they are found to be mouldy; but I know this (fays Mr. Hazard) to be erroneous, and that fuffering the mould to remain mellows them, provided they are turned every day; or if they will have the mould off, it should be removed with a clean dry flannel, as the washing them is only a means of making the mould (which is a species of sungus rooted in the coat) grow again immediately.

Some people feald the curd, but this is a bad and mercenary practice; it robs the cheefe of its fatnefs, and can only be done with a view to raife a greater quantity of whey butter, or to bring the cheefes forward for fale, by making

them appear older than they really are.

As most people like to purchase high-coloured cheese, it may be right to mix a little annotto with the milk before it is turned; no cheese will look yellow without it; and though it does not in the least add to the goodness, it is perfectly innocent in its nature and effects.

Cheshire cheese is much admired, and yet no people take less pains with the rennet than the Cheshire farmers; but

. The double Gloucefler is a cheefe that pleases almost every each: to this, and also to the age to which they are kept, the richnels of the land, and their keeping such a number of cows, as to make fuch a cheefe, without adding a fecord meal's milk, their excellence may be attributed : indeed, they falt the cord (which may make a difference), and keep the cheefes in a damp place after they are made, and are

In other counties they likewife vary greatly in thefe dif-

are usually made in square vats, and weigh from fix to twelve pounds each. Immediately after they are made, they should be put into fquare boxes made exactly to fit them, as they are fo extremely rich, that, without this precaution, they would be apt to bulge out, and break afunder. In thefe fore they are mellowed for falc. Some make them in a net, thicker coat, and wanting the rich flavour and mellownels of the others. The manufacture of these cheeses is not confined to Stilton and its neighbourhood; as many other perfons in Huntingdonshire, and also Rutland and Northampton give them the name of Stilton cheefes.

It is observed by Mr. Hazard that, though the farmers about Stilton are remarkable for the cleanliness of their dairies, they take very little pains with the rennet; for if they did, they would not have so many faulty and unfound cheeses. The inhabitants of other counties might make as good cheefe as that of Stilton, if they would adhere to the fame plan, which is this. They make a cheefe every morning, and to this meal of new milk they add the cream taken from that which was milked the night before. This, and the age of their cheefes, it is faid, are the only reasons why they are preferred to others, their land not being in any respect superior to that of other counties. Excellent cream cheeses are made in Lincolnshire, by adding the cream of one meal's milk to milk which comes immediately from the cow: thefe are pressed gently two or three times, turned for a few days.

and then disposed of at the rate of is. per pound, to be eaten while new, with radishes, falad, &c.

There is also a fort of green or fage cheefe. And we have a cheefe brought from abroad under the title of The Parmelan cheele is fo called, because Parmefan. Parma and Piacenza were once the countries in which the best was made, though now the district of Lodi is in the highest repute for this kind of cheese. The method of making it is described, from their own observation, by Mr. Benjamin Pryce, in the 7th volume of the Bath Society's papers, (fee also Letters on Agriculture, vol. vii. and Repertory, vol. ii.) and by Mr. Arthur Young, in the 2d volume of his Travels in France. These cheeses, how much soever extolled, are made entirely of skimmed milk: that of the preceding evening, mixed with the morning's milk: the former having stood for 16 or 17 hours, and the latter about 6 hours. At 10 o'clock in the morning, 51 brents of milk, each brent being about 48 quarts, were put into a large copper, which turned on a crane, over a flow wood-fire, made about two feet below the furface of the ground. The milk was flirred from time to time; and about II o'clock, when just luke-warm, and considerably under a blood-heat, (about Sia of Fahrenheit, the atmosphere being at the same time their cheefes are fo large as often to exceed toolbs, weight 70 Fahrenheit, Young,) a ball of rennet, as big as a large

walnut; was fqueezed through a cloth into the milk, which and diftinguished over Scotland, infomuch that all the cheefe was kept stirring. This rennet was faid to have been purchased of a man at Lodi, famous for the composition; but it feemed to have principally confilled of the same part of the caif as we use in England for the same purpose, mixed up with salt and vinegar, (spices and sait, Young,) and also, as Mr. Pryce apprehends, with old cheefe. The proportion of rennet, he conceives, was of much greater confequence than the rennet itself. By means of the craue, the copper was turned from over the fire, and let fland till a few minutes past 12; at which time the rennet had fusficiently operated. It was now stirred up, and left to stand a short time, for the whey to separate a little from the curd. At I o'clock, fays Mr. Young, the cazaro, or dairy-man, (for this is not women's work in Italy) examined the coagulation, and finding it complete, he ordered his fotto cazaro to work it, which he did with a flick armed with crofs-wires; this operation ferved instead of cutting and breaking the curd, in the manner it is done in England, free from the whey. When he has reduced it to such a fineness of grain as satisfies the cazaro, it is left to sublide, till the curd being quite funk, the whey is nearly clear on the furface. Part of the whey being taken out, the copper was again turned over a fire sufficiently brilk to give it a strongish heat, but below that of builing; a quarter of an ounce of fastron was put in to give it a little colour; but not fo unnaturally high as fome cheefes in England are coloured; and it was well thirred from time to time, with a wood machine to keep it from burning; the cazaro examining it from time to time, between his fingers and thumb, to mark the moment when the right degree of firmnels and folidity of grain was attained. The heat was 1241 Fahrenheit; but it is often 1311 Fahrenheit. When the small, and, as it were, granulated parts, felt rather firm, which was in about 11 hour, the copper was taken from the fire, and the curd left to fall to the bottom. As foon as a certain degree of subfidence had taken place, the cazaro emptied about 3ths of the whey, in order the better to command the curd. He then pours three or four gallons of cold water around the bottom of the cauldron, to cool it fufficiently for handling the curd; and then by a formal kind of operation, he flides a coarse cloth under the curd, and thus brings it up and places it in a tub to clear. When fulficiently drained, it was put into a hoop, and about half an hundred weight laid upon it for about an hour; after which the cloth was taken off, and the cheefe placed on a shelf in the same hoop. At the end of two, or from that to three days, it is sprinkled all over with falt. The same process is repeated every fecond day, for about 40 to 45 days, (or 30 or 40 days, according to the feafons; 30 in fummer and 40 in winter, Young) after which no further attention is required. Whill falting, they generally place two cheefes one upon another; in which state they are faid to take the falt better than fingly. When these operations are completed, the cheefes are scraped clean, and after that rubbed and turned in the magazine every day, and rubbed with a little linfeed oil on the coats, in order to preferve them from all forts of infects. They are never fold till they attain the age of fix months, and the price is 90 livres per 100 lb. of 28 02.

The morning's butter-milk is then added to the whey, and heated; and a stronger acid used for a fresh coagulation, to make whey cheefe, called here "Maschopino." ones are kept in wooden cases, in the smoke of the chimney. In Scotland there is likewise a fort of cheese made from the milk of ewes, which is rich and of a sharp slavour. It is usually known under the title of erve cheefe.

Dunlop Cheefe, so called from the parish of Dunlop, in Ayrshire, where it was first made, has been long known

made in the country around is known by that name, and gives a higher price and finds a readier market than any other. The practice of making fixed milk cheefe, as it is called, was first introduced into the parish of Dunlop, by one Barbara Gilmour, whose great grandfon is still living, and proprietor of the same farm. Having gone to Ire and to avoid the perfecutions which people were then exposed to on account of religion, the is faid to have brought the art with her; when the returned about the time of the revolution. Since that period this fort of cheefe has been the great and almost only butiness of Dunlop Sensible that their fituation was more favourable for this than any other purpofe, the people beflowed on it the greatest care, and turned it to the best advantage. They have inclosed all their ground, and have but a third or fourth of it in tillage, which is more owing to the custom of the country than the will of the farmer, (as throughout the whole of Ayrihire there can be no more laid in each farm in that state than one third); and the rest in pasture, which is always a plentiful crop and of the first quality. They are very attentive to the breed of their cows, which are rather fmall than otherwife, and generally of their own rearing. They are fed in inclosures, and never brought under a roof, except for milking, from the beginning of May till the end of harvelt: the quantity of milk they give is very great and of the finell quality.

The process for making the cheefe is extremely simple. The cows are milked twice a day, at fix in the morning, and at the same hour in the asternoon. At each of these hours the whole milk, while warm, is collected in a large veffel and thickened or yearned; after it is confolidated into a curd, it is then cut in different directions, and the whey gently preffed out; the curd, after it has acquired fufficient confillency by the preflure of the hand, and by the application of weights over it, is next cut very fmall by an inframent for the purpole, and falted. For the further compressure of the cheese, various contrivances are used, the most common is a large hewn flone, probably a ton weight; this is fitted to a frame, and lifted up and let down by a ferew. Others use levers of various constructions, and thus by the application of a few pounds weight they give any degree of pref-

fure that may be deemed necessary.

Where farms have only a few cows and where it would not be worth while to make a cheefe twice a day, two milkings or fometimes more are put together; this may be done two ways, 1th, the milk which has flood over is first creamed and then warmed to the temperature of the new milk, and the whole is coagulated together; the cream is afterwards added, and thoroughly mixed with the two milks. Each mode has been tried, but this is thought to be the most effective in making good cheefe; or 2d, the curd of the first milk is reduced to the consistency proper for falting, and thus fet afide till a feeond milking be brought to the same state; when the two are mixed together, and falted and finished in the usual way. It may be proper to observe, however, that there is no cheese so good as that made directly from new milk: it was this kind which was first known by the name of Dunlop cheefe. 'The ufeless practice of colouring is not known, except by a very few, who make it in imitation of English cheese. From a dozen of good cows a farmer will make from a hundred and fifty to a hundred and fixty flones (provincial weight) of cheefe, that is, fomething more than a ton and a half; this, in the markets of Edinburgh, Glasgow, and Paisley, will bring from 10 to 12 shillings per stone, or from seventy to eighty pounds sterling, for the produce of the featon. From the whey after it is pressed out, the most delicious butter in Scotland is produced. It is also the practice in other places, and particularly in Cheshire, to make butter of the cheefe whey.

For the form of the instrument used for cutting the curd

before falting, fee Plate Hufbandry.

In the preparation or making of cheefe a variety of different circumflances are necessary to be considered by the dairy faimer, such as the season of the year and the mode of conducting the business of milking, the properties of the milk, the manner of giving the necessary colour, the method of preparing the reunet, the mode of breaking and gathering the curd, the management of the cheefe in the press, the process of salting, and the treatment afterwards requisite in the cheefe-room, as well as some others of less importance. All these, as well as many other points of management that are of consequence in the process of cheefe-making, will be fully considered in speaking of the

nature of Dairying. See DAIRYING. It has been observed by Dr. Anderson, that "it is generally supposed that the goodness of cheese depends almost entirely upon its richness; by which is meant the proportion of oily matter, whether natural or adventitious, that it contains: nothing, however, is, he fays, more certain, than that this is not the case. If, says he, the sapor, the pleafant relish to the taste, be adopted as the rule for ascertaining excellence, nothing can be more certain, than that this does not depend upon this circumstance. Parmefan cheese is, he observes, in general, deemed, in respect to sapor, among the belt kinds of cheefe that are made; but it contains no remarkable proportion of oily matter. To many palates, the small round Dutch cheeses are very pleasing to the taste; yet these are, he afferts, made entirely of skimmed milk. And if softness to the feel, and that kind of confiftency which appears mellowed and butyraceous, be the rule for afcertaining the richness of cheese, neither will this, says he, be found to depend necessarily upon the proportion of oily matter that they contain. He has feen cheefes made of skimmed milk, that are exactly like the finest kind of cream cheefe, which approaches to the tafte and confiftency of butter; and he has feen cheefes made entirely of cream, which had much less of that buttery taste and appearance than the other. In short, much more, he thinks, depends upon the skill and dexterity of the operator, than on the quality of the materials. Many cheefes are made in England of as rich milk as the Stilton cheefes, which feem not to contain nearly the same proportion of cream; and he had lately occasion to notice, that a great many cheeses are made of the same kind of milk with the Suffolk cheeses, which have nothing of that horny hardness and indigestible quality for which these are remarkable." It is further remarked, " that if the tafte and confillence that the cheefe acquires when acted upon by heat in the process of toasting, be affumed as a criterion for judging of its richness, neither will it be found that this depends upon the proportion of cream that enters into their composition. He has seen very indisserent cheefe, that has been made of skimmed milk, which, when toasted, was richer to the talle, and more soft in confistence than Stilton cheefe. And he has at this moment in his house a round Dutch skim-milk cheese, that, when toatted, appears richer and more pleating to the palate of moth persons who have tasted it, than very excellent North Wiltshire cheese, which is deemed among the best kinds that are made in this island. From these facts, and many other confiderations, he is fatisfied, that what we call the richness of cheefe depends more upon the particular process adopted in the management, than upon the materials of which the cheefe confiils. The tafte of Gloucester and that of Che-

hire cheefes are very different from each other, though the quality of the milk of which they are made varies very little. The fame thing may be faid of Stilton and Parmefan cheefes, though the vanity of man, defirous to conceal his own weaknefs, is, he fays, for ever disposed to attribute these peculiarities to foil, or pathres, or other circumtlances, that feem to throw the blame of want of facces from off his own shoulders. And this he conceives to be the case in many other inflances, as well as that of cheefes.

It is observed, that any vegetable or mineral acid, put into . milk, will produce a coagulation; with this difference, that the mineral acid affords less cheese or curd than the vegecoagulum which is afforded in all their cafes contains a fubstance of the nature of gluten, which forms the cheese; and another of the nature of oils, which forms the butter. When cheefe is prepared for the table, the butter is not separated, because it renders it milder, and more agreeable. The cauttic alkalies diffolve cheefe by the affithance of heat; but it is not held in folution by an alkali in milk. If one part of cheese newly separated, and not dried, be mixed with eight parts of water flightly acidulated by a mineral acid, and the mixture be boiled, the cheefe will be diffolved, though it would not have been fensibly acted upon by a vegetable acid. This is the reason why the vegetable acids separate a much greater quantity of curd from the fame quantity of milk than the mineral acids do. The cause why salts, gums, fugar, &c. coagulate milk may be deduced from the greater affinity of the water with these bodies than with the cheese. The earth of cheefe is a phosphate of lime, according to Scheele. No substance has a stronger resemblance to cheese than the white of egg boiled. Scheele thinks that the coagulation of white of egg, lymph, and cheefe, is owing to the combination of caloric. Ammoniac dissolves cheese more effectually than fixed alkalies. If a few drops be poured into coagulated milk, it quickly caufes the coagulum to disappear. Concentrated acids likewife diffolve it. Nitric acid difengages nitrogene. Chaptal's Elem. of Chem. vol. iii. Cheefe of every kind is liable to putrefaction; and, by

reason of this quality, it approaches to the nature of animal fubiliances. This opinion is confirmed by the confideration that the matter of which it is formed is, like animal fubflances, coagulated by acids, alcohol, and heat. It is also faid to yield, in distillation, a volatile alkali; though this is a disputed fact. Upon the whole, we may conclude, that as milk contains a portion of animal matter, and as the milk of animals feeding wholly, or for a great part, on vegetables, partakes of their quality, cheefe must be an aliment of an intermediate kind between vegetable and animal. However, cheefe employed in diet is of very different kinds, partly owing to the state and quality of the milk that is employed, and also of the reanet, and partly to the various practices employed in preparing it, such as the different circumstances of the coagulation, the management of the coagulum or curd, the pressure given to it, the falting and drying of it, and the manner in which it is afterwards preferved. The caseous or coagulable part of milk contains a great, if not the greatest part of the nourithment which milk affords; and, therefore, taken by itself, must be considered as a very noursshing matter. When the coagulum has the whey separated from it, it then becomes a more nutritious fubitance than the milk from which it was taken, but probably of more difficult digestion. Cheese, in its dried state, made from milk pre-viously deprived of its cream, may still be very nutritious, but it is of very difficult digestion, and fit only for the most robuilt persons; and even the difficulty of digestion may diminish the nourishment which it might otherwise have afforded. Cheese made of entire milk must be a still more nourishing Substance, and, as Dr. Cullen conceives, of much easier digestion; and cheese made of entire milk, with a portion of cream taken from other milk added to it, will be still more nourifling, and hardly of lefs eafy digettion, as the oily parts every where interposed between the parts of the gluten must render the adhesion of this less firm. As cheese is often made of cream alone, the qualities of this will be readily underflood from what has been just now said. Cheese is often made of the milk of ewes or goats, and often of a portion of the two latter added to cows' milk. In all these cases, as the milk of ewes and goats contains a larger proportion both of the oily and cafeous parts, fo in proportion as these are employed, the cheefe becomes more nutritious, but at the same time of more difficult digeftion. As cheefe is employed not only when recent and fresh, but also under various degrees of a certain corruption to which it is liable, it hence acquires new qualities; and, according to the degree of corruption, it becomes more acrid and stimulant, partly from the acrimony it has acquired by corruption, and partly by the great number of infects that are very conflantly generated in it in that state. In this corrupted condition, cheese can hardly be taken in fuch quantity as to be confidered as alimentary; and with regard to the mode or degree in which, as is commonly fupposed, it becomes a condiment influencing the digeltion of other food in the stomach, Dr. Cullen professes himself unable clearly to explain. Cheefe is often eaten, after having been toasted; or when a portion of its oil is separated, whilst the other parts are united more closely together. Many perfons are able to digest this food pretty well; but it is certainly not easily digested by weak stomachs; and for those who can be hurt by indigestion, or heated by a heavy supper, it is a very improper diet. Cullen's Mat. Med. vol. i. pt. 1.

Cheefe, when new, is found to load the stomach, by reafon of its moisture and visidity; and when too old, it heats and inflames it by its falts. The physicians advise it to be eat in small quantities: hence that Latin verse,

" Cafeus ille bonus, quem dat avara manus."

Dr. Quincy fays, it cannot be too old: it is certain, the more it abounds with falts, the more will it contribute to digeftion, and the clearing of the itomach of other food. Indeed fome condemn all ude of cheefe: fheltering themfelves under that ancient maxim, "Cafeus est nequam, quia concoquit omnia fe quam."

The Laplanders make a fort of cheefe of the milk of their rein-deer, which is rot only of great fervice to them as food, but on many other occasions. Scheffer's Hitl. of

Lapl.

CHEESE-board, a circular piece of board, about an inch, or an inch and a half in thickness, upon which the newmade cheeses are placed on the shelves of the cheese-noom. Cheese-boards should be made of such forts of wood as are the least liable to warp, and be planed smooth on both sides, being of sufficient thickness to resist the effects of heat as much as possible.

CHEESE-cloth, the cloth in which the cheefe is placed in the prefs, in order to undergo the operation of squeezing out

the whey.

CHEESE colouring, is the material employed to give colour to cheeses, in order to their being more faleable. It is a subscription of the bixa of South America, or of the shrub when cultivated in our gardens. See Bixa. Of the proportion of this matter from the red pulp which covers the seeds, the

following account is given by Mr. Miller. The contents of the fruit are taken out and thrown into a wooden veffel, where as much hot water is poured upon them as is neceffary to suspend the red powder or pulp, and this is gradually washed off with the assistance of the hand, or of a spatula or fpoon. When the feeds appear quite naked, they are taken out, and the wash is left to settle; after which the water is gently poured away, and the fediment put into shallow veffels to be dried by degrees in the shade. After acquiring a due consistence, it is made into balls or cakes, and set to dry in an airy place until it be perfectly firm. Some persons first pound the contents of the fruit with wooden pettles; then covering them with water, leave them to steep fix days. This liquor being passed through a coarse sieve, and afterwards through three finer ones, is again put into the vat or wooden vessel, and left to ferment a week; it is then boiled until it be pretty thick, and when cool fpread out to dry, and then made up into balls, which are usually wrapped up in leaves. And when of a good quality, it is of the colour of fire, bright within, foft to the touch, and capable of being diffolved in water. But the substance mostly made use of, and which is purchased from the druggists, is a preparation made by them, in which madder is probably a principal ingredient; it is of

a brick colour, and a hard compact texture.

In regard to the method of using the fost or genuine fort, it is fimply by diffolving fuch a quantity as is necessary, in a fmall portion of milk, allowing fuch particles as will not diffolve to fettle to the bottom. The milk thus coloured is then poured off, and mixed with that which is to be made into cheefe. But when the hard preparation is used, pieces of it are frequently under the necessity of being rubbed against a hard smooth even-faced pebble or other stone, being previously-wetted with milk to forward the levigation, and to collect the particles as they are loofened. For this purpose a dish of milk is generally placed upon the cheese-ladder; and as the thone becomes loaded with levigated matter, the pieces are dipped in the milk from time to time, until the milk in the dish appears to be sufficiently coloured. The stone and the "colouring" being washed clean in the milk, it is flirred brifkly about in the dift, and having stood a few minutes for the unfulpended particles of colouring to fettle, is returned into the cheefe cowl; pouring it off gently, fo as to leave any fediment which may have fallen down in the bottom of the dish. The grounds are then rubbed on the bottom of the dish, and fresh milk added, until all the finer particles be suspended: and in this the skill in colouring principally confifts. If any fragments have been broken off in the operation, they may remain at the bottom of the dish : hence the superiority of a hard, closely textured material, which will not break off or crumble in rubbing. The price of this material is usually about ten-pence an ounce; which will colour about twenty thin cheefes of from ten to twelve pounds each. The colouring therefore coils about a halfpenny a cheese, or a little more.

CHEESE-cowl, the name of the milk cooler or veffel in

which the curd is formed.

CHEESE-Inife, a large fort of knife or spatula made use of in some dairies, for the purpose of cutting or breaking down the curd while in the cheese-tub, in order to its being placed in the vat to undergo pressure.

CHEESE-lep, the bag in which dairy women prepare and

keep the rennet for making cheefe. See RENNET.

CHEESE-prefs, an engine or prefs employed in cheefe dairies, for the purpose of forcing the whey from the card when in the cheefe vat, by means of pressure. It is observed by the author of the "Rural Economy of Norfolk," that in making cheese much depends on the construction and power

of the prefs, the excellency of which arifes from its preffing pendicularly upon the cheefe-board, one fide of the cheefe will frequently be much thicker than the other; and, what is thill worfe, one fide will be thoroughly preffed, while the other is left fort and foongy. The power of this machine may be given in different ways, as by the forew, the lever, or by a dead weight; and it ought always to be proportioned to the fize and thickness of the cheefe. The author just mentioned, found one that was condructed on thefe principles, highly useful and convenient, the power of which was a by the stones agreeably to the thickness of the cheefe or cheefes to be pressed. In the vale of Gloucester, he says, the preffes are mostly loaded with gravel in cubical boxes, raifed by rollers, and made to fall horizontally on the cheeies. vision of it holding fix or eight of these cheeses. A press of the most general kind is represented in Plats VIII. fig. 1. in which a b is the prefs, c e and f g levers moveable about the points d e f g by applying the hand at e; s, the flone or weight, and h the cheefe to be preffed. And a prefs upon an improved plan may be feen at fig. 2, by which the preffure is given with greater eafe and exactnels.

CHEESE-rack, a fort of contrivance made for the purpose of receiving and containing such cheeses as have become sufficiently strm and coated. These racks may be constructed in different ways and forms, but Mr. Marshall thinks that the plate-rack form, with four or five tiers one above another, is the best for this purpose. If the cheeses intended to be placed in it be nearly of one fize, the rack should be made of the same width at the top as the bottom; but if they be of -different fizes, it ought to be made narrower at the top than at the bottom; and if they be of different thicknesses as well as of different diameters, the spaces for the respective cheefes should likewife be varied. A small rack may be flung with a rope and pullies at each end of the cheefe-room, fo as to be drawn up and lowered down at pleasure; but a large one is difficult to fling, in a common room, in that manner; it ought therefore to fland on legs about two feet high, with a broad bare board projecting over the legs, fo as to prevent vermin from climbing up into the racks: this kind faves much labour, he fays, in turning and collecting the cheefe into a fmall compais, and putting it out of the way of vermin.

CHEESE-Renning or Rennet, in Botany. See GALIUM

CHEESE-Rennet or Runnet, in Rural Economy. See RENNET.

CHEESE-Room, a room appropriated for the reception of cheefes while they remain in the hands of the maker. and in some an entire lining is put round the walls, with a stage or two in the middle, gangways being left wide enough to pass conveniently between them. In one dairy in North Wiltihire, Mr. Marshall fays, he remarked an admirable arrangement of cheefe-rooms. The shelf-room was immediately over the dairy-room, and the lofts over the shelf-room with trap-doors in each floor, to hand the cheefes through. This, he observes, is a plan which saves much aukward carriage, and which might be adopted with advantage in every way which will admit of it. These rooms should always be sufficiently roomy and situated conveniently for the dairy. See DAIRY.

CHEESE-Tongs, a fort of wooden frame placed occasion-

ally on the cheefe-tub, on which the vat is fet in order that the whey may drain from the curd, before it is put into

CHEESE-Tub, the tub in which the curd is broken and prepared for being made into cheefe. Tubs of this kind are of different shapes, as round and oval; and of such capaciare intended to be converted to the purpose at one time by

the dairy-woman.

CHEESE-Vat, is a fort of ftrong kind of wooden hoop with a bottom, which, as well as the fides, is perforated with holes through which the whey escapes during the time the cheefe is preffing. The cheefe-board is fo formed as to pass within the hoop part of the vat, and receive the weight or power of the preis. Dairies, Mr. Marshall observes, should be well furnished with vars of different fizes, as where three or four cheefes are made at each meal, a number of vats become actually necessary: and, if there be not curd which may be had; and keeping a little overplus curd from meal to meal may often, he thinks, fave a whole cheefe.

CHEEVANCE. See CHEVISANCE.

on every individual charged or entrufted with a particular command or a particular inspection or superintendance, as well in time of peace as in that of war. Thus the general, who commands an army en chef, the officer who commands a corps of the army or a detachment en chef or in chief. And the oldest foldier of a barrack-room, tent, &c. as the

corporal or lancepefado, who has the management of the provisons, is called chef de chambrée.

CHEF d'escadre, an officer who commands any division of an army or of a sleet. The duty of a naval officer commanding a fquadron at fea is fimiliar to that of a brigadier general on thore. Chefs d'escadre fit on all general courts martial, and rank according to the dates of their com-

CHEF de files. The men, who form the first or front rank of a platoon, a division, a battalion, a company, &c.

Cher du nom et armes. The chief of the name and

arms. When an illustrious family had several branches, he who reprefented the oldest was distinguished by this appellation, even though the family and its branches were of fovereign rank. This diffinction still exists in all nations that have nobles and gentlemen, and unquestionably originated from military fervices and celebrity acquired in arms.

CHEF, St., in Geography, a town of France, in the department of the Ifere, and district of La-Tour-du-Pin; 2

leagues N.N.W. from it.

CHEF-d'auvre. See MASTER-piece.

CHE-FANG, in Geography, a town of China of the third rank, in the province of Sc-tchuen; 10 miles M.W.

CHEF-BOUTONNE, a town of France in the department of the Two Sevres, and chief place of a canton, in the diffrict of Melle; S miles S. of Melle. The place contains 1422 and the canton 8787 inhabitants; the territory includes 217½ kiliometres and 17 communes. CHEFATE-KAN, a town of Afiatic Turkey, in the

province of Caramania; 100 miles E. of Cogni.

CHEFFES, a town of France, in the department of the Maine and Loire; 3 leagues N. of Augers.

CHEFONTAINES, CHRISTOPHER DE, (Lat. A capite Fontium), in Biography, a learned Franciscan, was born in the 16th century in the diocele of Laonin Brittany, entered in early

life among the Cordeliers, and having completed his studies at Paris, commenced preacher in his own country. In the exercife of this office he acquired reputation, and in 1562 became provincial of his order in Brittany. At Rome, whither he afterwards removed, he was guardian of his province, and teacher of divinity in the convent of Ara Cœli. In 1571 he was chosen general of his order, and as such conducted himself during 8 years with great zeal and prudence. Pope Gregory XIII. created him archbishop of Casarea in 1579; and having remained in that diocese for 7 years, he took a journey to Flanders; and at Antwerp converted many heretics by his preaching, and confirmed others that were wavering. Under a charge of deviating from found orthodoxy, he repaired to Rome in 1587, for the purpole of vindicating his character; and though his peculiar opinions were never formally examined, he was treated with respect by five succeffive popes. At length he died in a convent at Rome, in 1595, at the age of 63. Chefontaines, during a great part of his life was a hard student: he understood 6 languages befides his native Bas Breton, and was well acquainted with the theology and philosophy of his time. He reasoned strongly and wrote in a good style. One of his first works was a letter in French, afterwards translated into Latin, in defence of free will; but his most curious treatise was entitled "De necessaria Theologiæ scholasticæ Correctione;" in which he discusses the question whether the words "this is my body, this is my blood," were those by which our Saviour confecrated the bread and wine at his last supper. Having previously afferted in a fermon that the repetition of these words by the priest was infusficient for the confectation of the elements in the eucharilt without benediction and prayer, he had incurred the charge of heterodoxy. His other works it is now needless to recite. Du Pin.

CHEGGIO, in Botany, a name given to a fort of lactefcent plant, common in Cambaya. It is reported by authors, and by the people of the country, that those knobs and beards of this plant which grow facing the north, are a very noble medicine in the cure of apoplexies and other nervous diforders, but that those knots and beards of the same plant which look fouthward are poisonous. Redi proved some of this famous plant, and gave it several fair trials, but sound the history of its nature and effects wholly falle.

CHEGIASAR, in Geography, a town of Persia, in the

Irak-Agemi; 100 miles W.S.W. of Amadan.

CHEGOMEGAN, a point of land about 60 miles in length, on the fouth fide of lake Superior; about 100 miles W. of this cape a confiderable river falls into the lake; upon its banks virgin-copper is found in great abundance.

CHEHAW, a town of America, in the state of

Georgia; 165 miles W. S.W. of Augusta.

CHEILOCACE, in Surgery, literally fignifies the lipevil. It is a swelling of the lips, to which the inhabitants of northern countries, especially children, are said to be very Subject; particularly those in England and Ireland, if we may credit Castellus

CHEIRANTHUS, in Botany, (from the Arabic keiri, altered by Linnaus, without any evident propriety, into a name with a Greek form, quasi from xue, a band, and aveos, a flower), Linn. Gen. 815. Schreb. 1091. Juff. 238. Vent. vol. iii. 103. Gært. 835. Clafs and order, tetradynamia filiquefa. Nat. ord. Siliquefe, Linu. Crucifera, Just.

Gen. Ch. Calya perianth four-leaved; leastets ovateoblong, concave, erect, parallel-converging, decidnous; two outer ones gibbous at the base. Cor. four petalled, cruciform; petals roundish, longer than the calyx; claws the length of the calyx. Stam. filaments fix, awl shaped, parallel,

the length of the calyx; two of them gibbous within, the leastets of the calyx a little shorter; anthers erect, bisid at the base, acute, and reflexed at the tip; a nectariferous gland furrounds the base of the shorter stamen on each side. Pift. germ prismatic, tetragonous, the length of the stamens, marked on each fide with a tubercle; ftyle compreffed; fligma oblong, two, three, or four-cleft, thickish, permanent. Peric. silique long, compressed, the two opposite angles obliterated, and marked with a fmall tooth, two-ceiled, twovalved, terminated by the ftyle. Seeds feveral, pendulous, alternate, fomewhat egg-shaped, flat.

Eff. Ch. Germ furnished on each fide with a small glandular tooth. Calyx closed; two of its leaslets gibbous at

the base. Seeds flat.

Obs. The little tooth on each side of the germ, in some species, becomes nearly evanescent, in others increases in

Sp. I. C. erysimoides, Linn. Sp. Pl. I. Mart. I. Willd. I. Jacq. Amft. tab. 74. (C. fylvestris, Lam.? Leucoiem luteum fylvestre angustifolium, Bauh. Pin. 202. L. fylvestre, Clus. Hist. i. p. 299. Bauh. Hist. ii. p. 873. Erysimum sylvestre, Scop. Car. n. 630.) Wild wallslower. "Leaves lanceolate, toothed, naked; item upright, quite fimple; filiques four-cornered." Linn. Root biennial. Stem in the wild plant usually simple, from fix inches to a foot high. Leaves linear or oblong lanceolate, acute, generally quite entire, but fometimes jurnished with one or two small teeth; petals emarginate; style none. A native of Germany, Swifferland, France, &c. 2. C. Armeniacus, Bot. Mag. Pl. 835. "Stem frutescent, divided; leaves aggregate, gash-toothed, broader upwards; siliques four cornered, terminated by the thickened two-lobed ftigma." Nearly allied to the preceding, but differs in having a shrubby divided stem, leaves collected in a circle at the extremity of the branch, and more deeply toothed, and flowers in longer racemes. The peduncles of the flowers are horizontal, of the fruit assurgent. Flowers sweet-scented. Raised in 1805 by Mr. Lodiges of Hackney, from seeds gathered on mount Ararat. 3. C. Helvesieus, Mur. Syst. Veg. p. 597. Mart. 2. Willd. 2. Jacq. Hort. tab. 9. (C. boccone, Allion. Ped. tab. 58. fig. 2. C. hieracifolius, \(\beta \). Lam. 5. Hesperis. Hall. Helv. n. 450. Leucoium minus angustitolium, Bocc. Maf. tab. iii.) Swifs Wallslower. "Leaves lanceolate, toothed, naked; item erect; filique four-cornered, acuminated with the flyle." Root biennial. Stem more shrubby than that of C. erylimoides, eighteen inches high, erect, fomewhat angular. Leaves acute, thickish, usually somewhat rugged, nearly sessile, often quite entire, sometimes with a few teeth. Flowers finaller than those of C. erysimoides, and with less scent; petals not emarginate; stigma separated from the germ by a style. A native of Swifferland, flowering in May and June. 4. C. Alpinus, Linn. Mant. p. 93. Mart. 3. Lam. 2. Willd. 3. (Leucoium angustifolium alpinum, flore sulphureo, Tourn. Inst. 222. Allion. Pedem. 44. tab. 9. fig. 3.) Alpine wallflower. " Leaves linear, entire, fomewhat downy." Linn. Roct biennial. Stem generally simple. Leaves sometimes toothed. Flowers sulphur-coloured, large. A native of the Alps. 5. C. lanceolatus, Willd. 4. "Leaves oblong-lanceolate, quite entire; petals lanceolate; frem covered with fost hairs." Stem near a foot high, erect, quite simple, even ; covered with wide-spreading hairs. Lower leaves oblong, obtuse, petioled; middle ones oblong-lanceolate, obtuse, lessened into a short petiole; upper ones sessile, narrower. Raceme with few flowers. A native of Tartary. 6. C. Cheiri, Linn. Sp. Pl. 2. Mart. 6. Lam. 1. Willid. 5. (Loucoium luteum vulgare, Bauh, Pin. 202.) Common wallflower. wallflower. " Leaves lanceolate, acute, fmooth; branches angular; stem shrubby." Root perennial, or biennial. Stem a foot and a half high, branched; branches rather upright. Leaves scattered, rather narrow, entire, smooth, greenish. Flowers yellow; calyx commonly tinged with a reddift brown or violet colour. Seeds with a membranous edge. Lam. This species has long been cultivated, and is univerfally esteemed for the beauty, durability, and fragrance of its flowers. These, as they appear under the head of cultivation, are fingle or double, larger or fmaller, pale or deep yellow, ferruginous, yellow, or bloody; varieties which are perpetuated chiefly by cuttings or flips. A native of Europe. 7. C. fruiteulofus, Linn. Mant. 94. Smith Flor. Brit. (C. cheiri, Hudf. With. Relh. Sib. Leucoium luteum, vulgo cheiri, Rai Syn. 291. L. luteum minus fruticans, Barrel. Ic. tab. 1228.) Wild wallflower. " Leaves lanceolate, acute, greyish underneath; pubescence quite fimple, pressed close down; stem shrubby; brauches angular." Root perennial. Stem much branched; branches erect, leafy, greyish, bearing flowers near their summit. Leaves crowded, petioled, acute, generally quite entire, green above; lower ones fomewhat ferrated. Flowers yellow, fweet-scented; calyx purplish; petals emarginate. Siliques erect, roundish, greyish; style short; stigma emarginate. Seeds without a membranous edge. It differs from the preceding in having acuter leaves, greyish underneath; fmaller petals; and recurved, rather rigid, not flaecid, loofely dependent capfules. Dr. Smith. A native of old walls in England and other parts of Europe. 8. C. callofus, Mart. 5. Willd. 7. Linn. jun. Supp. 296. "Leaves lanceolate, entire, callous; frem angular, fhrubby." A native of the Cape of Good Hope. Thunb. 9. C. friellus, Mart. 4. Willd. 8. Linn. jun. Supp. 296. "Leaves lices review freether than the cape of Control of the Cape of Control of Cape of linear, acute, fmooth; frem shrubby, erect." Thunb. A native of the Cape of Good Hope. 10. C. tenuifolius, Mart. 20. Willd, 9. Hort. Kew. ii. p. 395. L'Herit. Stirp. i. p. 92. Narrow-leaved shrubby stock-gillishwer. "Leaves siliform, quite entire, somewhat si ky; stem frutescent, branched." Root perennial. Stem a foot and half high. Leaves very narrow, fpreading, acute; younger ones greyish. Flowers yellow; petals obtuse. Siliques linear, erect, terminated by the thick flyle; fligma obtufe, capitate. A native of Madeira, flowering in May and June. 10. C. mutalilis, Mart. 21. Willd. 10. Hort. Kew. ii. p. 395. L'Herit. Stirp. i. 92. Bot. Mag. Pl. 195. Broad-leaved shrubby stock-gillistower. "Leaves lanceolate, acuminate, sharply serrated; stem frutescent; filiques peduncled. Root perennial. Flowers, at their first opening, white; fometimes inclined to yellow; in a few days becoming purple. A native of Madeira, flowering in March and April. 12. C. apricus, Willd. 11. "Hitpid; leaveslanceolate, fomewhat toothed at the base; filiques erect." Root perennial. Whole plant hispid, like the asperifoliæ. Stems feveral from one root, about feven inches high, quite simple, somewhat woody. Leaves rather obtuse, sometimes quite entire. Flowers purple, peduncles spreading. Siliques ftiff, smooth, linear, terminated by the thick style and twolobed stigma. A native of Siberia. 13. C. Chius, Linn. Sp. Pl. 3. Mart. 8. Willd. 12. (Hesperis chia; Lam. 15. Tourn. Cor. 16. Dill. Elth. tab. 148. fig. 178. Leucoium thlapfeos facie; Herm. Par. tab. 193.) "Leaves inversely egg-shaped, veinless, emarginate; siliques awl-shaped at the tip." Root annual. Stems slender, much-branched, diffuse, profrate at the bottom, oblique above, zig-zag, hairy. Leaves generally entire, fometimes a little ferrated, fea-brous about the edge. Flowers finall, reddish, purple, or purple-violet, in terminal racemes; claws of the petals a

little longer than the calyx; expansion short, emarginate. Suiques flerder, cylindrical, befet with fitort close-preffed hairs. A native of Greece, Barbary, and Spain. 14. C. maritimus, Linn. Sp. Pl. 4. Mart. 9. Willd. 13. Bot. Mag. 166. (Hefperis maritima; Lam. Tourn, Iuft. 223. Leucoium; Pluk. phyt. 432. fig. 2.) Mediterranean flock, improperly called Virginia stock by the English gardeners. "Leaves elliptical, obtufe, naked, roughish; stem diffuse, rough." Root annual. Stems much branched, from five to feven inches high, divaricated, diffuse, rather rigid, rough with twin close-pressed hairs. Leaves obtuse, somewhat reflexed at the tip, green, rather rigid and rough, on long petioles; upper ones flightly toothed. Flowers lively red, changing to bluish purple, in a terminal raceme; calvx close, even; petals inverfely heart-shaped; anthers in the throat of the flower. A native of the coast of the Mediterrancan, This humble species continuing long in flower, is often used as an edging to borders, and is sometimes sown in patches with other annuals on the beds of the flowergarden, which it enlivens with the splendour of its blosfoms. If fown in the autumn, it will come up early in the fpring, and by varying the time of fowing it may be made to flower almost the whole summer. 15. C. parviflorus, Willd. 14. " Leaves lanceolate, repand-toothed; filiques sessile, horizontal, distant, forked at the tip." Root annual. Stem about feven inches high, erect, branched. Leaves green, pubefcent, with stellated hairs, narrowing into a short petiole. Flowers pale violet, small, in a very long raceme. Siliques two inches long, round, terminated by two long awns with the short obtuse stigma between them. A native of Morocco; described by Willdenow from a living plant. 16. C. incanus, Linn. Sp. Pl. 6. Mart. 11. Willd. 17. (Hesperis violaria; Lam. Leucoium incanum majus; Bauh. pin. 200. Viola; Lob. Ic. 329. Stock-gilliflower. "Leaves lanceolate, quite entire, obtufe, lioary; finques truncate at the tip, compressed; slem fomewhat fhruhty." Root perennial, fometimes biennial.

Stem from fifteen to eighteen inches high, branched; branches cylindrical, flraight, hoary. Leaves feathered, long, foft, cloathed with a short down. Flowers pale or bright red, variegated or pure white, eafily becoming double by culture, fweet-scented. A native of the seacoast in France and Spain, but cultivated from a very early period in the English gardens for the beauty and splendour of its flowers. Numerous varieties have in confequence been produced. The principal ones mentioned by Miller are the queen's stock-gillislower, the Brompton stock, the white stock, and the white wall-flower. 17. C. fenestralis, Linn. Sp. Pl. 5. Mart. 12. Willd. 18. Jacq. Hort. 2. tab. 1759. (Hefperis feneftralis; Lam.) "Leaves crowded in heads, recurved, waved; stem undivided." Scarcely more than a variety of the preceding. Root biennial. Stem fix inches high or more, shrubby, perfectly simple the first year, but afterwards divided at the top into two or three straight cylindrical branches. Leaves broader and shorter than those of the preceding. Flowers smaller and less sweet-scented. Native country unknown; first fown in the Upfal garden in 1753. It received its trivial name from its peculiar fitness to fland in windows. 18. C. falinus, Linn, Mant. 93. Mart. 10. Willd. 15. (Helperis falina; Lam.) "Leaves lanceolate, obtule, quite entire; ftem erect; anthers included." Root perennial. Similar to C. incanus, but eight times smaller. Whole plant smoothly tomentous. Stems erect, enduring several years. Flowers purple with a yellowish throat; stigma obtuse, thickish, bishd, by no means stender. The scent of C. incanus. A native of the salt marshes of Siberia and Tar. tary. 19. C. bicufpidatus, Willd. 16. (Hesperis orientalis

glassifelio flore magno violaceo; Tourn. Cor. 16.) "Leaves both ways. Flowers yellow, large. A native of Cappalanceolate, acute, fomewhat toothed, pubefeent; filiques clofe-pressed, bicuspidate." Whole plant pubefeent. Stem a foot and a half high, erect. Leaves feffile. Flowers re-fembling those of C. incanus, but the petals are obtuse, more lanceolate and a little longer. Siliques round, terminated by the creek two-lamellated fligma. A native of America. 20. C. annuus, Linn. Sp. Pl. 7. Mart. 13. Willd. 19. (Helperis ættiva; Lam. Leucoium incanum minus; Bauh. Pin. 200.) Annual flock-gilliflower, or ten weeks itock. " Leaves lanceolate, somewhat toothed, obtufe, hoary; filiques cylindrical, acute at the tip; stem herbaceous." Nearly allied to C. incanus. Root annual. Stem about a foot and a half high, cylindrical, straight, branched near the top. Leaves long, narrowed towards the base. Flowers large, red, purple or white, of an agreeable smell, peduncled in terminal racemes; petals a little emarginate. A native of the fea-coast in the fouth of Europe. Commonly cultivated in gardens, where if fown in fuccession in February, March, and May, they continue in flower the greatest part of the fummer. 21. C. littoreus, Linn, Sp. Pl. 10, Mart. 14. Willd, 20. (Hesperis littorea; Lam. H. maritima angustifolia incana; Tourn. Inst. 223. Leucoium; Bauh. Pin.) Sea flock gillistower. " Leaves lanceolate, fomewhat toothed, fomewhat downy, fomewhat fleshy; petals emarginate; filiques downy." Root annual. Stem about a foot high, alternately branched, hoary. Leaves alternate, channelled, obtufe, loary. Plowers in terminal racemes, purple, peduncled. Siliques flender, cylindrical. A native of the fea-coasts in France and Italy. 22.C. contemplicatus, Willd. 21. "Root-leaves finuate-toothed; flem ones lanceolate, obsoletely toothed; filiques revolute, hifpid." Stem about half a foot high, branched, divaricated, flightly pubefcent. Root and flem-leaves almost pin-Flowers violet. Siliques round, rather obtuse, twisted. A native of Siberia towards Caucasus. 23. C. leucanthemus, Willd. 22. " Leaves pubescent; root-ones runcinate, stem ones linear, somewhat toothed; siliques erect." Whole plant hoary. Stem a foot high, erect; branches erect. Flowers white, finall; filiques round, terminated by the short style, and capitate emarginate stigma. A native of the north of Persia. 24. C. triffis, Linn. Sp. Pl. S. Mart. 15. Willd. 23. Bot. Mag. Pl. 729. (Hefperis angultifolia; Lam. Leucoium; Barrel. ic. 999. Bocc. Mus. tab. 111.) " Leaves linear, somewhat sinuated; flowers nearly fessile; petals waved; stem somewhat shrubby." Root perennial. Stem five or fix inches high, flightly cottony. Leaves alternate, feffile, foft, flightly cottony. Flowers in a loofe raceme, first of a pale russet colour, then dull purple with brown veins; petals curled and fomewhat toothed; fcentless in the day time, odorous in the evening. A native of the fea-coast in the fouth of France, Spain, and Italy. 25. C. trilobus, Linn. Sp. Pl. 9. Mart. 16. Willd. 24. (Helperis triloba; Lam. Leucoium maritimum minimum; Bauh. Pin. 201.) "Leaves lanceolate, obtuse; calyxes smooth; filiques knotted, mucronate, smooth." Root annual. Stems feven or eight inches high, branched, foreading, hoary. Leaves with one or two teeth on each fide. Fiowers rather large, purple. Siliques linear, a little cyindrical, torulous, keeled at the lutures. A native of Spain and the isles of Hieres. 26. C. pulchellus, Willd, 25.
Turritis orientalis; Tourn. Cor. 16.) "Leaves lancolate, fmooth, ciliate-toothed, stem quite simple." Root perennial, fillform, creeping, fibrous. Stems feve-al, about two inches high, quite fimple. Leaves alteratr, nearly feffile, marked with four lines, attenuated Vor. VII.

docia. 27. C. pinnatifidus, Willd. 26. Whole plant be-fet with elevated points, and long, white, featured hairs. Stem half a foot high or more, branched near the top. Flow. ers red. A native of Siberia. 28. G. tricuspidetus, Linn. Sp. Pl. 12. Mart. 17. Willd. 27. Grett. tab. 143. (Hefperis tricuspidata, Lam. pl. 564. fig. 2. H. maritima latifolia, Tourn. Inst. 223. H. marinum, Cam. hort. tab. 87. Morif. 2. tab. 8. fig. 13.) "Leaves lyre-shaped; filiques three-toothed at the tip." Root annual. Stems a little declining, cylindrical, whitish, moderately branched, from four or five to eight or ten inches high. Leaves deeply finuated at the edges, hoary. Flowers purple violet, in a short terminal raceme, on fhort peduncles. Siliques about two inches long, terminated by three short diverging awl-shaped points or awns. Seeds ten or twelve in each cell; eggshaped, compressed, not margined. Gart. A native of the fouth of France, Italy, and Spain. 29. C. tomentofus, Willd. 28. (C. ann. littoreus; Pallas it. 2. app. n. 115. tab. K. fig. 2. Germ. tom. 2. pl. 12. fig. 2. Fr.) "Leaves downy, pinnatifid, obtufe; filiques round, downy, even." Whole plant hoary, and cloathed with a thick down. Root fimple, rigid, a little branched at the top. Stems feveral, about nine inches high, afcending, nearly fimple. Leaves thickish, oblong; fegments obtufe. Flowers pale yellow, fweet-scented, peduncled, occupying half the stem. Siliques linear, long, fometimes torulous, terminated by the twolobed stigma; when ripe extremely rigid, almost woody, divaricated. Pallas. A native of the coalts of the Caspian and about the Irtish, flowering early in spring, and ripening its seeds in June. 30. C. odoratissimus. Willd. 29. Marschall ab Bieberst. Casp. 116. n. 22. Pall. ind. taur. in Nov. Act. Petrop. 10. p. 314. "Leaves downy, lyrate, finuated; filiques compressed, downy, even." Root perennial. Whole plant hoary with down. Stem somewhat shrubby, branched at the bafe. Leaves oblong, very various in shape, generally finuate-pinnatifid, with obtufe entire fegments; fometimes deeply pinnatifid, fometimes unequally toothed; those about the root sometimes quite entire. Floreers the colour and fize of helperis triftis, fweet-scented in the evening. Siliques terminated by the thick, oblong, bilamellated stigma. A native of naked hills in the north of Perfia and Tauris. 31. C. finnalus, Linn. Sp. Pl. 11. Mart. 18. Willd, 30. Eng. Bot. pl. 462. (Hefperis finuata, Lam. Leucoium maritimum finuato folio; Bauh. Pin. 201. Tourn. 221.) Prickly podded flock gilliflower. " Leaves downy, obtale, finuated; those on the branches entire; filiques prickly." Root biennial. Whole plant cloathed with hoary, stellated, intricate down. Stem two feet high, branched, spreading, round. Leaves a little fucculent, alternate, oblong, attenuated at the base. Flowers reddish lilac or purple, resembling those of the garden stock, but fragrant only in the evening; calyx compressed, purplish; petals emarginate; stigma four-cleft. Siliques long, compressed. Seeds numerous, flat, with a membranous border. A native of the sca-coasts of Wales, Cornwall, France, and Spain. 32. C. taraxacifolius, Willd. (C. anchius, Pall. itin. 1. app. n. 116. Hefperis laxa, Lam.) " Leaves pubefeent, lower ones runcinate-pinnatifid, upper ones fharply toothed." Stem a finger's length, quite fimple, creet, pubefeent. Leaves green, cloathed with short scattered close-pressed hairs. Flowers violet or purple. Willd, from a dried specimen. La Marck's description is formed from a living plant in the Royal Garden at Paris, which feems to have been rendered larger and fmoother by cultivation. Root annual. Stems two or three feet high, much branch-4D

ed, loofe, rigid, quite fmooth near the top. Leaves fmooth on both fides. Flowers very fmall. Siliques three inches long, slender, often bowed round, smooth; stigma trifid, but fo fmall, that its lobes are fcarcely visible. A native of Tartary, on the banks of the Volga. 33. C. quadrangulus, Mart. 22. Willd. 33. L'Herit. flirp. 1. tab. 44. (C. cornutus; Lam. C. montanus; Pallas itin. 1. app. n. 115. " Leaves linear, quite entire; filiques sessile, oblong, quadrangular, terminated by a long ftyle." Root biennial. Stem two or three feet high, fimple, but fometimes with a few fhort branches at the top. Leaves scattered, long, narrow, recurved, a little glaucous. Flowers pale yellow, in spike-like racemes, calyx yellowish white, petals obtuse. Siliques not more than half an inch long, hairy; thick, four-cornered, two of the angles more elevated; ftyle as long as the filique, bifid. A native of Siberia. 34. C. cuspidatus, Willd. 32. Marschall ab Bibers. Casp. p. 116. n. 21. (Turritis montana filiquis latis; Buxb. Cent. 2. tab. 33. fig. 1.) " Leaves lanceolate, toothed; flem draight, fimple; filiques peduncled, stiffly upright, broadly two-edged, style twice the length of the filique." Root biennial. Whole plant pu-bescent. Stem six or seven inches high. Lower leaves petioled. Flowers pale yellow, fmaller than those of the preceding. Siliques hoary, oblong, compressed, four-cornered. A native of hilly pastures about the Caspian Sea. 35. C. Farfetia. Linn. Mant. 94. Mart. 19. Willd. 34. Deffont. atl. 2. tab. 160. (Farfetia Egyptiaca; Turra. Farfet. Venet. 1765. p. 1. tab. 1. Thlasp. fruticosum ramofum; Pluk. Alm. 365.) "Siliques oval, compressed; leaves linear-lanceolate; item shrubby, erect." E. C. linearis; Forsk. descrip. 120. Root perennial. Stem a foot high, hoary, stiff, branched. Leaves alternate, sessile, acuminate, quite entire, hoary, or fomewhat filvery. Flowers in fomewhat lateral thiff racemes, the colour of C. trithis, fragrant in the evening, and calyx oblong, green; petals linear, rounded, quite entire, oblique. Silique oval, fistly compreffed, refembling that of Lunaria. A native of Egypt and Arabia. CHEIRANTHUS lacerus. See HESPERIS licera. CHEIRANTHUS turritoides, bieracifolius et paniculatus, Lam.

See ERYSIMUM cheiranthoides, hieracifolium et repandum.

CHEIRANTHUS Gron. virg. See Arabis lyrata. CHEIRANTHUS Africana. Comm. See MANULEA chei-

ranthus.

Obf. 'The effential character of this genus, like that of most of the other genera in this natural order, is by no means well-defined. Linnaus makes it chiefly confilt in the glands on each fide of the germ. La Marck confiders this particular as too inconfiderable, and too uncertain to constitute a genus; and afferts, that two distinct fections of plants are improperly united by Linnœus under his Cheiranthus. He therefore pays no attention to the glands, and includes under his genus only those species which have yellow flowers and four-cornered filiques, removing to Hefperis those which do not possels these characters, and admitting fome of Linnxus's Erysima. Ventenat and Du Tour, in Nouv. Dict. add to the character of Cheiranthus, " feeds with a membranous edge," which, according to them, is not to be found in the true Hesperides. Du Tour, in confequence of this decision, determines the colour of the flowers to be of no confequence, and replaces among the Cheiranthi, the incanus, feneftratus, and annuus, which have fuch a feed; and fuffers the falinus, maritimus, and chius, to remain under Hesperis, because their feeds have no membranous edge. But in fo doing, he furely separates plants which nature has closely united. In the present state of the science, it appears to us most eligible to adhere to the arrangement of Linnæus. The confusion cannot be removed till some master-hand shall undertake a thorough investiga-

CHEIRANTHUS, in Gardening, comprehends plants of the ornamental kind, as the Wall-flower and Stock Giliflower.

There is a great number of species; but those mostly cultivated for ornament are the common wall-flower (C. annual flock gilliflower, or virgin flock, (C. maritimus.) right durable stalk divided into many erect augular branches, forming a bushy head from one to three feet in nating in numerous lpikes of flowers, varying in colour in-different varieties. It is a native of Switzerland.

The chief varieties are, the common dwarf yellow with a low bushy head; the large yellow with a branchy stem forming a bushy head; the large yellow, bloody, with a branchy head; the true bloody, with a branchy ftem; the narrowleaved firaw-coloured; the variegated-leaved yellow; the winter; and the white, having a very branchy greenish stem, and buthy-headed: the flowers in each variety fingle or double.

The fecond fort has a naked white root, an upright firong abiding woody flem from one to three feet in height, branchy at top, with spear-shaped obtuse hoary leaves, and the flems and branches terminated by spikes of flowers. It is a native of Spain. The flowers vary in their colour : fome being of a pale red, others of a bright red, and some curiously variegated, but those of the bright red are generally held in the highest esteem. And there are likewise other varieties, as the fearlet Brompton flock, with a ftrong upright fingle item, from one to three feet high, crowned by a cluster of long thick leaves and creet spikes of large scarlet fingle and double flowers : - the colite Brompton flock, with the same stem and long erect spikes of large elegant slowers:—the purple or Twickenham flock, which has a thick stem a foot and a half or two feet high, very branchy upwards, and all terminated by erect spikes of purple fingle and double flowers, purple blood-spotted fingle and double flowers, variegated purple and white flowers :- the wall flower leaved or farubby flock, which has a shrubby firm them from a foot to a yard high, dividing into by erect spikes of pure white single and double very fragiant. flowers, whitish flesh coloured flowers, whitish purple flowers, and whitish red spotted flowers.

The third fort has a shrubby stem from fix to eight inches in height, and nearly of the thickness of the little finge., straight, rigid, round, being covered with leaves, hoary with nap, dividing at the top into two or three very short alternate branches; the leaves are feattered, petioled, la !nearly the fize of those in the common stock, of a purp-

The fourth species rises with a round smooth stem about two feet in height, dividing into feveral branches at the top, the leaves lanceolate hoary, rounded at the end, nearly o'branches, placed alternately. It is a native of the fouth of Europe. And of this fort there are varieties with rely purple, white, and striped fingle flowers, as well as with

The fifth species has the stalks fix or eight inches in hei ! .; height, very much branched, divaricated, fomewhat stiff, rugged, with twin appressed hairs; the leaves oval lanceolate, fomewhat reflected at the tip, green on rather long petals, stiffish, obscurely subdentated in the upper ones; the branches terminated by spikes of red flowers, turning purple. It is a native of the sea coast of the Mediterranean. It is sometimes improperly termed virginia slock.

Method of Culture. These plants are all capable of being

raifed without much trouble or difficulty.

Method of Culture in the Wall-flower kind. These plants may be easily increased by seeds, stips, or layers; but, in order to have good slowers, very great care should be taken to have the feeds collected from the belt plants; as such as are purchased from the seeds—men can seldom be fully depended upon for the purpose. The feed in this fort is less hable to produce double slowers than in the succeeding kind.

The feed should be fown in the spring season, as in April or the following month, either in the fituations where the plants are to remain, or on bods of earth that have not been enriched by manure, being covered lightly in; but the first is the better practice. When the plants appear, frequent waterings should be given to them in dry weather; and when they have attained fufficient growth, where the bed method is practifed, they should be thinned out during a wet feafon in the latter end of fummer or beginning of autumn, and be replanted in the fituations where they are to flower, or be pricked out in nurfery beds, nine inches distant, to remain till the following spring, to be removed with balls of earth about their roots to the places where they are to flower: but the first is the most advisable method, as they do not succeed so well by removing. The bed method is chiefly in use with the market-gardeners, who cultivate the flowers for fale in large quantities. The flip mode of raifing the plants is chiefly practifed in perpetuating the fine double flowers. The flips are made from the fide-shoots that have no flowers, which, after being divelted of their lower leaves, are planted in the fituations where they are to remain, or in beds, to the depth of three or four inches, any time from April to May, flight waterings and shade being given. In the autumn those in the beds should be removed into separate pots, to have the occasional protection of a frame in the winter, where the weather is very fevere.

The young, tender, and more pliable branches may be laid down into the ground in the ufual manner any time from May till the end of June, a little water being occasionally given when the weather is dry. They should afterwards be taken off when they are well rooted, and be planted out either where they are to remain, or in pots; or, what is the

best practice, in both ways.

These two last methods, however, seldom afford plants that have so good flowers as those raised from seed, being mostly weaker and furnished with shorter spikes of flowers. They should therefore be chiefly confined to those varieties

that cannot be raifed with certainty from feed.

When these plants are intended for the purpose of ornamenting and affording variety on walls, ruins, and other places of this sort, the seed should constantly be sown upon them in the autumn or very early spring, covering it in with a little earth to the depth of half an inch. They will afterwards propagate themselves by shedding their feed, and continue for a great length of time in such places.

Where they are cultivated in the vicinity of large towns, for the purpole of fale, it is the practice, especially with the market-gardeners around London, to prick the young plants out of the seed-beds into nursery rows at the distance of ten or twelve inches, and nine or ten from plant to plant; and where they grow too luxuriantly in these situations,

they are again removed about August, in order to check their too full growth, and by that means render their heads more buthy. They are usually exposed for fale, with small balls of earth about their roots, when just beginning to put forth bloom, so as that their colours and the properties of their slowers can be discerned in some degree.

And where a blow of the double feedling fort is defired, they should be placed in pots, with balls of earth to their roots as foon as their double flower-buds appear, giving them a little water and proper shade, till they become established

again in the earth or mould.

These plants in general succeed best and continue longest, where the foil is of the poor and rather calcareous kind. In rich foils they soon decline and go off.

Method of Culture in the Stock Gilliflower Kind.

In these plants the work of raising them may be performed exactly in the same manner as in the wall-flower fort; only the seed should always, as much as possible, be sown where the plants are to remain, or the plants be pricked out into them while they are very young, as in their more advanced growth they never succeed well when removed, or are of so long duration; as their roots are sticky and but slightly provided with fibres. When the removal of the plants is practised at a late period, it should constantly be done with large balls of carth to their roots, or else they are very apt to be destroyed.

And in the flip or layer methods, as practifed for the different varieties, the plants feldom grow to freely or become fo fine as those raifed from feed. The foils on which they are found to succeed belt, are such as are fresh, and which have not been enriched by manure. In rich soils

they foon disappear.

But both these species and their varieties, in order to have a good show of slowers, and the best and most perfect plants, should be raised annually in the different modes, as, in whatever way they are increased, they always afford the finest slowers the first season of their complete slowering, continuing to decline afterwards.

And fuch of the double forts of the different kind as have been potted, should be protected during the winter feason, either in frames for the purpose, or some other contrivance, a free supply of fresh air being always admitted when the

weather is suitable.

In order to have good flowers of this firt, great care flould be taken to remove all the small and imperfect flowers from the feed-beds at the time of fetting the plants out.

Method of Culture in the Annual Stock Kind.

In these forts of plants the work is accomplished by sowing the feeds at fuitable times, fo as to produce fuccessions of flowers during the fummer and autumn, from the beginning of February till the latter end of May, covering the feed in lightly. The first and second fowings should be made on a very gentle hot-bed, or in pots placed in it, or in frames, to be protected in the night; but the others may in general be performed in the places where the plants are to flower, or in beds, to be afterwards pricked out or removed into pots, or where they are to remain and blow. The former is, however, the best practice where it can be employed, as removing always injures the growth of the plants. And in fowing and planting them out in the borders, or other parts of pleafure grounds, it is usual to put them in, in patches, of five or fix in each patch, disposing them in a varied manner, in different parts of them.

The plants of the early fowings will mostly be in a state to be planted out in pots or on the borders in the beginning of May, a little water being given at the time, when the 4 D 2 weather

weather is dry. They are always proper to be fet out when they have attained three or four inches growth, and have feveral leaves, and should never be delayed much longer.

In cases where these plants are raised by themselves for show, it is the practice to plant them in rows in beds sour feet wide, ten or twelve inches apart each way, care being taken to keep them clear from weeds, and duly watered in

dry weather afterwards

In order to have these plants to flower in the autumn and winter, some of them should be potted about the latter end of July, and placed in a warm situation, occasional waterings being given; and in the beginning of autumn be removed under the protection of the green-house, or good garden frames; due supplies of fresh air being admitted when the weather is suitable.

Much caution is also necessary in the culture of these slowers, not only to chuse good seed, but to remove all the bad and imperfect plants as soon as possible from the beds, or other places where they are grown, as without this the plants

are feldom good.

And in the fourth species the plants may likewise be increased by sowing the feeds at different times, as in the above fort, chiesly in the place where they are to slower, and a few in pots to be set out with others of similar growth.

The fifth fort may be raifed and managed in the fame me-

thods as the two first.

It is advifed, in order to provide good feed of the three first fpecies, that great attention should be paid to have it collected from those single plants which have the largest slowers, with the deepest and brightest colours. Some suppose it advantageous to take it from such plants as have rather a tendency to the double kinds. The branches should be separated when dry, as the seeds become perfectly ripened, and be tied up in small bunches, and hung up in a dry airy situation, till the seed is fit to be rubbed out and put up for use, which should always be done as soon as it is in a fit state.

But in the two last species nothing further is necessary but to take it, when perfectly ripened, from the best plants of

the respective kinds.

All the species and varieties of these plants are highly ornamental, but particularly the double flowering forts, being introduced not only in the more open exposures of the clumps and borders of the pleasure-grounds and gardens, where variety is wanted; but in other places contiguous to the house, for the delightful small they afford while they are in blow, which is a considerable length of time.

And the last species is sometimes made use of as an edging, and the third as an ornamental plant in the windows of bed-chambers, and other places where plants in pots are ne-

ceffary.

CHEITO, in Geography, a town of Persia, in the pro-

vince of Farfiltan; 120 miles S. of Schiras.

CHEITORE, a town of Hindoottan, in the province of Oudipour, confidered by major Rennel as fynonymous with Cheitore, fubject to the Rana, or chief prince among the Raj-poots, and reckoned the first among the Raj-poot states. The whole of this province, and the adjacent tract of country in the soubah of Agimere, consist of high mountains divided by narrow valleys; or of plains environed by mountains, accessible only by narrow passes and defiles; and, in effect, one of the strongest countries. It has, however, an extent of arable land sufficient for the support of a numerous population, and is blessed with a mild climate, being between the 24th and 28th degrees of latitude. It is represented as a country likely to remain for over in the hands of its

prefent possessions, and to prove the asylum of the Hindoo religion and cultoms. Notwithstanding the attacks that have been made upon it by the Gaznavide, Patan, and Mogul emperors, it has never been more than nominally reduced; and such are the strength of its fortresses and the independent spirit of its inhabitants, that every war made on these people, even by Aurungzebe, ended in a compromise, or defeat, on the part of the assaliants. It first fell into the hands of the Mahometans in 1295, when Alla had possession of the throne of the Moguls, and began his plan of conquest by the reduction of Guzerat.

Cheitore was the capital of the Rana in the days of his greatness; it was then a fortress and city of great extent, fituated on a mountain; but it has been in ruins ever fince the time of Aurungzebe in 1681; and had once before experienced a like fate from the hands of Acbar, in 1567. Rennel places it in N. lat. 25° 21'. E. long. 74° 56'. It is 300 miles S.W. of Agra; 76 S. of Agimer; 601 W. of Benares; 547 N. of Bombay; and 1168 by Moorshedabad, and 1063 by Biiboom, N.W. of Calcutta.

CHEIWAN, a town of Arabia; 40 miles S. of

CHE-KANG, a town of China, of the third rank, in the province of Kiang-nan; 11 leagues E.S.E. of Tchi-

tcheou

CHEKAO, in Natural Hiftory, the name of an earth found in many parts of the Ealt Indies, and sometimes used by the Chinese in their porcelain manufactures. It is a hard and stony earth, somewhat like alum, and the manner of using it is this: they first calcine it in an open furnace, and then beat it to a fine powder. This powder they mix with large quantities of water, and flirring the whole together, they let the coarfer part fubfide, and pouring off the rest, yet thick as cream, they leave it to settle, and use the matter at the bottom, which is found in form of fost paste, and will retain that humidity a long time. This fupplies the place of the earth called hoache, in the manufacture of that elegant fort of China-ware which is all white, and has flowers which feem formed by a mere vapour within its furface. The manner of their uling it is this: they first make the veffel of the common matter of the manufacture; when this is almost dry, they paint upon it the flowers, or whatever other figures they pleafe, with a pencil dipt in this preparation of the chekao; when this is thoroughly dry, they cover the whole veffel with the varnish, in the common way, and bake it as usual. The consequence is, that the whole is white; but the body of the veffel, the figures, and the varnish, being three different substances, each has its own particular white; and the flowers, being painted in the finest white of all, are distinctly seen through the varnish upon the vessel, and seem as if traced by a fine vapour only. The hoache does this as well as the chekao, and has belide this the quality of ferving for the making of the porcelain ware, either alone, or in the place of the kaolin: the chekao has not this property, nor any other substance beside this hoache, which appears to be the fan e with our fleatites or foap-rock. See PORCELAIN.

CHEKE, John, in Biography, a very learned writer, and an eminent promoter of learning in England, was born at Cambridge, June 16, 1514: he received his grammar learning under Mr. John Morgan, and was admitted into St. John's college about the age of 17, where he was greatly diftinguished for his application to study, and passicularly to the Greek language, which was then almost unverfally neglected. At the recommendation of Dr. Butts to Henry VIII. he was made king's fe'iolar, and supplied with money for his education, and for his charges in travelling into

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foreign countries. At the age of 26, Mr. Cheke was appointed Greek professor at Cambridge, in which situation he endeavoured to render the study of that language more popular, and to reform the pronunciation of it, which was become almost barbarous. In both attempts he incurred the opposition of that party who fet their faces against improvements of every kind Gardiner, bishop of Winchelter, was his chief and most violent opponent : he issued an edict, commanding a strict and rigid adherence to the old and received modes. Cheke jultified his own conduct upon the authority of Erasmus, but the bishop adhered to his former resolution. In spite, however, of episcopal mandates, the improved pronunciation gradually made its way into the schools and universities of the kingdom. The reputation of Cheke was fo high that, in 1544, he was fent for to court, to affilt in the education of prince Edward, and he appears to have had fome there in the literary instructions of the princess Elizabeth. When his royal pupil Edward VI. fucceeded to the crown, he was rewarded with an annuity of 100 marks, and a grant was made to him of feveral parcels of land and manors: he was also, by royal authority, made provost of King's college, Cambridge. His interest, at particular periods, seemed to decline at court; he, nevertheless, continued in his post as tutor to the king, who was greatly indebted to him for the knowledge and virtuous principles by which his thort life was fo honourably diffinguished; he became also the patron of religious and learned men, both of his own countrymen and foreigners. In 1551, the king conferred on him the honour of knighthood, and gave him a confiderable estate for the maintenance of his rank in life. In the same year he acted as one of the disputants on the Protestant side of the question, at two conferences on the subject of transubstantiation; he at other times displayed his controversial talents, and at the close of the young monarch's reign he had fo far succeeded as to be clerk of the council, fecretary of state, and privy counfellor. The death of Edward was a fatal blow to the confequence of Cheke: he was anxious to have the crown transferred to lady Jane Grey, to whom, and to her council, he acted as fecretary. Upon the accession of Mary to the throne of these realms, he was committed to the Tower, and indicted for high treason; but being stripped of the greater part of his property, he was pardoned and fet at liberty. Unable, however, to conform to popery now reestablished, he obtained leave to travel in foreign countries for a limited time. He went to Swifferland, and from thence to Padua, where he affilted fome of his young countrymen in their studies, and read with them the orations of Demosthenes in the original. He afterwards settled at Strasburgh, where the Protestant forms of worship were openly maintained. His not returning home at the period appointed, afforded his enemies a pretext for conficating what remained of his effate, fo that for maintenance he was obliged to read Greek lectures at Strasburgh. In the beginning of 1556, by the invitation of his former friends, lord Paget and fir John Mason, who had become converts to the new order of things, he was induced to go to Bruffels, where his wife was. Distrasling the fincerity of his old friends, he had recourse to the arts of astrology, to the follies of which he was addicted: these assured him that the intended journey would be prosperous. He was, however, way-laid by orders from Philip II., and carried to the Tower of London, where he was detained a close prisoner till the terrors of a cruel death induced him to recant, and make submission to the pope's legate, cardinal Pole. This humiliation was not sufficient: he was compelled to make a formal renunciation of all his errors in the prefence of the

cruel queen, and more cruel and revengeful court. His lands were now reftored; but with these no power could reflore that peace which rarely attaches itself to those, who, from whatever motives, fubmit to a dereliction of principle. In many instances he was forced to witness the conviction of Protestants who exhibited that constancy in a good cause which he knew ought to have been shewn by himseif. He became a prey to remorfe, when he probably, but then too late, envied the feelings of those who expired at the stake, and died at the age of 43, leaving behind him three fons. Sir John Cheke was an accurate and elegant feholar; his most celebrated work is entitled "De Superstitione, ad Regem Henricum," written to excite the king to a complete reformation in religion. He endeavoured to correct the orthography and diction of the English language, and would admit of no words but the genuine English of Saxon and Tentonic origin. Hence he objected to the received version of the Bible, and undertook a new one. He finished the gospel of St. Matthew as a specimen, which is deposited in the library of St. Bene't college, Cambridge. Sir John was an excellent flatefman, a fincere Christian, and an ardent friend to the reformation, though he wanted courage to die in its defence. He was beneficent and charitable, and the country is greatly indebted to him for his fuccefsful endeavours in reforming the pronunciation of the Greek and Latin languages.

CHE-KIANG. See TCHE-KIANG.

CHEKOUTOMIES, in Geography, a nation or tribe of Indians, fituate near the fouth bank of Sanguenai river in

Upper Canada.

CHELA, has feveral fignifications. It imports a forked probe, mentioned by Hippocrates, lib. ii. De Morbis, used in extracting a polypus of the nofe. But in Ruffus Ephefius, cap. iv. chela denote the extremities of the cilia, which touch each other when the eyes are shut. But the most frequent fignification of chele is class, particularly those of the crab.

Chelæ further figuify fiffwres in the heels, feet, or pu-

denda.

CHELE, in Ancient Geography, a place feated on the fouthern coast of the Euxine fea, at the distance of 20 stadia from the small island of Apollonia, or Daphnusa, and 124 from the mouth of the river Sangar, according to Arrian .-Alfo, a port of the Thracian Bosphorus, on the coast of Afia Minor, where was a temple of Diana Dictyne .- Alfo, two promontories, mentioned by Silius Italicus, supposed by Ortelius to be the two promontories of Apollo and Mercury, which comprehended the gulf of Carthage.

CHELANDIUM, in Middle Age Writers, is used for a kind of vessel or ship. It is also called chelandrium, chelindrus, chelindra, falandra, and falandria, and by the Byzantine writers x showerer. It is mentioned by Ditmar as a veffel of great length, carrying oars, and 150 feamen. It feems

to have refembled an Italian galley.

CHELANDURUS, a fmall kind of chelandium.

CHE-LAOU, in Geography, a town of China, of the third rank, in the province of Chan-fi: 14 leagues S.W. of Fuen-tcheou.

CHELAZIUM, a name used by some authors for a moveable tubercle in the eye-lid, commonly called in English

a Mithe or Ave

CHELIDON, in Ichthyology, a name by which many of the old Greek writers difting with the Linnwan Trigla birundo, or tub-fish of Ray. See TRIGLA birundo.

CHELIDONIA, among the Romans, a name given to

the wind more commonly called favonius.

It was only called chelidonia for a fortnight in the middle

of February, because at that time the swallow makes its first

appearance

CHELIDNIA, in Antiquity, a fellival celebrated at Rhodes, in the month Boedromion, when the boys went from door to door begging and finging a fong called "Chelidonifma," because it began with an invocation of the chelidon, or fwallow. It is faid to have been composed by Cleobulus the Lindian, as an artifice to get money in a time of public calamity.

CHELIDONIA, in Botany, C. Banh. Sec RANUNCULUS

1. 11.

CHELIDONIÆ INSULÆ, in Ancient Geography, rocks of the Mediterranean fea, upon the coalt of Lycia, in Afia Minor, according to Ptolemy. Strabo places them at the commencement of the coalt of Pamphyin, and he fays there are three mountainous iflands, about five fladia from one another, and fix from the land. M.d'Anville has placed them to the foith of "Sacrum Promontorium."

CHELIDONII, a people of Idyria.

CHELIDONIUM, in Botany (from xender, a fivallow, faid to be fo called from a popular tradition in Greece that fivallows make ufe of its jude to cure their young of blindness, but more probably because it flowers about the time when those birds make their first appearance in spring). Linn. Gen. 647. Schreb. 880. Wild. 1014. Just. 2,76. Vent. 3. p. 92. Gært. 677. Class and order, polyandria monogynid. Nat. ord. Rhoendes, Linn. Papaweraece, Just. Vent.

Gen. Ch. Cal. two-leaved; leaves roundifh, concave. caducous. Cor. Petals four, roundifh, flat, fpreading. Stam. filaments numerous (from twenty to thirty), fhorter than the corolla; anther's oblone, compreffed, erect, two-ceiled. Pifl. Germ cylindrical, the length of the flamens, fuperior; ftyle none; fligma bind or tribd. Peric. Capfule refembling a filique, many-feeded, one or two-celled, two or three-

Eff. Ch. Stigma not more than bifid or trifid. Capfule

flender, linear, refembling a filique.

Sp. I. C. majus, Linn. Sp. Pl. I. Mart. I. Lam. I. Willd, 1. Bauh, Pin. 144. Tourn, Inft. 231. Flor. Dan. tab. 542. Lam. Ill. tab. 450. Woody, Med. Bot. Supp. tab. 263. Eng. Bot. pl. 1581. (Papaver chelidonia dictum. Rai. Syn. 309.) Common or great celandine, fo called in contradiffinction to Ranunculus ficaria, which was called by the old botanills the leffer colandine. " Peduncles in umbels." & C. Iaciniatum, Dill. in Rai. Syn. 309. Milier, pl. 92. fig. 2. Flor. Dan. tab. 676. " Leaves refembling those of the common oak." The whole plant yields a yellow or faffron-coloured, acrid juice. Root perennial, fpindleshaped. Stem near two feet high, branched, tender, fometimes a little hairy. Leaves green above, glaucous underneath, alternate, large, foft, unequally winged, lobed, and notched; petioles hairy. Flowers yellow, in axillary and folitary umbels; general and proper peduncles hairy. Capfules about two inches long, flender, fomewhat tapering at each end, one-celled, two-valved. Seeds fmall, black, flinning, obfoletely pitted, crowned with a white, compressed, glandular crest, which, when fallen off, leaves an oblong fear; receptacle filiform, placed at the junction of the valves on each fide, and furnished with a double row of feeds. A native of hedges and uncultivated grounds, among rubbish and under walls in the neighbourhood of villages in England, and other parts of Europe. The variety B is very hairy; its leaves are divided into long, narrow, fegments, deeply jagged at their edges; and, what is most remarkable, its petals are laciniated or cut into feveral parts. La Marck thinks it a distinct species. It is mentioned by Clufius, Bauh, and feveral other of the old bo-

tanists, was found plentifully in the former part of the last century, among the ruins of the duke of Leeds's feat at whole plant has a faint, unpleafant fmell, and a durable, bitthan in the leaves. Both water and rectified spirit extract nearly the whole of the pungent matter. The juice of the that of the roots is of a deep fasfron colour, and tinges the fame mentruum with a brownish-yellow. Its pungency is abated by drying the plant itself, or by inspissating with a and curing intermittents; but though they have gained it a been greatly overrated; its use, in the jaundice, in particular, was probably fuggested by the old absurd doctrine of fignatures. The juice, however, certainly possesses active powers, and may be employed with advantage to destroy warts, clean foul ulcers, and remove obstructions of the cornea. See Woodville's Medical Botany. 2. C. japonicum, Mart. 5. Willd. 2. Thumb. Jap. 221. "Peduncles oncflowered; leaves petioled, winged, egg-shaped." Stem herbaceous, upright, weak, ftriated, fmooth. Leaves alternate, ferrated with acute ciliated ferratures, smooth, pale underneath, an inch or an inch and a half long, the terminal lobe always longer. Flowers yellow, axillary; peduncles capillary, nearly the length of the leaves; calyx fmooth; corolla a little larger than the calyx; four times the length of the flamens. A native of Japan. 3, C. glaucium, Linn. Sp. Pl. 2, Mart. 2, Lam. 2, Willd. 3, Flor. Dan. tab. 585, Eug. Bot. pl. 8. (Glaucium flore lutco; Tourn. Infl. 254. G. flavum : Crantz, anst. 141. G. luteum; Scop. Carn. 2. 2. 563. Papaver corniculatum; Bauh. Pin. 171. Lob. ic. one-flowered; leaves embracing the flem, fcolloped; flem an even furface. Leaves alternate, a little fleshy, rough with fhort hairs; root ones lyrate-pinnatifid. Flowers yellow, large, axillary and terminal; calyx hispid. Capfules from ten to twelve inches long, flender, curved, often rough with tubercles, two-valved, two-celled; partition fungous, rous, feated in deep excavations within the fubitance of the partition or receptacle; pitted. A native of the feacoast in England and other parts of Europe. 4. C. phaniceum, (C. corniculatum; Linn. Sp. Pl. 3. Mart. 3. Lam. 3. Willd. 4. Glaucium phoeniceum; Tourn. 254. Gært. 2. 165. tab. 115. Smith. Flor. Brit. 2. 564. Eng. Bot. pl. 1433. Curt. Lond. fafe. 6. tab. 32. Papaver; Bauh. Pin. 171.) Scarlet horned-poppy. "Peduncles one-flowered, leaves feffile, pinnatifid; them hispid; capfule brittly." Reat annual, spindle-shaped. Stem two feet high, branched, cloathed with horizontal hairs. Leaves glaucous, hairy; root ones lyrate pinnatifid; stem ones deeply pinnatifid, jagged and toothed, half embracing the stem. Flowers

fule rough with longish rigid close brittles, two-valved, twocelled with a partition or receptacle refembling that of the preceding species. Seeds pitted. A native of Germany and the fouth of France. Its right to be received as a British plant refts entirely on the authority of Stillingfleet, who fent it from Norfolk to Hudson, but it has not been found there by any other person. In Chelsea garden it has come up as a weed from time immemorial. 5. C. fulvum. (Glaucium fulvum; Smith. Exot. Bot. tab. 7.) "Peduncles one-flowered; Stem-leaves rounded, valved, capfule rough; flowers nearly feffile." Raifed by Dr. Smith from feed originally obtained from the Cambridge garden by the name of C. corniculatum, and prefumed to be a native of the fouth of Europe. Whole herb of a more blue cast. Root annual. Flowers orange, twice as large as those of C. phæniceum. 6. C. violaceum, (C. hybridum; Linn. Sp. Pl. 4. Mart. 4. Lam. 4. Willd. 5. Eng. Bot. pl. 201. Glaucium violaceum; Juff. 236. Smith. Flor. Brit. vol. 2. p. 565. Papaver; Bauh. Pin. 172.) "Peduncles one-flowered; leaves pinnatifid, with linear fegments." Root annual. Stem a foot high or more, flender, branched smooth, green. Leaves twice or thrice pinnatifid, deep green, smooth. Flowers rather large, violet, with a darker spot at the base of each petal; stigma trisid. Capfules two or three inches long, three-valved, one-celled; receptacles three; fixed to the valves, but not fo far extended as to render the capfule three-celled. Seeds pitted. A native of Spain and the fouth of France. It has been found nowhere in Great Britain but in Cambridgeshire and Norfolk. Linnæus supposed it to be a hybrid plant between Papaver Argemone and fome species of Chelidonium; but there does not appear any fufficient reason for the opinion. Obf. The Chelidonium of Linnaus comprehends the Chelidonium and Glaucium of Tournefort, which were feparated from each other by that great botanist, partly on account of the difference in the number of the cells of the capfule, but chiefly because the petals of Chelidonium majus, his only species, appeared to him to be properly cruciform, whereas those of the other species are rather rosaceous, and therefore according to the principles of his fystem, belong to a different class. Gærtner, Jussien, Ventenat, and Dr. Smith, all agree in restoring Tournesfort's original genera, principally on account of the different number of cells; their Chelidonium being only one, and their Glaucium two. But unfortunately their Glaucium violaceum, which cannot be separated from their G. luteum and phoniceum, has only one cell, in direct contradiction to the generic character. Ventenat, who feems to have felt this difficulty, has dropped all confideration of the number of cells in his essential character of Glaucium, observing that the capsule of Phoniceum and Luteum (Chelidonium corniculatum and Glaucium of Linnæus) appears two-celled, because the space between the two receptacles is filled with a thick fungous fubiliance. It is indeed fo different in its confittence from the usual differiment or partition, that Juffieu could fcarcely prevail upon himfelf to call it by that name. Its form in C. violaceum sufficiently demonstrates its true nature, and affords a connecting link between C. majus and the other species. It is with much diffidence that we diffent from such high authorities; but for the reason affigued, we cannot but think Linnaus fully justified in uniting Tournefort's two genera. The creft d feed introduced by Gærtner and Dr. Smith into their effential character of Chelidonium; and the capitate stigma introduced by Ventenat into that of Glaucium, are, we apprehend, feparately confidered, of too little confequence to constitute generic diffinctions.

CHELIDONIUM, Sloan, Jam. Sez Bocconia frutescens.

CHELIDONIUM majus canadenfe; Corn. Morif. Ray. See SANGUINARIA canadenfe.

CHELIDONIUM minus. See RANUNCULUS ficaria.

CHELIDONIUM Promontorium, in Ancient Geography, 3 promontory of Asia, in Pamphylia; probably the same with the Sacrum Promontorium.

CHELIDONIUS, in Natural History, a stone pretended to be found in the flomachs of young swallows; much effeemed by fome for the falling fickness.

The word is formed from Xelidar, a fwallow. See

CHELIFER, in Entomology, a generic name affigned by Geoffroy and De Geer to the Acarns Cancroides of Linnœus, Phalangium Cancroides of Scopoli and Gmelin; which latter fee.

CHELLES, in Geography, a town of France, in the department of the Seine and Marne; 4 leagues W.S.W. of Meaux.

CHELLUS, in Ancient Geography, a town of Palestine, mentioned in the Apocryphal book of Judith.

CHELM, in Geography, a town of Poland, in Red Ruffia, and capital of a palatinate of the same name; the see of a Roman bishop, fuffragan of Lemberg, and a Greek bishop, fuffragan of Kiov. The palatinate is partly subject to Russia and partly to Austria. The town is in a state of decay; 108 miles S.E. of Warfaw and 306 E. of Breflaw. N. lat. 51° 10". E. long. 24°.

CHELMER, a river of England, in Effex, which runs

into the fea a little below Malden.

CHELMIEZ, a town of Lithuania, in the palatinate of Minsk; 50 miles E. of Mozyr.

CHELMON, in Ancient Geography, a town of Palestine. over-against Esdraelon, according to the book of Judith. Holofernes encamped before this city when he went to befiege that of Bethulia.

CHELMSFORD, in Geography, the shire town of Effex, England, is pleafantly fituated near the centre of the county, at the confluence of the rivers Chelmer and Cann, from the ancient ford over the former of which it evidently derives its name. Camden, without any authority but its distance from the supposed site of the Roman station of Camalodunum, which he places at Malden, fixes Canonium here, though every circumstance, it is observed by Mr. Gough, " is against affigning such antiquity to this town; there was not even a road near it till Henry the First's time, when Maurice, bishop of London, to whose fee it always belonged till Bonner's time, built a bridge over the Chelmer." Maurice possessed the episcopal dignity about the year 1100, and to his bridge this town owes its. importance, as it occasioned the great road which before passed through Writtle, a village two miles to the west, to be brought to Chelmsford; and from that time the latter increased in buildings and population. In the first year of king John, William de Sancta Maria, bishop of London, procured the grant of a weekly market, and other privileges: thele were afterwards confirmed by Edward I. In the eleventh of Edward III. four members were fent from Chelmsford to a council held at Westminster. The town is chiefly formed by four respectable streets. Near the centre is the shire-hall, an elegant, commodious, and well-defigned thructure, erected at the expence of the county, from defigns and under the immediate direction of J. Johnson, architect, who having completed it to the fatisfaction of his employers, and at a less expence than the original estimate, was presented, in pursuance of a vote passed at the quarter seffions in 1792, with an elegant filver cup. The front of the

building is of white those with a ruftleated basement, and ornamented with four three-quarter columns supporting a peaffize and fessions, an assembly room, and other convenient offices, are within the walls of this building. Contiguous brought from a spring about a quarter of a mile distant. When the original conduit was built is unknown; the prathe inhabitants, to which the Sun and Royal Exchange fire offices contributed tool, each. The church is a spacious handsome building, dedicated to St. Mary; the body is modern, and was erected from defigns by Mr. Johnson, in the night of January 17th, 1800 At the west end is a Iquare flint tower with pinnacles. When the original church was founded is uncertain; but from an inscription which was placed on the fouth fide of the centre aifle, it appears to have been repaired by subscription, anno 1424. In this town is a free grammar-school, founded and liberally endowed in 1352 by Edward VI., on the petition of fir William Petre, knight; fir Walter Mildmay, knight, then one of the general supervisors of the court of augmentations; fir governors were at the fame time conflituted a body corporate. The school house was rebuilt 1782 by R. Benvon, elq, then acting governor, on the fite of a more ancient one, which was erected by fir John Tyrrell, bart. The education of youth is further provided for by two charity-schools supported by voluntary subscription; one founded August 17, 1713, for fifty boys; the other in April 1714, for twenty girls. The school-house stands at the north-east corner of the church-yard; adjoining to it are three alms-houses for decayed families. The bridge, erected by bishop Maurice, over the Chelmer, having greatly decayed, was rebuilt with one arch in 1787 from a defign by Mr. Johnson. This bridge unites the hamlet of Moulsham with Chelmsford. Near it, on the Moultham fide, stands the county-gaol, a spacious and well-arranged stone building, which was commenced in 1773, by an architect named Hylyard, but has fince been much improved and completed by Mr. Johnson. The front is formed by a commodious house occupied by the gaoler; from which, weltward, extends a large paved yard, terminated by the hospital or ward for female criminals, and a very neat and convenient chapel. On the north fide, next the river, is a double range of cells; and beyond, another large yard, fecured by a wall and iron palifadoes, appropriated to the use of the convicts employed in picking oakum and making ropes. On the fouth fide, extends a range of .feparate cells for condemned criminals, behind which, on the opposite side of a paved yard, are apartments for debtors, conveniently disposed. Every yard is provided with exce lent fpring water, which, with the general attention to cleanliness, greatly contributes to the health of the prisoners. The population of Chelmsford as returned under the late act was 3755, the houses 653. The furrounding country is extremely pleafant and fertile: the foil confilts principally of a deep rich loam, intermixed with veins of gravel. Several flourifhing plantations of hops are clab-blished in the neighbourhood. Within the last feven years, two extensive ranges of barracks, with accommodations for upwards of 4000 troops, have been erected in this parish; the largest at the west end of the town, the other on the fouthern fide. At a fmall diftance west of the latter begins a line of embankment for defending the approach to the metropolis, confilling of flar batteries and parapets. It has been carried a confiderable way in a fouth-east direction,

but is not yet completed to the extent propoled. This line is one among the numerous works now carrying on in this country to protect the metropolis in case of invalion. Chelmsford is 29 miles from London; has a weekly market the possessions of the abbey church of St. Peter's West-History of Essex, fol. History of Essex, 6 vols. Svo.

CHELMSFORD, a township of America, in the county of fide of of Merrimack river, 26 miles N.W. from Boiton, and containing 1144 inhabitants. This town is connected with Dracut by a bridge over the river at Pawtucket falls, of ingenious construction. The course of the Middlesex canal, defigned to connect the waters of Merrimack with those of Bofton barbour, will be foutherly through the east part of

gen. 748. Sereb. 1005, Wild. 1139, 1140. Juff. 137. Vent 2. 352. Gart. 318. Galane Fr. Class and Ord. Didynamia angioframia. Nat. Ord. Perfenate, Linn. Vent. Bizmania. Juff.

feaments erect, egg-shaped. Cor. monopetalous, ringent; tube cylindrical, very thort; throat inflated, oblong, convex above, flat below; border closed, small; upper lip obtufe, emarginate; lower lip nearly equal to the upper, flightly trifid. Stam. filaments concealed under the back of the corolla; four fertile, with the rudiment of a fifth. Pijl. Germ fu-perior, egg-shaped; style filiform, the length of the sta-mens; stigma obtuse. Peric. Capsule egg-shaped, twocelled, two-valved, longer than the calyx. Seeds numerous,

Eff. Ch. Calyx five-cleft, rudiment of a fifth stamen.

formed by the inflexed margins of the valves, and not connate with the receptacle; but in C. pentilemon it is parallel to the valves, and not connected with them.

* Barren filament Smooth

Sp. I. C. glabra, Linn. Sp. Pl. I. Excluding part of the fynonyms, Mart. 1. Lam 1. Willd. 1. (C. acadiensis flore albo; Tourn. Act. 1706. tab. 7.) White Chelone, or Humming-bird tree. "Leaves petioled, lanceolate, obsoletely ferrated; upper ones opposite." Rost perennial, thick, fibrous, creeping. Stems three feet high, creet, nearly fimple, cylindrical, or obfeurely four-cornered, rearly fmooth, green, fliffish, on short petioles. Flewers white, almost selfile, in short close terminal spikes; upper lip vaulted like the back of a tortoffe, whence the generic name. Seeds fur-rounded with a membranous border. A native of North America. 2. C. olliques, Mart. Wild. (C. glabra, Gert. tab. 54. fig. 6. C. glabra 3. Lam. C. floribus, colore rofæ damafeeme; Gron. Virg. Mill. Ic. tab. 93. Digitalis ma-riana; Rai. Supp. 397. Pluk. Mant. tab. 348. fig. 3.) Purple Chelone. "Leaves petioled, lanceolate, oblique, deeply ferrated; all opposite." Rosst perennia, lefs creeping. Flowers bright purple. A native of Virginia and Carolina, flowering in August. La Marck afferts, contrary to all other authors, that there is not the ruliment of a barren anther in either of the two preceding species. 3. C. mellioides, Linn. jun. Supp. 279. Lam. 4. Wild, 3. Fort. Comment. Goett. 9. p. 35. (Ourifia; Just. 100. Commert.) "Root-leaves petioled, egg-shaped, ferrated; stem ones opposite, embracing the item; peduncles long; calyxes citiated." Root perennial. Stem decumbent, scarcely longer than the root leaves. Leaves cinereous underneath, flightly nerved. Flowers purple. Peduncles axillary, one-flowered; corolla curved; rudiment of a fifth stamen, refembling an obtuse point between the smaller stamens in the upper part of the corolla. A native of the Straits of Magellan. Juffieu, not being able to find the rudiment of the fifth stamen in the dried specimen sent by Commerson, formed for it his genus ourifia. 4. C. barbata, Willd. 4. Cavan. icon. 3. tab. 242. (C. formosa, Wend. Obs. 51. C. ruellioides, And. Rep. tab. 34.) " Root-leaves petioled, spatulate-lanceolate, quite entire; stem ones lanceolate, fessile; peduncles long; lower lip of the corolla bearded." Root perennial. Leaves opposite. Flowers scarlet, nodding, in a terminal panicle; partial peduncles two, three, or four-flowered: fegments of the calyx obtufe; lower lip of the corolla with three acute reflexed fegments; inner part of the throat cloathed with a dense yellow pubescence. A native of

* * Barren filament, bearded near the top.

5. C. pubescens. C. Pentitemon, Linn. Sp. pt. 3. Mant. 415. Mart. 4. Lam. 2. Illuit. pl. 528. Pentitemon, Mitch. gen. 14. Pentstemon pubefcens, Willd. 2. Dracocephalus, Morif. Hitt. 3. tab. 21. tig. 2, 3. Cynoryn-chium, Pluk. Mant. 62.) "Stem pubefcent; leaves embracing the flem; panicle dichetomous." Root perennial. Stem a foot and half high, cylindrical, branched in its upper part. Leaves oppolite, lanceolate, entire, or very obscurely toothed; lower ones narrowing into a petiole. Flowers purple, whitish about the throat in a terminal panicle with opposite ramifications; tube the length of the calyk; upper lip short, obtusely bisid, restexed; lower lip three-lobed, reflexed at the fides; barren filament broader toward the top, longitudinally bearded. Seeds without a membranous border. A native of Virginia. It varies in having broader or narrower leaves. - 6. C. birfuta. Linn. Sp. Pl. 2. Mart. 3. Lam. 3. (Pentstemon hirsuta, Wild. 1. Digitalis Virginiana, Pluk. Mant. 64.) "Stem and leaves hairy." According to Miller nearly allied to C. glabra, differing chiefly in the hairiness of the stem and leaves, and Superior whiteness of the flowers. Linnaus, on the other hand, suspects it to be a variety of the preceding. 7. C. levigata. Pentstemon levigata, Willd. 3. Chelone, Arduin. Spec. tab. 5. Digitalis perfoliata, Morif. Hilt. 2. tab. 8. fig. 6.) "Stem smooth; lower leaves quite entire." Root perennial. Lower leaves ovate-acuminate, petioled; upper ones embracing the item, lanceolate, toothed. Flowers violet. A native of North America. 8. C. campanulata, Mart. 5. Cavan. ic. 1. tab. 29. (C. campanuloides, And. Repos. tab. 40. Pentstemon campanulata; Willd. 4.) " Stem fmooth; leaves lanceolate, acuminate; all sharply serrated." Root perennial. Stems a foot and half high, cylindrical. Leaves opposite, sessile, or embracing the stem, green above, paler underneath. Flowers purple or violet, in a long loofe terminal spike; peduncles axillary, single; lower ones twoflowered. A native of Mexico.

Olf. The Pentstemon of Willdenow differs from his Chelone in nothing but the bearded barren hilament, a character certainly too trifling to constitute a generic distinction. Every one must be glad to get fairly rid of fo barsh and in-

discriminating a name.

CHELONE, in Ancient Geography, a promontory of the

island of Cos, so named by Paulanias.

CHELONIDES, a marth of Africa in interior Libya, according to Ptolemy. This was a lake formed by the river Gir.

CHELONISCUS, in Zoology, the name given by Co-Vol. VII. lumna to the species of Armadillo, called Desgipus quadricindus by Gmelin, which see.

CHELONITES, in Ancient Geography, a promontory of the Peloponnesus, in the territory of Elis, according to Pto-

lemy. Strabo calls it Chelonates. It is supposed by some to

be the present Cape Tornese.

CHELONITES SINUS, a gulf placed by Ptolemy on the western coast of the Peloponnesus; commencing at the promontory Ichthys, and terminating at Jardani Sepulchrum.

CHELONITES, a stone said to be found in the Indian testifica and the land of the first and the said to be some said to be s

tortoiles, and to have the faculty of refilling poilon.

The word is formed from xexum, a tortoife.

Some confound the chelonites with the bufonites, or toad-

CHELONITIDES, or CATATHER, in Ancient Geography, two small islands of the Red Sea, according to Ptolemy: who places them above the port called "Theon Soteron."

CHELONOPHAGI, a people of Arabia, inhabiting the deferts that lie between Egypt and the Perlian gulf, according to Mela. Strabo fays that they calt their dead into the fea.—Alfo, a people of Afia, who inhabited a corner of Caramania, according to Pliny and Ptolemy.—Alfo a people of Ethiopia, who not only used the slesh of tortoises for tood, but likewise covered their huts or cottages with the shells of these animals. As in size and figure these fiells resembled a small fishing vessel, the Chelonophagi employed them as boats on some occasions.

CHELSEA, in Geography, a large and populous village of England in the county of Middlefex, fituate in the vicinity of London on the north fide of the Thames, and famous for

its college or hospital. See Hospital.

CHELSEA, called by the ancient natives "Winnifimet," a town of America, in Suffolk county and the state of Massachusetts, containing 472 inhabitants. Before its incorporation in 1738 it was a ward of the town of Boston. It is situated north-easterly of the metropolis, and separated from it by the ferry across the harbour, called Winnisimet.—Also, a township of Orange county in the state of Vermont, having 239 inhabitants.—Also, a district of the town of Norwich in Connecticut. See Norwich.

CHELTENHAM, a town of Gloucestershire, England, more celebrated for the falubrity of its medicinal water than for any other circumstance, is supposed to have derived its name from the river Chilt or Chelt, which flows on the fouth fide in its passage to the Severn at Wainlode. By a peculiar cultom of the manor confirmed by act of parliament, though lands descend as by common law, yet the eldelt female inherits folely. The fituation of Cheltenham is extremely pleafant: open to the vale on the fouth and west; but sheltered on the north-east by the immense amphitheatre formed by the Cotswold hills, which terminate abruptly at the diffance of two miles to the north-east. The houses are principally ranged in one street, which extends nearly a mile in length. Since the commencement of the last century, when the fanative qualities of the springs were first noticed, the buildings have progressively improved, both in appearance and numbers, and especially within the last twelve years. Many neat manfions have also been creeted in the vicinity, the principal of which is Bays-Hill Lodge, an elegant building, erected for the late Earl of Fauconberg, in the year 1781; and distinguished as the residence of their present majesties during their visit to Cheltenham in the summer of 1788. The Spring or Spa, as it is called by way of distinction, was first observed to possels medicinal virtues in the year 1716: the discovery of its qualities appears to have arisen from accident, but the immediate cause is uncertain. It rifes about fix feet below the furface of a meadow, which is about half a mile fouth of the town; and according to the experiments of Dr. Short, the water is "a neutral, purgative chalybeate." It continued open for two years from its discovery, but was then railed in; and in 1721, was let by the then owner, Mr. Mason, for the sum of 61l. per annum. In 1738 it became the property of cap-tain H. Shillicorne, in right of his wife, the daughter of Mr. Mason: this gentleman erected a brick pavilion or dome, on four arches, over the well; formed feveral contiguous walks, and built a commodious room for the reception of the company. About the same time a long avenue of lime trees was planted. Several fimilar improvements have been fince made. The beneficial effects of this fpring have proved an increasing fource of wealth to the town; its vifitors, however, have been so numerous, that it was feared the waters would not have been sufficient to supply the increasing demand. In 1788, at the depth of about 50 feet, a spring was discovered, and was found to possess all the specific medicinal qualities of the other, and to be much more copious : a circumstance which enabled the proprietor to afford a more constant supply for every necessary occasion. A new fpring was discovered, in 1803, by Dr. Thomas Jameson, who has described the water as somewhat resembling that at Harrowgate, in Yorkshire, and containing rather a greater proportion of fulphureous gas than the other wells. The amufements of Cheltenham are fimilar to those of most other places of public refort: the feafon is from May to the end of November. The affembly-rooms are spacious and handfome; and a new theatre has been lately completed on an enlarged plan, under the direction of Mr. Watson. The hotel and principal lodging-houses are handsomely and conveniently fitted up. The church, fituated near the center of the town, on the fouth fide, is a large and elegant fabric dedicated to St. Mary, and for the most part, of the architecture of the middle ages. An hospital for fix poor men and women, and a free school, were founded here, in the year 1574, by Richard Pate, Esq. Queen Elizabeth increafed the endowments. By a fublequent benefaction, two scholars educated at the free school are sent to Pembroke college, Oxford. Some other schools are also established in this town; and a peculiar charity was instituted, about the year 1800, called the "Cheltenham repository, for the reception and fale of works of ingenuity and industry, for the benefit of the fick and industrious poor :" This establishment originated with the fair fex, and is principally managed by a committee of females. The population of this parish was stated in the late return to be 3074; the number of houses 710. Cheltenham is 94 miles N.W. from London, has a market on Thursdays, and three annual fairs.

About two miles from Cheltenham, in the parish of Bishop's Cleeve, is Southam House, a venerable and far-famed mansion, now the property of Thomas Bagshott de la Bere, Esq. whose father, William Bagshott, Esq. of Presbury, assumed the name de la Bere, in pursuance of the will of his uncle, Kynard de la Bere, Efq. who, dying without issue in 1735, bequeathed to him this estate. Leland mentions this house as recently built by Sir John Huddlettone, at the time he made his furvey by command of Henry VIII.; and it yet retains as much, or more, perhaps, of its original form, as any other domestic building in England of that era. Atkins's Hillory of Gloucester-

CHELVA, or XELVA, a town of Spain, in the province of Valencia; 6 leagues S.W. of Segorba.

CHELUM, a river of India. See BEHAT.

CHE'LY, ST., D'AUBRAC, a town of France, in the department of the Aveiron, and chief place of a canton in the district of Espalion; 7 leagues N.E. of Rhodez. The place contains 1475, and the canton 3503 inhabitants: the territory comprehends 1374 kiliometres, and 5 communes.

CHÉLY, ST., D'APCHER, a town of France, in the department of the Lozère, and chief place of a canton in the district of Marejols; 7 leagues N.N.W. of Mende. N. lat. 44° 48'.

CHELYDOREA, in Ancient Geography, a mountain of the Peloponnesus, which belonged partly to Arcadia, and partly to Achaia. This mountain separated the territory of the Phenzates from that of the Pellenzans, according to Paufanias, I. viii. Aread. c. 7.

CHELYS, among the Ancients, a musical instrument of the stringed kind, faid to be invented by Mercury, and formed of a shell found in the river Nile, at the time of low water. This was a species of guitar, either thrummed with

the fingers, or twanged with a quill.

CHELYSMA, in Antiquity, a thick piece of wood which the Greeks fixed to the keels of their ships, to fave them from being worn or broken. It was also called

CHEMA, according to Blancard, is the name of a certain measure sometimes mentioned by the Greek physicians,

and which he thinks contains two spoonfuls.

The determined weight of this quantity cannot be accurately afcertained, in confequence of the different specific gravities of different fubiliances: jult as, at present, the word spoonful is used in a vague and undetermined sense, especially with respect to substances, of which it is a matter of indifference whether a little more or a little less be used.

CHEMACH, or KEMACH, in Geography, a town of Afiatic Turkey, in the fouthern part of Caramania.

CHEMAL, a town of Persia, in the province of Chu-

fistan; 120 miles S. of Suster.

CHEMAZZE', a town of France, in the department of Mayenne, and district of Chateau-Gonthier; 11 league S.W. of it.

CHEME, among the Romans, was a liquid meafure, containing the fifth part of a CYATHUS.

CHE-MEN, in Geography, a town of China, of the third rank, in the province of Tche-kiang; 20 miles S.S.W. of Kia-hing

CHEMENS, in Mythology, a denomination given by the inhabitants of the Caribbee islands to a fort of genii or spirits, who are supposed by them to watch over the concerns of men: every man, in their apprehension, having a Chemen to himself. They present to these Chemens offerings of their first-fruits, which they place on a table made of rushes at the corner of their huts, where these genii, as they corceive, affemble to partake of the oblation.

CHEMERE', in Geography, a town of France, in the department of the Mayenne, and diffrict of Laval; 41 leagues S.E. of it.

CHEMERY, a town of France, in the department of the Ardennes, and district of Sedan; 7 miles S. of it.

CHEMIA, in Ancient Geography, a name given by the Egyptians, in their facrifices, to Egypt, according to Plu-

CHEMICAL glaffes, how to cement when cracked. See CAMENT.

CHEMICAL Welfels. See VESSELS.

CHEMILLE', in Geography, a town of France, in the department of the Maine and Loire, and chief place of a canton, in the diffrict of Bezupréau; $3\frac{1}{2}$ leagues N.E. of Chollet.

Chollet. The place contains 3112, and the canton 10,386 inhabitants; the territory includes 310 kiliometres, and 10

CHEMIN, Couvert, Covert, or Covered Way, in Fortification, is a space five or fix toiles broad, adjoining to the counterfearps of the ditches, and going quite round the works of a fortification. It is covered by the inner part of the glacis, which ferves as a parapet to it, and is raifed from 6-to 71 feet high. The glacis terminates in an easy slope towards the field, at the distance of about 20 toiles from the crest of it. The covert way is generally palifaded throughout its whole extent; has traverses to prevent its being exploded from without, and has places of arms in its re-entering angles.

CHEMIN : Creux, a hollow way. See RAVIN.

CHEMIN des Rondes, a space lest between the rampart and the upper part of the revetement of majoury in a fortified place, as a paffage for the rondes or rounds. The old works at Portfmouth, to wit, those round the town, having a complete revetement, have also a chemin des rondes; whereas the new works round the Common and the Dock-yard, having only a demi-revetement, have no chemin des rondes.

CHEMIN, in Geography, a town of France, in the department of the Jura, and chief place of a canton, in the diftrict of Dole. The place contains 242, and the canton 6952 inhabitants; the territory includes 130 kiliometres,

and 16 communes.

CHEMINAIS, TIMOLEON, in Biography, a celebrated French preacher, was born at Paris in 1652, and entered among the Jesuits in 1667. After having taught the languages and rhetoric for some time in their school at Orleans, he gained great applause by preaching at Paris and Verfailles; and before the appearance of Masillon, was reckoned the most pathetic of the French preachers. But his health declined at an early period of his life; and when he was unable to preach, he went every Sunday, as long as he was able, into the country, for the purpole of instructing the poor. His course of service, however, was terminated in his 38th year. After his death, three volumes of his fermons were published by Bretonneau, and have been several times reprinted. He also wrote "Les Sentimens de Piété," 1601, 12mo.; and he is faid to have had a talent for light and familiar poetry. Nouv. Dict. Hist.

CHEMINON, in Geography, a town of France, in the department of the Marne; 10 miles E. of Vitry-le-Fran-

CHEMISE, SHIRT. This word is not much in use as a military term; but when it is employed as one, it most frequently denotes a thin wall or revetement against the inner slope of a work, to prevent the earth from tumbling down. The same word is also used sometimes for expressing the exterior revetement of the rampart of a work.

CHEMISE de coup de main de surprise, a number of shirts of linen, or cloth well whitened, which a general or commanding officer fometimes makes use of for his troops, when he attempts a coup de main, or surprise, in order to enable them, in a mixture or melée, to diffinguish one another from

CHEMISE de feu, a French sea-term, employed to denote feveral pieces of old fails of different fizes, which, after they have been well pitched and thoroughly foaked in other combustible matter, as oil of petrol, camphor, &c. may be nailed to an enemy's ship on boarding her, and when set on fire to confume her.

CHEMISE de maille, or de mailles, a shirt of mail, or a sort of body-lining made of feveral scales or rings of iron, which was worn under the coat as a kind of defensive armour to

protect the body of a man. To this chemife they also gave the name of gollette.

CHEMISTRY. The science of chemistry may be defined, a knowledge of those attractions which take place at insensible distances between the heterogeneous particles of matter. The attraction of gravitation takes place not only between heterogeneous but homogeneous bodies, between maffes as well as particles, between bodies that are at a diftance from each other as well as those that are in contact: hence magnitude, form, and distance, or, in other words, the elements of mathematical investigation must be the basis of all inquiry into the phonomena of gravitation. The cafe is very different with regard to chemical inquiries : the fubjects of these are particles of matter, both the magnitude and form of which, and the distances within which they act on each other, are wholly incapable, on account of their extreme minuteness, of being appreciated. The elements, therefore, of mathematical calculation cannot be applied to

this branch of knowledge.

The science of chemistry is comparatively of late origin, although many chemical arts, fuch as metallurgy, pharmacy, cookery, the preparation of vinous liquors, dyeing, tanning, glass-making, &c. can boatt of a very high antiquity. Neither among the ancient Egyptians, Greeks, or Romans, till after the age of Constantine, are there any traces of chemiltry, unless some obscure and idle speculations about the four elements, as entering into the composition of natural bodies, may be dignified with this appellation. For this a double cause may be affigned: in the first place, it was not the habit of the age to make experiment precede theory; and in the fecond place, hardly any of the agents that are even the most indispensible in chemical inquiries were as yet discovered. None of the acids were known except the acetous; and of the alkalies, foda was the only one of which even a very imperfect knowledge had as yet been obtained. The conquelts of the Saracens, in the feventh and eighth centuries, deltructive as they were to the religion and civilization of those countries which they occupied, appear to have given the first serious impulse to the study of chemistry in the welt. Rhazes, Avicenna, Geber, and other Arabian physicians, introduced to the notice of Europe many pharmaceutical preparations, both vegetable and mineral, and made great improvements in the mode of conducting processes, particularly distillations. The three mineral acide were discovered, the vegetable and mineral alkalies were distinguished from each other, the preparation of alcohol was made known, the activity of the newly-discovered menstrua was directed upon the metals, and the golden age of alchemy commenced.

The conversion of the baser metals into gold was now the object that for the most part occupied the attention of chemists for several centuries, and an immensity of time, labour, and ingenuity was wasted in this visionary pursuit: it was attended, however, with this incidental advantage, that a confiderable dexterity of operating was thus acquired, and many new fubstances and valuable facts were discovered, which perhaps, without this strong incentive, would have remained much longer in obscurity. In the 15th century, when the ardour of alchemy began to decline, a fresh motive for chemical pursuits began to be developed, by the happy application of them to the improvement of medicine. This was chiefly owing to a German monk, of the name of Bafil Valentine, who, in his "Currus Triumphalis Antimonii," communicated to the public a number of valuable antimonial medicines, and discovered the volatile alkali. The success attending these new preparations, the controversy which they occasioned, and the recent discovery of the art of printing,

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printing, all contributed to give a vigour to chemistry which it had never felt before; and from this period its progrefs was rapidly accelerated. Isaac Hollandus, though deeply tinged with alchemical notions, eminently contributed to direct the attention of his contemporaries and fucceffors to the improvement of metallurgical processes, and cleared the way for George Agricola, whose masterly work, "De Re Metallica," liberated metallurgy for ever from the trammels of alchemy, and may be confidered as the basis of all the splendid discoveries by which this branch of chemical art has since been illustrated. Among the immediate succoffors of these three able men occur the memorable names of Lazarus Ercker, Zwelfer, Glaser, Cassius, Poterius, Van Helmont, Kunckel, Glauber, Kircher, and Conringirs, to whom is owing the discovery of a multitude of new fubiliances, principally among the class of compound falts, as well as many improvements of apparatus, and of those arts, fuch as glas-making, which are more strictly chemical. A fimilar praise is due to Beccher, who is still further worthy of notice as the author of certain speculations on inflammable earth, which fuggested to Stahl the first hint of that theory which has rendered his name immortal in the annals of chemiller

A multitude of chemical facts had been by this time difcovered, but, from the flate of diforderly confusion in which they were, their real value was much mifunderflood, and their mutual connexion, as parts of a system, had not even begun to be appreciated. The first traces of a philosophical arrangement of chemical facts occur in the " Exercitium Chemicum" and "Chemia Philosophica" of Barner, the former published in 1670, and the latter in 1689, which long continued to be the text books of lecturers in chemistry, in the most celebrated schools of Europe. In 1675, Bohn, professor at Leipsic, wrote a valuable treatife, shewing that the prevalent opinion of acid and alkaline ferments was infufficient to account for a large number of chemical phanomena, and therefore could not be received as the foundation of a philosophical theory of this science; and in 1670, Wedel published a work, entitled "Non Entia Chemica," also with the view of exploding some of the most popular Platonic notions with which chemistry was at this time infected. The way being thus in some degree cleared, and the spirit of experimental investigation gaining ground rapidly, the illustrious Stahl proposed his theory of phlogiston or inflammable earth, in his "Specimen Becherianum," published in 1703, and still more fully in his "Fundamenta Chemiæ," in 1723, and thus established himself for nearly 80 years as the acknowledged head of the chemical world. A few modifications of the Stahlian theory, of no great importance, were fuccessively introduced by Boerhaave, Junker, and Machy, and with these chemists rested content, till the discovery of the gaffes and the foundation of pneumatic chemittry by Hales, Black, Scheele, Cavendish, Priestley, Bergman, and Berthollet. An immense crowd of new and highly interesting facts was now offered to the attention of chemilts, many of which appeared wholly irreconcileable to the phlogistic theory; and the philosophic genius of Lavoilier, demonthrating the falfehood of the popular fystem, founded a new and more comprehensive one on the affinities and combinations of oxygen with the various substances in nature, which, after a reasonable discussion, has been generally acquiesced in, as explaining a great number of phænomena in a manner much more confonant to the general mass of chemical facts than any other, though by no means entirely free either from difficulty or error.

The Tytem of Lavoisier has been represented by many of GAS, HEAT, MET his zealous partizans as a general theory of the science; and and Phlosiston.

oxygen, in one form or other, has been confidered as the great agent of chemical composition and decomposition. It is manifel, however, that this substance has nothing to do with the mutual action of the metals, the earths, the alkalies, and the simple inflammables, into none of which oxygen enters as an ingredient; not to mention some of the acids and compound inflammables, in which the presence of this principle is rather inferred than demonstrated. It is, therefore, to the higher and more abitract inquiries concerning chemical affinity that we must have recourse for the philosophy of the science, the general principles applicable to the chemical action upon each other of all the substances in nature.

The above feetch is not intended as a history of chemical discoveries, for to give any fastisfactory account of these would require more minute detail than would be proper in this place: we have accordingly distributed this part of the subject among the several chemical articles contained in this work, by which much repetition has been avoided, and the hiltorical notices respecting each particular subject and substance have been brought together in one point of view.

The fubjects of chemical frience are so prodigiously extensive as to require some calsification, in order that we may be duly aware of their very magnitude. They may be conveniently arranged under the eight following heads:

1. General Chemistry, both theoretical and practical. The theoretical includes the philosophy of chemistry, or chemical affinity, and those extensive, but not, properly speaking, general systems, by which ingenious men have at different times, and with various success, endeavoured to link together a large number of chemical phonomena. The practical part comprehends, in general, the action of all the simple substances on each other.

 Pneumatic Chemistry, the investigation of which requires a peculiar fet of apparatus, and includes all the particulars relative to those substances that exist in a state of elastic shuidity.

3. Metallurgical Chemistry, which treats of the affay of metallic ores, and their reduction to the reguline state, both in the small and great way.

4. Mineralogical Chemistry, or the method of analysing minerals, including under this term both the stony minerals and mineral waters.

5. Animal Chemiflry, including the analysis and properties of all the products of animalization, and the confideration of those vital functions which, like respiration, appear to be for the most part decidedly chemical.

6. Vegetable Chemistry, comprehending not only an acquaintance with the products of vegetation, but with such parts of the physiology of plants as can be explained or illustrated by the chemical action of their food, and those atmospheric influences to which they are exposed.

7. Meteorological Chemistry, including the chemical analysis of the atmosphere, and the whole subject of endiometry, as well as the connexion of chemical agency, with all the

meteoric pliænomena.

 Technical Chemiftry, or the principles and proceffes of those arts and manufactures which are for the most part purely chemical, such as dyeing, bleaching, the manufacture of glass, porcelain, and pottery, tanning, and the prepara-

tion of spirituous sermented liquors.

Besides a reference to each chemical substance, for the history of its discovery, and the particular theory connected with it, we beg leave to direct the notice of the reader, who wishes for further and more general information, to the articles ACIDS, AFFINITY Chemical, ALCHEMY, EARTHS, GAS, HEAT, METALS, and METALLIZATION, OXYGEN, and PHLOGISTON.

CHEMMIS,

: CHEMMIS, in Ancient Geography, a town of Egypt, fituated on the east bank of the Nile, and at a full half league from it. The Greek name is Panopolis, and Chemmis, the Egyptian name, still subsists in that of Echminm or Achmin. The remains of the ancient city are yet to be seen to the eastward, and near the walls that surround the modern town. An ancient mosque is still the object of the veneration of the Christians, who pretend that it was formerly one of their churches. The Copts falfely affert that it had been built upwards of 1000 years; but the edifice is falling, and its unstable construction sufficiently proves, that it is not the workmanship of a period when buildings possessed greater folidity. The temple is spacious, and has several entrances; its periphery is lighted by a line of contiguous windows. The interior, like that of all the molques in this country, is a large, empty, and naked enclosure; but the small granite pillars by which it is supported, and which were taken from among the ruins of Panopolis, excite admiration. This town in its present state, like all those of Egypt, contains a crowd of priestelles addicted to the most disgusting sensuality, and who, like our street-walkers in Europe, make a trade of felling the semblance of pleasure. The Nile, says Sonnini, in the vicinity of this town, furnishes fish in great abundance. That which is most common is the bayatte, a species of Silurus, which grows to a great fize without acquiring any additional flavour. See ACHMIM.

CHEMNITZ, MARTIN, in Biography, an eminent Lutheran minister, was born in 1522, at Britzen in the Marche of Brandenburg, and educated under Melancthon at Wittemburg, after whose death he became the most celebrated divine of the Augustan confession. Besides his skill in theology, he was also well acquainted with mathematics and aftronomy. His counsel and services were much fought by the Protestant princes in all ecclesiastical affairs. His "Examination of the Decrees of the Council of Trent," published at Frankfort in 1585, was held in estimation as a historical and theological work. He also composed a "Harmony of the Gospels," and several other works. At Brunswick, where he died in 1586, he was 30 years a professor.

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CHEMNITZ, BOGESLAUS-PHILIP, grandfon of the preceding, was born at Stettin in 1605, followed the profession of arms, and having entered first into the service of Holland, and afterwards into that of Sweden, was raifed by his merit to the polts of counsellor of thate and hiltoriographer. Queen Christina ennobled him, and presented him with the estate of Holftædt in Sweden, where he died in 1678. His principal work was a "Hiftory of the Swedish Wars in Germany," 2 vols. fol. 1648 and 1653, bringing down the hiftory to 1636, and much esteemed, particularly the second volume, which was compiled from materials furnished by count Oxenstiern. To Chemnitz is attributed another work entitled "De Ratione Status Imperii Romano-Germanici," printed at Stettin in 1640, under the feigned name of Hippolytus a Lapide, and impugning the claims of the House of Austria. Moreri.

CHEMNITZ, in Geography, a town of Germany, in the eircle of Upper Saxony, and marquifate of Meissen, conraining three churches and an hospital; 36 miles W. S.W.

of Dresden, and 32 S.W. of Meissen. CHEMNITZ. See KAMNITZ.

CHEMOSH, in Mythology, an idol of the Moabites, mentioned in Scripture. St. Jerom supposes that Chemosh and Baal-Peor, (which see) were both names of one and the fame idol, not very different from Priapus, which is inferred from the indecent ceremonies used in their worship. Others, however, deny this charge. Dr. Hyde derives Chemosh from the Arabic khâmash, which fignifies gnate, (though in the particular dialect of the tribe of Hodail), suppoling it to have been an aftrological talisman in the figure of a gnat, made to drive away those infects: and Le Clerc, who takes this idol for the Sun, deduces it from Camofia, a root in the same tongue fignifying to be faift.

CHEMOSIS, in Surgery, an inflammation of the eye, accompanied with an effusion of scrous sluid, &c. under the tunica conjuctiva, which causes the white of the eye, as it were, to overtop the transparent cornea; and thus to produce a fort of χημα or gap, at their place of union. Galen calls this disease a red and fleshy inflammation of the cornea, as it seems

to be, when the blood-veffels are greatly diftended.

Lightly aftringent and sedative applications should be employed in this case; and, if the vessels be very turgid, it may be proper to puncture them freely with a laucet, or even to remove a portion of the protruding membrane. Burghart, in a Chemisis where the cornea was burst, dilated the opening, and extracted the crystalline lens, which had come forward before the iris. The elevation of the tunica conjunctiva will fometimes be so considerable, as absolutely to prevent the shutting of the eye-lids. See OPHTHALMIA.

CHEMPVALLAN, in Geography, a beautiful city of Mexico, fituated on the coast of the gulf of Mexico, and remarkable for being that by which the Spaniards entered the

Mexican empire.

CHEMUNG, a name fometimes given to the western branch of Sufquehannah river. See-Tioga river.

CHEMUNG, a township of Tioga county in the flate of ew York. It has Newton W. and Owego E., about New York. 160 miles N.W. from New York city. By the state census in 1796, SI of its inhabitants were electors.

CHEN, in Ancient Geography, a town, which according to Steph. Byz. was the country of Mylon, or Mulon, one of the seven wife men of Greece. He placed it in the Pe-

loponnesus, in Laconia.

CHENALOPEX, in Ornithology, the name given by Moehring to the great Auk, ALCA impensis of Linneus, Alca major of Briffon, and Grand Pingouin of Buffon .-This bird has the bill fulcated and compressed, and an oval spot of white on each fide of the head before the eyes. It is about three feet long, and inhabits Europe and America.

CHENAY, in Geography, a town of France, in the department of the Two Sevres, and chief place of a canton, in the district of Melle; 8 miles S.E. of St. Maixent. The place contains 1036 and the canton 9475 inhabitants: the territory includes 205 kiliometres and 14 communes.

CHENCE, in Old Customs, feems to be much the same as

AMABYR.

CHENCOUR, or CHEMKOU, in Geography, a town of Armenia, on the frontiers of Gurgistan, which has a beautiful castle, grand caravansaries, and several mosques; 160 miles N.E. of Erivan.

CHENDI, or CHANDI, a large village of Abyffinia, the capital of its district, in the province of Atbara, the governor of which is called in discourse Mek el Jaheleen, prince of the Arabs of Beni Korcish, who are all settled about the bottom of Atbara, on both fides of the Magiran. In this place there is a tradition, that a woman, whose name was Hendaqué, once governed all that country; whence one might imagine that this was part of the kingdom of Candace; for writing this name in Greek letters, it would be no other than Hendaque, the native, or mistress, of Chendi or Chandi. This was once a town of great refort, being the place of rendezvous for all the caravans of Sennaar, Egypt, Suakem, and Kordofan, especially since the Arabs have cut off the road by Dongola, and the defert of Bahiouda. Here every thing is cheaper and better than at Sennaar, the article fuel excepted, for wood is much dearer here than in any part of Atbara, fo that the people hurn camel's dung; but fire, indeed, would be unnecessary, if it were not for dressing victuals, for the heat is so great that in the month of October the thermometer was once so high as 119°; and in the months of August and September, the weather was so fultry that many persons dropped down dead with heat, both in the town and the villages round it. Chendi has about 250 houses, two or three of which are to'erable, but the rest are miserable hovels built of clay and reeds. The women of Chendi are effected the noft beautiful in Atbara, and the men the greatest cowards. N. lat. 16° 38' 35". E. long. 33° 24' 4

CHENDOUL, a river of Asia in the province of Cabul, which may be regarded 2s a branch of the Bijore river, and runs into the Kameh, about 25 miles E.

of Paishawur.

CHENE, a town of France, in the department of Leman, and diffrict of Geneve; 21 miles E. of Geneva.

CHENE, LE, a town of France, in the department of the Ardennes, and chief place of a canton in the district of Vouziers; 15 miles S. of Mezieres. The place contains 1154, and the canton 7248 inhabitants; the territory includes 215 kiliometres and 18 communes.

CHENENGO, a river of America, being a branch of

the Sufquehannah.

CHENENGO, a post town of America, one of the chief towns of Tioga county in the state of New York; lying about 40 miles N.E. from Tioga point, between Chenengo river, and the Sufquehannah. It was detached from Montgomery county, and in 1790 had only 45 inhabitants. By the flate census in 1796, 169 of its inhabitants were electors; it is 125 miles N.W. from New York, and 375

N.N.W. from Philadelphia. N. lat. 42° 8′. W. long. 76′. CHENERAILLES, a town of France, in the department of the Creuse, and chief place of a canton, in the district of Aubusson; 9 miles N. of it. The place contains 709, and the canton 8018, inhabitants. The territory

includes 2071 kiliometres and 12 communes.

CHENESSEE, or GENESSEE, a river of America, which takes its name from a lofty hill in the Indian territory, near which it paffes, called by the Indians Geneffee, a word fignifying in their language, a grand extensive prospect. It rises in Pennsylvania, near the spot which is the most elevated ground in that state. About 50 miles from its fource there are falls of 40 feet, and 5 miles from its mouth, of 75 feet, and a little above that of 96 feet. These falls furnish excellent mill-seats, which are improved by the inhabitants. After a course of about 100 miles, mostly N.E. by N. but only navigable for the last 40 miles, at the time of its inundations; it discharges itself into lake Ontario 4½ miles E. of Irondequat or Rundagat bay, and So E. from Niagara falls. The fettlements on this river are Hartford, Ontario, Wadsworth, and Williamsburgh. When the western canals and locks are completed, there will not be a carrying place between the city of New York and Williamsburgh. The portages at present are as follow, viz. from Albany to Schenectady 16 miles; from the head of the Mohawk to Woodcreek, one; Ofwego falls, two: Cheneffee falls, two; fo that there are but 21 miles of land carriage necessary, in order to convey commodities from a tract of country capable of maintaining feveral millions of people. The famous Cheneffee flats, lying upon the border of this river, are about 20 miles long, and about 4 wide, and are estimated, in their present state, to be worth

200,000l. These flats are the property of the Indians; and are reckoned among the richest lands that are to be met with in North America, to the east of the Ohio. Wheat, indeed, will not grow upon them; but the foil is not impoverished by the successive crops of Indian corn and hemp. that are raifed upon them year after year. Their great fertility is owing to the regular annual overflowing of the Cheneffee river, whose waters are very muddy, and leave a confiderable quantity of flime behind them before they return to their natural channel. The high lands in the vicinity of this river are stony, and not diffinguished for their fertility; but the vallies are all extremely fruitful, and abound with rich timber. This river is bordered with the richeft woods imaginable; and may be feen from an adjoining hill for many miles, meandering through a fertile country; and beyond the flats, on each fide of the river, appear several ranges of blue hills rifing one behind another in a very fanciful manner, and forming a most beautiful landscape. See GENESSEE.

CHENET, a town of Afiatic Turkey, in the province

of Caramania; 100 miles S.W. of Cogni.

CHEN-IN, a town of Asia, in the kingdom of Corea; 30 miles W.N.W. of Tim-tcheou.

CHENISCUS, from xn, a goofe; among the Ancients, an ornament in the form of little geefe, ulcd on the prows and sterns of their ships.

CHENIUS, in Ancient Geography, a mountain in the country of the Macroni, in the vicinity of the dillrict of

Colchis and the Euxine sca. Diod. Sic.

CHENOBOSCIA, a town of Egypt, fituate in the Canopolite nome. Ptol. This place is marked in the Itin. of Antonin between Coptos and Thoma; and in the Not. Imp. it is called Chenobofcium, and placed in the Thebaide.

CHENOCOPRUS, Goofe-dung, in Medicine, is accounted very acrimonious and resolvent, and therefore prefcribed with fuccess in the jaundice. The greenish dung is eleemed the best. It is gathered in the meadows in fpring time, and being dried with a moderate heat, and pulverifed, is given from half a dram to a full dram at a dofe. It is recommended also in the scurvy, and other difeafes.

CHENOLEA, in Botany, Schreb. 206. Willd. 464. Thunb. Nov. Gen. 9. Class and ord. Pentandria menegynia. Nat. ord. Holoracee, Linn. Atriplices, Just. Chenopodia,

Gen. Ch. Cal. perianth one-leafed, globular, somewhat fleshy, five-cleft; segments inflexed. Cor. none. Stam. filaments five, filiform, erect-inflexed, the length of the calyx, and inferted into its base; anthers minute. Pift. germ superior; style filiform, very short; stigmas two, fimple, awl-shaped, acute, spreading, reflexed, a little longer than the flyle. Peric. capfule round, somewhat depressed, umbilicated, one-celled. Seed folitary, roundish, bifid at the tip; fmooth.

Eff. Ch. Calyx one-leafed, globular, five-cleft. Capfule

one-celled. Seed folitary bitid at the tip.

Nearly allied to Salfola, to which genus Juffieu, in conformity with L'Heritier, thinks it really belongs, though it has not a spiral feed. Willdenow afferts that in its fructification it is perfectly diffirst, and cannot be united with Sal-

Sp. C. diffufa, Mart. Willd. Thunb. Prod 48. (Salfola fericea, Hort. Kew. 1. 317.) Stems feveral, filiform, herbaceous, diffused, covered with leaves, purple, smooth, at the bottom, fomewhat downy at the top; the ends upright; branches alternate, scattered, sew, very short. Leaves oppoCHE

fite, ovate-lanccolate, obtufe, with a flefly point, flat above, convex underneath, filvery-downy; upper ones imbricated. Flowers axillary, folitary, or in pairs, tefflie in the axil of every leaf towards the top of the branches. A native of the Cape of Good Hope, on the low coaft; flowering in August and September; cultivated by Miller in 1758.

CHENONCEAU, in Geography, a town of France, in the department of the Indre and Loire; 2 leagues S.E. of

Amboile.

CHENOPODÆ, in Botany, the name given by Ventenat to that natural order which Juffieu calls Atriplices. It confilts of plants which are most commonly herbaceous, sometimes shrubby, with sibrous roots. Stem almost always upright. Leaves generally alternate. Flowers almost always hermaphrodite; calyx one-leafed, often deeply divided; flamens of a determinate number, inferted into the base of the calyx; germ fimple, fuperior; ftyles commonly more than one, of a determinate number; ftigma one to each ftyle, rarely two. Seed generally one, either naked, or covered by the calyx, or enclosed in a pericarp; perisperm farinaceous, central, furrounded by the embryo, which is circular or rolled up in a fpiral; radicle inferior. Ventenat places under it the following genera. 1. Fruit a berry; phytolacca, rivinia, salvadora, bosea. 2. Fruit a capsule; petiveria, polycnemum, camphorosma. 3. Seed covered by the calyx; stamens five; bafella, falfola, fpinacia, beta, chenopodium, atriplex. 4. Seed covered by the calyx; stamens one or two; blitum, falicornia. 5. Seed naked; corispermum.

CHENOPODIUM (from xw, a goofe, and wovs, a foot), goofefoot. Fr. Anferine or Patte d'oye, Tourn. Cl. 15. § 2. gen. 4. Linn. Gen. 369. Schrebs. 435. Willd. 497. Juff. p. 85. Vent. 2. 259. Gært. 468. Clais and order, pentandria digynia. Nat. ord. Holoracea, Linn. Atriplices, Juff. Cheno-

pode, Vent.

Gen. Ch. Cal. perianth five-leaved, concave, permanent. Cor. none. Stam. filaments five, awl-shaped, opposite to the leaves of the calyx, and of the same length; anthers round-ish, didymous. Pifl. germ superior, orbicular; style short, bisd, or trisd; stigmas obtuse. Peric. the closed calyx, with five compressed angles, deciduous. Seed solitary, lenticular.

Est. Ch. Calyx five-leaved, finally shutting close, and becoming a five-angled pericarp. Corolla none. Seed

Decoi

Species.

* With angular leaves.

1. C. Bonus Henricus, good king Henry, wild spinach, English mercury, or allgood. Linn. Sp. Pl. 1. Mart. 1. Lam. 1. Willd. 1. Flor. Dan. 579. Lam. Ill. pl. 181. fig. 1. Curt. Flor. Lond. Fasc. 3. tab. 17. Eng. Bot. 1033. " Leaves triangular-arrow-shaped, entire; spikes compound, leastefs." Root perennial, steshy, branched, yellowith within. Stems a foot high, cylindrical, spreading from the base, then erect, branched below, itriated, leafy. Leaves alternate, petioled, a little undulated, acute, green above, covered with an uncluous mealiness underneath. Flowers green, mealy, some of them frequently destitute of stamens; spikes numerous, axillary and terminal, erect, denfe; calyx bordered with an abrupt membrane; styles often three, awlshaped, spreading, pubescent. Seed kidney shaped. A native of church-yards and waite places in England and other parts of Europe, flowering from May to October. The young leaves are fometimes boiled and eaten as a substitute for spinach, for which purpose the plant is cultivated in some parts of England. The young shoots, peeled and boiled, may also be eaten as asparagus, and are greatly laxative. 2. C. mucronatum, Willd. 2. Thunb. Prod. 48. "Leaves tri-

angularly-halberd-shaped, obtuse, mucronate; racemes leafy." A native of the Cape of Good Hope. 3. C. triandrum, Mart. 22. Willd. 3. Forth. Prod. 129. "Leaves heartarrow-shaped; spikes terminal, leasters, interrupted." A native of New Zealand. 4. C. urbicum, upright gousefoot. Linu. Sp. 2. Mart. 2. Lam. 2. Willd. 4. Eng. Bot. 717. (Pointed blite, Pet. H. Brit. tab. 8. fig. 8.) " Leaves triangular, toothed; racemes crowded, stiff and straight, approaching the ftem, very long, almost leastess." Root annual. Stem stiff and straight, simple or branched, angular, marked with red lines. Leaves deltoid-oblong, fomewhat halberd-shaped, fearcely lengthened out at the base. Flowers green; racemes axillary and terminal. Seeds about the fize of rapefeed. A native of waste places, about towns and villages. 5. C. atriplicis, Linn. Jun. Supp. 171. Mart. 3. Willd. 5. Hort. Kew. 1. 311. (C. purpurescens, Lam. 14. Jacq. Hort. 3. tab. 80. C. punctulatum, Mart. 21. Scop. Insub. 26. tab. 11?) " Leaves rhomb-ovate, lanceolate; lower ones finuate toothed; panicles axillary, branched; frem erect." Root annual. Whole plant with the habit, height, colour, and leaves of the red garden atriplex or orach. Stem fimple, scarcely mealy, striated near the top. Leaves alternate, petioled, fomewhat toothed, red underneath. Panicle terminal, more and more crowded upwards; little racemes fimple, intermingled with small linear leaves. Flowers red, fessile, from three to sive in a raceme. A native of Siberia and China. 6. C. rubrum, red goosefoot. Linn. Sp. Pl. 3. Mart. 4. Lam. 3. Willd. 6. Lam. Ill. Pl. 181. fig. 2. Curt. Flor. Lond. Fasc. 6. tab. 21. (Blitum pes anserinus dictum. Rai. Syn. 154. Atriplex sylvestris latifolia, Bauh. Pin. 119. Sharp-pointed blite, Pet. H. Brit. tab. 8. fig. 6.) " Leaves rhomboid-finuate-toothed; racemes erect, compound, leafy." Root annual. Stem a foot and a half high, always erect, except on dunghills, or in a foil too loofe to support it, when it becomes decumbent, and sometimes lies close to the ground; fomewhat branched, smooth, grooved, becoming reddish as the seeds ripen. Leaves alternate, petioled, shorter than those of C. urbicum, and ending in a fhorter point, smooth above, a little mealy underneath. Flowers reddish, in axillary and terminal, rather dense racemes. Seeds not larger than grains of writing fand. A native of waste places, flowering in August. 7. C. murale, nettleleaved goofefoot. Linn. Sp. Pl. 4. Mart. 5. Lam. 4. Willd. 8. Curt. Flor. Lond. Fafc. 6. tab. 20. (Blitum pes anserinus dictum acutiore folio, Rai. Syn. 154. Atriplex fylvestris la-tifolia acutiore folio, Bauh. Pin. 119. Thick thining blite, Pet. H. Brit. tab. 8. fig. 5.) " Leaves egg-shaped, shining, acute, toothed; racemes much branched, cymous, leafleis. Root annual. Stem much branched, feeble. Leaves not mealy, triangularly egg-shaped, lengthened out at the base, finuate-toothed; teeth acuminate, fomewhat incurved. Racemes somewhat divaricated. Seeds minutely dotted with points. Whole plant generally of a deep green colour, and unpleasant smell. A native of waste places, under walls, and by road fides, flowering in August and September. 8. C. guineense, Willd. 7. Jacq. Ic. Rar. ii. tab. 345. Collect. ii. p. 346. " Leaves egg-shaped, unequally toothed, acute; racemes somewhat branched, naked, erect; stem fimple, erect." Nearly allied to the preceding. Root annual. Leaves not shining. Racemes spreading, not cymous. A native of Guinea. 9. C. Quinoa, Willd. 9. Feuill. Peruv. tab. 10. " Leaves triangularly egg-shaped, obsoletely toothed; the younger ones mealy; raceines crowded, shorter than the petioles." Root annual. Stem three feet high, erect, branched. Leaves alternate, furnished on each fide of the base with a large tooth, and thence apparently triangular, fometimes but rarely with one or two fmaller

teeth above. A native of Chili. It is generally cultivated in Peru, where the leaves are eaten as spinach or forrel, and the feeds, as millet. Mixed with the latter, it makes a plea-fant kind of beer. Dombey, on his return from Peru, was lavish in its praise as a valuable esculent, and took great pains to naturalize it in France. The feeds which he brought into Europe failed; but the Spaniards are faid to have imported fome in a better state of preservation, which are likely to gratify the wishes of the public-spirited naturalist. 10. C. ferotinum, Linn. Sp. pl. 5. (C. hispanicum procerius, folio deltoide, Tourn. 666, but not blitum ficus folio of Ray's Synoplis.) " Leaves deltoid, finuate-toothed, wrinkled, fmooth, uniform; racemes terminal." Root annual. A native of Spain. 11. C. album. White goofe-foot, Linn. Sp. pl. 6. Mart. 7. Lam. 6. Willd. 11. (Atriplex Sylvestris folio finuato candicante, Baul. Pin. 119. Fuschs. Hift. tab. 119. Frost blite, Pet. H. Brit. tab. 8. fig. 2.) " Leaves rhomboid-egg-shaped, gnawed, entire behind; upper ones oblong entire. Seeds not uneven, with hollow dots." B. with a roundish leaf, Dill. in Rai. Syn. p. 155. Buddle's round blite, Pet. H. Brit. tab. 8. fig. 4. y. Leaves green, or less white, narrower. Racemes loofer. C. viride, Linn. Sp. pl. 7. S. Branched with entire leaves, Dill. in Rai. Syn. 155, s. With the thick obtuse leaf of the olive. Dill. in Rai. Syn. 156. Root annual. Stem branched, fometimes reddish. Leaves unctuous-mealy; upper ones narrower, without teeth. Racemes branched, erect, almost leasless. A native of dung-hills and corn-fields, flowering in July and August. 12. C. ficifolium. Fig-leaved goose-foot, Smith, Flor. Brit. i. 276. (C. viride, Curt. Flor. Lond. Fasc. 2. tab. 16. C. serotinum, Huds. 106. Sibth, 88. Blitum ficus folio, Dill. in Rai. Syn. 155. Buddle's fig blite, Pet. H. Brit. tab. 8. fig. 3.) Leaves halberd-finuated, gnawed, entire behind; upper ones oblong, entire; feeds dotted." Root annual. It differs from the preceding in being of a greener co-lour, purplish at the axils of the branches, and in having halberd-shaped lower leaves; but chiefly, as Curtis has observed, in the surface of its seeds, which are uneven, with hollow dots. A native of dung-hills and waste places, flowering in August. Dr. Smith affures us, that the ferotinum of .Linnæus differs from this species in having a stem five times higher; and larger, deltoid, scarcely halberdshaped leaves. It also flowers later. The seeds he has not seen: 13. C. bybridum. Maple-leaved goose-foot, Linn. Sp. pl. 8. Mart. 9. Willd. 13. (C. angulosum. Lam. 8. C. stramonii folio, Dill. in Rai. Syn. 154. Vail. Parif. tab. 7. fig. 2.) "Leaves heart-shaped, angularly toothed, acuminate; racemes much branched, somewhat cymous, divaricated, leafless." Root annual. Stem slender, branched. Leaves large, bright green, spreading, perfectly heart-shaped (not lengthened out at the base), with three angles on each side. Whole herb of an even surface, fetid. Seeds marked with larger dots. A rather rare native of moist uncultivated ground. 14. C. Bolrys. Cluster, or cut-leaved goose-foot, 0ak of Jerusalem, Linn. Sp. pl. 9. Mart. 10. Lam. 9. Willd. 14. (C. ambrosoides folio sinuato, Tourn. Inst. 506. Botrys ambrosoides vulgaris, Bauh. Pin. 138.) "Leaves oblong, finuated; racemes leasters, multifid." Root annual. Stem from fix to ten inches high, upright, branched towards the base, rather rigid, thinly cloathed with down. Leaves petioled, oblong, greenish on both sides. Flowers in very fhort axillary racemes, giving the fummits of the stem and branches the appearance of leafy terminal racemes. A native of uncultivated places in the fouth of Europe. The whole plant is replete with a refinous vifcous juice, which stains the hands. Its leaves emit a strong odour when

bruifed, fomewhat like that of ambrofia, for which it is fometimes cultivated in gardens. 15. C. ambrofoides, Mexican goofe-foot, or tea of Mexico, Linn. Sp. pl. 10. Mart, 11. Lam. 10. Willd. 15. (Botrys ambrofoides Mexicana, Bauh. Pin. 138, 516. Atriplex odora, Morif. Hift. tab. 31. fig. 8.) "Leaves lanceolate, toothed; racemes leafy, quite simple." Root annual, oblong, fibrous. Stem about a foot and a half high, flriated, leafy its whole length, branched, thinly cloathed with a fine down, which almost refembles powder. Leaves alternate, attenuated both ways, fessile; upper ones narrow, and quite entire. Flowers greenish, in axillary and terminal racemes. The whole plast has a strong, but not diagreeable smeil, and an aromatic talte fimilar to that of cumin. A native of Mexico. This and the preceding species are faid to possess considerable sudorific, diuretic, emmenagogue, carminative, and stomachic qualities. The proper menttruum of their active matter is reclified spirit, but they give it also to boiling water. 16. C. multifidum, Lina. Sp. pl. 11. Mart. 12. Lam. 11. Willd. 16. Dill. Elth. tab. 66. fig. 77. "Leaves multifid; fegments linear; flowers axillary, feffile." An ever-green undershrub. Stem two feet high, much branched, striated, cloathed with very short hairs. Leaves alternate, close fet, fmall, oblong, fmooth, not fo odorous as those of the preceding species. Flowers fessile, in small axillary clusters; calyx somewhat longer, and not so deeply cut as in the other species, and embracing the feed less closely. A native of Buenos Ayres. 17. C. anthelminticum, Linn. Sp. pl. 12. Mart. 13. Lam. 12. Willd. 17. Dill. Elth. 1ab. 66. fig. 76. "Leaves ovate-oblong, toothed; racemes leasless." Root perennial. Stem three feet high, erect, fliff, ftriated, flightly hairy, branched about the middle. Leaves alternate, narrowed into a petiole, green on both fides, somewhat hairy underneath, of an unpleasant fmell. Flowers greenish, in small axillary racemes. A native of Buenos Ayres, and of Pennsylvania, and New Jersey. In North America, it is called Jerusalem oak, or worm-feed, and is faid to be an excellent vermifuge. 18. Wormsted, and is faid to be all extended verified e. 16. C. glaucum, Linn. Sp. pl. 13. Mart. 14. Lam. 13. Willd. 18. Eug. Bot. 1454. (C. angultifolium laciniatum minus, Tourn. Infl. 500. Dill. in Rai Synop. 155. Atriplex Bauh. Hilt. ii. tab. 473. Tabern. Ic. 427.) "Leaves all oblong, with a deeply-waved edge, glaucous underneath; racemes compound and denfe, leaflefs." Root annual. Stems from two inches to two feet high, thickish, branched, and fpreading, often proftrate, striated with green and white. Leaves alternate, petioled, uniform, bluntish, green, and fmooth above, mealy, and white underneath. green, in small axillary and terminal racemes. Seeds blackish, flowering in August. A native of several parts of Europe, flowering in August. In England sound chiefly about the neighbourhood of London. In rich ground it grows extremely rank, lofing its delicacy of colour, and much of those contrasted hues of green, red, and glaucous white, which, in a poor foil, render it more elegant in appearance than most of its family. Smith Eng. Bot.

** Leaves entire.

19. C. olidum, Curt. Flor. Lond. Fafe. 5. tab. 20. Withering, i. 273. Smith Flor. Brit. i. 277. Eng. Bot. pl. 1034. (C. vulvaria, Linn. Sp. pl. 14. Mart. 15. Willd. 19. Woodv. Med. Bot. pl. 145. C. feetidum, Lam. 15. Tourn. Inft. 506. Atriplex, Bauth. Pin. 119. Vulvaria, Dalech. Hift. 543. Tabernæmont. 428. Blackw. tab. 100. Garofmus Dod. Pemp. 616.) Stinking gookfoot. "Leaves egg-shaped, somewhat rhomboid; slowers in dense, clustered spikes." Root annual, small. Stems several, eight or ten inches high, spreading or prostrate,

branched, whitish. Leaves alternate, petioled, small, co- Root annual. Stems three feet high, upright, branched, vered, especially underneath, with a whitish unctuous meal. Flowers small. A native of waste places in England and other parts of Europe, especially near the sea shore; common about London and Yarmouth; flowering in August. The whole plant in its recent state has a nauseous taste, and a strong offensive smell, refembling that of putrid salt fish, and remaining long on the hands after touching the herb. To this remarkable foctor its medicinal qualities are afcribed by Dr. Cullen, who fays that it has been employed with advantage in Scotland as a powerful antispasmodic, and particularly in hysterical affections. He adds that, as it loses all its fenfible qualities when it becomes dry, it can be used only in its recent state, when the most convenient formula is that of a conserve. It can, therefore, be only occasionally procured, and in many fituations is altogether unattainable. On this account it has been expunged from the Materia Medica of the London Pharmacopæia, though it is still retained in that of Edinburgh. 20. C. polyspermum, Linn. Sp. Pl. 15. Mart. 16. excluding fome of the fynonyms, Lam. 16. Willd, 20. Eng. Bot. Pl. 1480. (Blitum polyspermum; Bauh. pin. 118. Polysporon cassiani; Lob. hist. 128. Allseed Blite; Pet. Fl. Brit. tab. 7. fig. 10.)
Round-leaved Goosefoot. "Leaves egg-shaped, obtuse; racemes forming cymes, divaricated, leafless." Root annual, branched. Stems feveral, prostrate, widely spreading, mostly fimple, roundish, striated, leafy from the base to the extremity. Leaves alternate, petioled, generally very obtuse, fometimes a little waved in their outline, of a deep grassgreen colour. Flowers green, in large, axillary, repeatedly fubdivided, fessile racemes. Seed black, kidney-shaped, minutely dotted. A native of cultivated ground in England and other parts of Europe. 21. C. acutifolium, Smith, Eng. Bot. Pl. 1481. (C. polyfpermum; Curt. Flor. Lond. fasc. 2. tab. 17. With. 273. Hull. 57. Relh. 120. Sibth. 89. Atriplex sylvestris five Polyspermon, Ger. em. 325.) "Leaves egg-shaped, acute; stem erect; racemes fomewhat cymous, elongated, leasles," Root annual. Stem nearly upright, much branched, leasy, square. Leaves rather paler than those of the preceding species. Racemes numerous, axillary; the larger ones fomewhat cymous and fpreading; the rest rather spiked. Seed orbicular, blackish, scarcely dotted. A native of England and Switzerland; flowering in July and August. 22. C. caudatum. Willd. 21. Jacq. ic. 2. tab. 344. Collect. 2. p. 325. " Leaves egg-shaped, obtuse; panicle leassess, terminal, elongated; stem simple, erect." Root annual. A native of Guinea. 23. C. laterale, Hort. Kew. 1. p. 313. Mart. 23. Wild. 22. 61 Stem-leaves lanceolate, obtufe; those of the branches oblong; peduncles lateral, folitary, one-flowered." Root annual. Native country unknown; introduced at Kew in 1781 by Dr. Brouffonet. 24. C. feoparia, Linn. Sp. Pl. 16. Mart. 17. Lam. 17. Willd. 23. (C. linifolia; Tourn. Inft. 506. Linaria feoparia; Bauh. Pin. 212. Linaria Bruidere; Bauh. hift. 3. 462. Ofyris; Dod. Pempt. 101.) Flax leaved goofefoot, Belvidere or Summer Cyprefs. "Leaves linear-lanccolate, flat." Root annual. Stem three feet high or more, upright, flender, cloathed with fhort hairs, furnished with short branches its whole length, and assuming a regular pyramidical form, fo as to appear like a cypress tree in miniature. Leaves narrow, two or three inches long, and two lines broad, of a fine green, feffile, acute, ciliated. Flowers greenish, in small sessile clusters. A native of Italy, Greece, China, and Japan. It is sometimes cultivated in gardens on account of its pleafant verdure and elegant mode of growth. In Italy it is used to make besoms. 25. C. villo-Vol. VII.

almost cylindrical, hairy; woolly, and very white at the fummits of the branches. Leaves half the length of those of the preceding species, whitish when young, afterwards greenish, and almost simply ciliated. Racemes fessile, short, leafy. Described by La Marck from a living plant in the royal garden at Paris. Native country unknown. 26. C. maritimum, Linn. Sp. Pl. 17. Mart. 18. Lam. 19. Willd. 24. Flor. Dan. tab. 489. Eng. Bot. pl. 633. (K3li minus album; Bauh. Pin. 289. Morif, hilt. 2. tab. 33. fig. 3.) Sea Goofefoot or white Glaffwort. "Leaves awl-fhaped, fenicylindrical." Root annual, fibrous, fmall. Stem eight or nine inches high, erect, branched, roundish, leafy. Leaves alternate, rather acute, fmooth, fucculent, abounding with a falt juice. Flowers green, fellile, from two to four together in small clusters, with a pair of bractes to each. Seeds finely friated, of a deep shining black. A common native of the fea-coast in various parts of Europe. It has the habit of a Salfola, like many other plants abounds with alkaline falt, and is one of those which are indiscriminately collected in the warmer parts of Europe, for the manufactory of glass. 27. C. oppositifelium. Linn. jun. Supp. 172. Mart. 20. Willd. 25. (Salfola oppositifolia; Pall. it. 2. 735. tab. O. Germ. Ed. 2. 545. pl. 14. Fr. Ed.) "Leaves opposite, lanceolate awl-shaped, very short." Stem somewhat woody, cylindrical, much branched, nearly erect; branches erect-spreading, oppolite, striated with reddish lines. Leaves half-embracing the stem, somewhat fleshy, acute, scarious at the edges. Flowers in axillary leafy clusters. A native of Siberia about the river Jaick. The younger Linnaus observes, that it differs in habit from the Chenopodia, and may perhaps be a Polycnemum. 28. C. ariftatum, Linn. Sp. Pl. 18. Mart. 19. Lam. 20. Willd. 26. Gmel. Sib. 3. tab. 15. fig. 1. "Leaves lanceolate, fomewhat fleshy; corymbs dichotomous, awned, axillary." Root annual. Stem from two to five inches high, much branched, smooth; branches panicled, spreading. Leaves alternate, sessile, green or reddish, narrowed at their base, terminated by a weak point. Flowers finall, greenish; corymbs or panicles composed of very slender, ramified dichotomous peduncles; each ramification terminated by a strong setaceous awn, with a sessile flower within each fork, and alternate ones when the bifurcation ceases. A native of Siberia. Linnœus mentions a variety faid to be found in Virginia without awns.

CHENSERS, in our Statutes, is used for such as paid tribute or cenfe, quit-rent, or chief rent.

CHEN-SI, or SHEN-SEE, in Geography, a province of China, bounded on the east by Hoang-ho, which separates it from Chan-si, or Shan-see; on the fouth by the provinces of Se-tchuen and Hou-quang; on the north by Tartary, and the great wall; and on the west by the country of the Monguls. Chen-si is one of the most extensive provinces of the empire, and is divided into two parts, the eastern and western, containing 8 fou, or cities of the first class, and 106 of the fecond and third. Its capital is Si-nghan-fou. Its population confilts of 18,000,000 perfons, and the extent of this province, together with that of Kan-fon, comprehends 154.008 fquare miles, or 98,567,120 acret. The revenue from the land and taxes amounts to 1,705,000 tabels or ounces of filver. It had formerly three viceroys; but at prefent it has only two, belides the governors of So-tcheou and Kan-tcheou, which are the flrongest places in the country. This province is in general very fertile, commercial, and rich. It produces little rice; but the inhabitants have plentiful crops of wheat and millet: it is, however, subject to long droughts, and clouds of locults functimes dellioy fum, Lam. 18. "Leaves linear, flat, hairy, very foft, grey- every thing that grows in the fields: these insects are boiled th; racemes woolly." Refembling the Salfolas in habit. and eaten by the Chinese. This country abounds with drugs,

rhubarb, musk, cinnubar, wax, honey, and coals, of which it time. This city is 54 miles E.N.E. of Peking. N. lat. contains inexhauftible veins: it has also rich gold-mines, which, for political reasons, are not opened; gold-dust is washed down in such abundance among the fand of the torrents and rivers, that many people derive their whole fublittence from what they gain by collecting it. Travellers remark, that the natives of this country are more polite and affable to thrangers, and poffefs greater genius, than the Chinese of the other northern provinces.

CHEN-TANG-CHAUNG, a river of China, which takes its rife in a range of mountains that furround the town of Chan-fan-shen on several sides. The whole course does not exceed 200 miles, being generally through a hilly or little frequented country; and it has no communication with any confiderable road, river, or canal, until it reaches Han-choo-foo. The tide, when full, increases the breadth of this river to about 4 miles opposite the city; and for the distance of somewhat more than 60 miles from the eastern fea, into which it discharges itself, it is crowded with veffels of every kind. At low water near Han-choo-foo there is a fine level strand about 2 miles broad, which extends to-wards the sea as far as the eye can reach. By this river Hanshoo-foo receives and exports great quantities of merchandize to and from the fouthern provinces. The goods are fhipped and unshipped by means of four-wheeled waggons, placed in a line, and forming a convenient pier, capable of being eafily lengthened or shortened, by increasing or diminishing the number of waggons, according to the distance of the veffels from the shore.

CHEN-YANG, or CHIN-YANG, one of the three diftricts or governments into which the country of the Mandfhurs or Mantchew Tartars in Chinese Tartary is divided by the Chinese. It comprises what was called Leao-tong, and extends as far as the great wall, which bounds it on the fouth; and on the east, north, and west, it is enclosed by a palifade, which is better adapted to the defence of the country against the nocturnal invasions of robbers, than for stopping the march of an army. It is constructed only of stakes feet high, without any bank of earth, ditch, or fortified work: the gates are of the fame kind, and are guarded only by a few foldiers. This country has many mountains, fome of which abound with metals and wood. The land is fertile; and produces wheat, millet, leguminous plants, and cotton. The vallies are covered with herds of oxen and flocks of fheep. The chief town of this diffrict is called Chen-

CHEN-YANG, or CHIN-YANG, called Mougden by the Mandshurs, is the capital of the above government, seated on an eminence, and still a confiderable place, with a maufofoleum of Kunchi, who is regarded as the conqueror of China, and the founder of the reigning family. The Mantchew Tartars have taken great pains in ornamenting it with public edifices, and providing it with magazines of arms and itorehouses. They consider it as the principal place of their country; and fince China has been fubject to their dominion, they have established feveral tribunals similar to those of Pekin, composed only of Tartars, whose determination is final; and in all their acts they use the Tartar characters and language. Chen-yang may be confidered as a double kind of city, one of which is enclosed within the other: the interior city contains the emperor's palace, hotels of the principal mandarins, fovereign courts, and the different tribunals :the exterior city is inhabited by the common people, tradefmen, and those who by their employments or professions are not obliged to lodge in the interior. The latter city is almost a league in circumference, and the walls that enclose both are more than three leagues in circuit: they were entirely rebuilt in 1631, and frequently repaired fince that

CHENZINI, or CHINTING, a town of Poland, in the palatinate of Sandomirz; near which are mines of filver and

quarries of marble; 10 miles E, of Malagoez, CHEOU, a town of China, of the second rank, in the province of Kiang-nan; 455 miles S. of Peking. N. lat.

32° 34'. E. long. 116° 23'. CHEOU-QUANG, a town of China, of the third rank, in

the province of Chang-tong; 5 leagues N.E. of Tchin-tcheou. CHEOU-TCHING, a town of China, of the third rank, in the province of Fo-kien; 62 miles N.E. of Kien-nghing.

CHE-OU-TCHANG, a town of China, of the third rank, in the province of Tche-kiang; 5 leagues S.W. of Yen-tcheou.

CHEOU-TCHANG, a town of China, of the third rank. in the province of Chang-tong; 9 leagues N.E. of Po.

CHEOU-YANG, a town of China, in the province of Chan-si; 10 miles E. of Tai-yuen.

CHE-PAU, or PAU A FIERRES, a fort of machine for throwing stones employed at sieges by the Tartars when they conquered the northern part of China in 1732.

CHEPELLO, in Geography, a small island, about a league in circuit, of South America, in the bay of Panama and province of Darien; 3 miles from the town of Panama, which supplies it with provisions and fruits. . N. lat. 8° 46'.

W. long. 80° 45'. CHEPEWYAN FORT, a fort of North America, at the fouth-western extremity of the lake of the Hills, at about 8 miles from the discharge of the river Elk into the lake, in the territory of the Hudson's-Bay company. N. lat. 58° 40'. W. long. 110° 30'. The old establishment formed at the distance of about 40 miles from the lake, by Mr. Fond, in the year 1778-9, which was the only one in this part of the world till the year 1785, was transferred in 1788 to this fort, as a place much better fituated for trade and fishing, the people here having recourse to the fishery on the lake for their support. Mr. Mackenzie made this place his head quarters for 8 years, and from hence he took his departure on both his expeditions, in the years 1789 and 1703, towards the Pacific and Frozen oceans. He has particularly described the manner of carrying on the fur-trade here, as well as the mode of fishing on the lake. The laden canoes, he fays, which leave lake La Pluie about the first of August do not arrive here till the latter end of September or the beginning of October, when a necessary proportion of them is dispatched up the Peace-river to trade with the Beaver and Rocky-mountain Indians; others are fent to the Slave river and lake, or beyond them, and traffic with the inhabitants of that country. A small part of them, if not left at the fork of the Elk river, returns thither for the Knifteneaux, while the rest of the people and merchandise remain here to carry on trade with the Chepewyans. During their stay, these voyagers live wholly upon fish caught in the lake, without even the quickening flavour of falt, or the variety of any farinaceous root or vegetable. Salt, however, if their habits had not rendered it unnecessary, might be obtained in this country to the weltward of the Peace-river, where it lofes its name in that of the Slave-river, from the numerous falt ponds and springs to be found there, which would supply any quantity, in a state of concretion, and perfectly white and clear.

When the Indians pils that way, they being a fould quantity to the fort, with other articles of traffic. During a short period of the spring and fall, great numbers of wild fowl frequent this country, and they furnish a very gratifying food after fuch a long privation of slesh meat. It is remarkable, however, that the Canadians, who frequent the

together on venison, have a lefs healthy appearance than those whose sustenance is obtained from the waters. At the same time the scurvy is wholly unknown among them. In the fall of the year the natives meet the traders at the forts where they barter the furs or provisions which they may have procured; they then obtain credit and proceed to hunt the beavers, and do not return till the beginning of the year, when they are again fitted out in the same manner, and come back the latter end of March or the beginning of April. They are now unwilling to repair to the beaver hunt until the waters are clear of ice, that they may kill them with fire-arms, which the Chepewyans are averse from employing. The greater number of the latter return to the barren grounds, and live during the fummer with their relations and friends in the enjoyment of that plenty which is derived from numerous herds of deer. But those of that tribe who are most partial to these defarts, cannot remain there in winter, and they are obliged, with the deer, to take shelter in the woods during that rigorous feafon, where they contrive to kill a few beavers, and fend them by young men, to exchange for iron utenfils and ammunition.

Till the year 1782, the people of Athabasca sent or carried their furs regularly to Fort Churchill in Hudson's bay; and some of them have, fince that time, repaired thither, although they could have provided themselves with all the necessaries which they required. The difference of price set on goods here and at that factory, made it an object with the Chepewyans to undertake a journey of 5 or 6 months, in the course of which they were reduced to the most painful extremities, and often loft their lives from hunger and fatique. At present, however, this traffic is in a great meafure discontinued, as they were obliged to expend in the course of their journey that very ammunition which was its

most alluring object. See the next article.

Chepewyans, or Chippewas, a numerous tribe of Indians, in North America, who confider the country between the parallels of N. latitude 60° and 65°, and W. longitude 100° to 110°, as their lands or home. They speak a copious language, of which Mr. Mackenzie (ubi infra) has given a specimen, very difficult to be attained, and furnishing dialects to the various emigrant tribes which inhabit the immense tract of country, the boundary of which is as follows. It begins at Churchill and runs along the line of separation between them and the Knilleneaux, up the Missinippi to the isle à la Crosse, passing on through the Bussalo-lake, River-lake, and Portage la Loche; from thence it proceeds by the Elk river to the lake of the Hills, and goes directly W. to the Peace river, and up that river to its fource and tributary waters; from thence it proceeds to the waters of the river Columbia, and follows that river to N. latitude 52° 24', and W. long. 122° 54', where the Chepewyans have the Atnah or Chin nation for their neighbours. It then takes a line due W. to the fea-coast, within which the country is possessed by a people who speak their language, and are consequently descended from them, so that there is no doubt of their progress towards the east. A tribe of them is even known at the upper establishments on the Saskatchiwine, and they also schow the Rocky mountains to the east. The number of those who trade with the English does not exceed Soo men, and they have a finattering of the Knifteneaux tongue, in which they carry on their dealings. Those who inhabit the coast of the lake Superior and the islands in that lake furnished about 30 years ago 1000 warriors. Other tribes of

Peace, Safkatchiwine, and Affinboin rivers, and live al- bay and lake Huron, the Puan bay, and a part of lake Michigan.

Of the number of the Chepewyans it is not possible to form a just estimate; but it bears no proportion to the immense extent of their territories, which may, in some degree, be attributed to the ravages of the fmall-pox. Thefe people entertain fingular ideas of the creation. They conceive, that, at first, the globe was a vast ocean, inhabited merely by a bird of large fize, whose eyes were fire, whose glances were lightning, and the clapping of whose wings was thunder. On his descent to the ocean, and touching it, the earth instantly rose, and remained on the surface of the waters. This omnipotent bird called forth the whole variety of animals from the earth, except the Chepewyans, who were produced from a dog; and this circumstance occasioned their aversion to the slesh of that animal, as well as the people who eat it. The great bird, having finished his work, made an arrow, which was to be preserved with great care, and untouched; but the Chepewyans carried it away, and thus enraged the bird to fuch a degree, that he has never fince appeared. They have also a tradition among them, that they originally came from another country, inhabited by very wicked people, and that they had traverfed an extensive lake, narrow and full of islands; and that in their voyage they had encountered many hardships from ice and deep fnow, as it was always winter. Upon their first landing at the Copper-mine river, the ground was covered with copper, under a bed of earth, to the depth of a man's height. They farther believe, that their ancestors lived till their feet were worn out with walking, and their throats with eating. They describe a deluge, where the waters spread over the whole earth, except the highest mountains, on the tops of which they preserved themselves. It is their opinion, that immediately after death, they pass into another world; and that, when they arrive at a large river, they embark in a canoe of stone, and are carried with a gentle current to an extensive lake, in the centre of which is a most beautiful island; in the view of which they receive that judgment for their conduct during life, which decides their final and unalterable state. If their good actions predominate, they are landed in the island, and commence an eternal happiness, consisting in the enjoyment of sensual pleasures and carnal gratifications. But if their bad actions weigh down the balance, the stone canoe finks at once, and leaves them up to their chins in water, to behold and regret the reward enjoyed by the good, and eternally flruggling, with ineffectual efforts, to reach the blifsful island, from which they are for ever excluded. They have also fome faint notion of the transmigration of the foul.

The Chepewyans are fober, timorous, and vagrant, with a felfish disposition, which has occasioned suspicions of their integrity. With regard to their stature, they are feldom corpulent, but fometimes robult. Their complexion is fwarthy, their features coarfe, and their hair lank, but not of a dingy black; nor have they universally the pleasing eye which generally animates the Indian countenance. The aspect of the women is more agreeable than that of the men; but they acquire an aukward gait, from their being accultomed, for nine months in the year, to travel in Inowshoes, and to drag sledges from 2 to 400 lbs. in weight. To their husbands, who are fometimes jealous, they are very submissive; and yet, for trivial causes, the brutal men treat them with fuch cruelty as fometimes to occasion their death. They are frequently objects of traffic; and the father possesses the right of disposing of his daughter. Howtheir nation inhabit the country round Sagninam or Sagara ever, they do not feel them as flaves, but as companions to

those who are supposed to live more comfortably than themfelves. The men, in general, extract their beards; though some prefer a bushy black beard to a smooth chin. They cut their hair in various forms, or leave it to its natural long flow, as caprice or fancy fuggetts. The women wear their hair of great length, and well arranged; unless the jealoufy of their husbands cause them to despoil it of its treffes, which they confider as a worse punishment than manual correction. Persons of both sexes have blue or black bars, or straight lines, from one to four, on their cheeks or forehead, by which they dillinguish the tribe to which they belong. These marks are either tatooed, or made by drawing a thread, dipped in the necessary colour, beneath the skin. Their dress in winter is composed of the skins of deer and their fawns, and prepared with as much care as the chamois leather in the hair. In summer, their apparel is the same, except that it is prepared without the hair. When they are completely dreffed, they will lie down on the ice in the middle of a lake, and repose in comfort; though in the morning they find fome difficulty in difencumbering themselves from the snow which has drifted on them in the night. When they are in want of provision, they cut a hole in the ice, and feldom fail of catching some trout or pike, the eyes of which they fcoop out, and then eat as a great delicacy; but if their appetite is not fatisfied, they finish their meal with the fifth in its raw state : though they generally prefer the dreffing of their victuals, when circumstances admit the necessary preparation: but the want of wood for fuel fometimes reduces them to this exigency, though they generally dry their meat in the fun. The provision called "pemican," on which the Chepewyans, as well as the other favages of this country, chiefly fublist in their journies, is prepared by cutting the lean parts of the larger animals in thin flices, and placing them on a wooden grate over a flow fire, or exposing them to the fun or to the frost. When the flesh is dry, it is pounded between two stones; and it may then be kept with care for several years. The fat of the inside, and of the rump, is melted and mixed, in a boiling state, with the pounded meat, and then put in balkets or bags, for the convenience of carriage. becomes a nutritious food, and is eaten without any further preparation. Another fort is made, with the addition of marrow and dried berries, which is of a fuperior quality.

The women, when they are travelling, carry their infants on their backs within the folds of their loofe garments, in a position convenient for being suckled; nor do they difcontinue to give their milk to them till they have another child. They have a fingular custom, when they are delivered, of cutting off a piece of the navel string of the new born child, and hanging it about their necks, and they decorate it with porcupines' quills and beads. The women, though abfolutely subject to the men, are always consulted, and possess a considerable influence in the trassic with Europeans, and other important concerns. Plurality of wives is very common among these people; and marriage is a very simple ceremony. The girls are betrothed at a very early period to those whom their parents think best able to support them; nor is the inclination of the female confidered. When a feparation takes place, it altogether depends on the pleafure of the husband. In common with the other Indians of the country, they have the custom of feeluding women in their periodical state from society; they are not allowed in travelling to keep the same path as the men; and it is considered as highly indecorous for a woman in such circumstances to touch any utenfils of manly occupation. The subsequent use of such desiled utenfils would, in their

apprehension, be followed by certain mischief or misfor-

The Chepewyans are not remarkable for their activity as hunters, which is owing to the cafe with which they fnare deer and spear fish. They make war on the Esquimaux, who cannot relift their superior numbers, and put them to death, as it is a principle with them never to make prifoners. Neverthelefs they tamely submit to the Knisteneaux, who are not fo numerous as themselves, when they treat them as enemies. As these people are not addicted to spirituous liquors, they always possess a degree of understanding, which enables them to perceive and to purfue their own interest, and this disposition occasions their being sometimes charged with fraudulent habits. They submit with patience to the most fevere treatment when they are conscious of deserving it; but they will never forget or forgive any wanton or unnecessary rigour. Mr. Mackenzie represents them as the most peacable tribe of Indians known in North America. They have among them conjurors and high pricits, who operate by their ceremonies on the imaginations of the people in the cure of certain diforders. Their principal maladies are rheumatic pains, the flux, and confumptions. The venereal complaint is also very common: and though its progress is flow, it gradually undermines the constitution, and brings on premature death. For the cure of these diforders they have recourse to superstition, and charms are their only remedies, except the bark of the willow, which, being burned and reduced to powder, is strewed upon green wounds and ulcers, and places contrived for promoting perspiration. Of the use of simples and plants they have no knowledge; as their country does not produce them.

Although they have no regular government, every man being absolute lord in his own family, they are influenced more or less by certain principles which conduce to their general benefit. In their mutual quarrels they rarely proceed to any greater degree of violence than is occasioned by blows, wreftling, and pulling of the hair; and their abusive language consists in applying the name of the most offensive animal to the object of their displeasure, and adding

the term ugly, and chiay, or still born.

Their arms and domestic apparatus, besides those which they procure from the Europeans, are spears, bows and arrows, fishing nets, and lines made of green deer-skin thongs. They have also nets for taking the beaver as he endeavours

to escape from his lodge when it is broken open.

Their fnow-shoes are of superior workmanship, 'the inner part is firaight, the outer one is curved, and it is pointed. at both ends, with steel in front turned up. They are alsovery neatly lined with thongs made of deer-fkin. Theirfledges are formed of thin flips of board turned up in front, and are highly polished with crooked knives, in order to flide along with facility. The best wood for this purpose is that which is close grained; but theirs are made of the red or swamp spruce fir-tree. The chief vegetable substance produced by the thin foil of their country is the mefs, on which the deer feed; and a fort of rock-mols, which, in times of fearcity, preferves the lives of the natives. When boiled in water, it diffolves into a clammy glutinous fubstance, that affords very sufficient nourishment. Notwithstanding the barrenness of their country, these people, with proper care and economy, might live with great comfort, as their lakes abound with fish, and their hills are covered with deer. However, in the dead of winter, they are under the necessity of retiring to their feanty stinted woods. To the westward they might find the musk-ox, but they do not recur to it as an article of fustenance. They have also large hares, a few white wolves peculiar to their country, and feveral kinds of foxes, with white and grey partridges, &c. The beaver and moofe-deer they do not find till they come within 60° of N. latitude; and the buffalo is known to frequent an higher latitude to the westward of their country. These people find on the surface of the earth a beautiful variegated marble, which is eafily wrought, leaves a fine polish, and hardens with time; it also endures heat, and is manufactured into pipes or calumets, as they are very fond of smoking tobacco, a luxury which was communicated to them by the Europeans. .

Their amusements are few. Their music is so inharmonious, and their dancing fo aukward, that they feldom practife either. They shoot at marks, and play at the games that are common among them; but they prefer fleeping to any recreation, and their time is spent either in procuring food or in refting from the toil that is necessary for obtain-

Their disposition is querulous; and they express their complaints by a constant repetition of the word "eduiy," it is hard, in a whining and plaintive tone of voice. They are extremely superstitious; and almost every action they perform, however trivial, is influenced by fome whimfical notion. Mr. Mackenzie never observed among them any particular form of religious worship; but as they believe in a good and evil spirit, and a state of suture rewards and punishments, he thinks they cannot be altogether without reli-

gious impressions.

The Chepewyans have been accused of abandoning their aged and infirm people to perish, and of not burying their dead; but thefe, fays Mr. M., are melancholy necessities which proceed from their wandering way of life; and they are by no means univerfal. In their own country they cannot bury their dead, because the ground never thaws; but when they are in the woods, they cover them with trees. Besides they manifest no common respect to the memory of their departed friends, by a long period of mourning, cutting off their hair, and never making use of the property of the deceased. Nay, many frequently destroy or facri-fice their own, as a token of regret or forrow. The barrenness of their country might be supposed to lead them to the horrid practice of cannibals; but this is a suspicion from which Mr. M. amply vindicates them. "In all my knowledge of them," fays he, "I never was acquainted with one instance of that disposition; nor among all the natives which I met with in a route of 5000 miles, did I fee or hear of an example of cannibalism, but such as arose from that irrefiftible necessity which has been known to impel even the most eivilized people to eat each other." Mackenzie's Voyages, &c. Introduction.

CHE-PING, a town of China, of the third rank, in the province of Koei-tcheou; 5 leagues W. of Tchi-yaen. - Alfo, a city of China, of the second rank, in the province of Yon-nan; 410 leagues S.S.W. of Peking. N. lat. 23° 49'.

E, long. 102° 24'. CHEPO, CHEPOOR, or St. CHRISTOVAL DE CHEPO, a small Spanish town of South America, in the country of Terra Firma, and province of Darien, feated on a river of

is feated partly in a deep hollow, and partly on the steep fide of a hill, shelving to the river Wy. This river makes a confiderable curve here, and at the diffance of about two miles, fouth-west, unites with the Severn. The

vessels feem to rise in the midst of an immense quarry; which, with the town crouching in a deep dell, and rifing a precipitous hill, form a fingularly interesting mixture of buildings, vessels, cliffs, water, and woods. The natural features of this place are described by Mr. Coxe in the following terms: " The eminences which tower over the town are thickly overspread with wood; among which the rich groves of Piercefield rife conspicuous. The romantic cliffs of the Wy are here extremely picturefque, particularly the ridge which forms the left bank of the river below the bridge; it is lofty, perpendicular, of a concave shape, and tinted with various hues; white, grey, red, and yellow are beautifully blended, while green is superadded by the foliage of the oak that skirts the top and shades the sides, or by large clusters of ivy starting from the crevices at all heights, and twining in all directions. The ponderous remains of the castle form a grand and permanent feature in this diversified scenery; they cover a large tract of ground, and stretch along the brow of the perpendicular cliff which

impends over the Wy."

The Romans probably occupied the fite of Chepstow as a polition commanding for feveral miles the only passage of the Wy, and we may infer from its name that it was not over-looked by the Saxons. But this part of Monmouthshire, which was then included in the county of Glocester, came, foon after the conquest, into the possession of the Normans, and the castle of Estrighoiel or Striguil, by which name Chepstow was then known, was erected by Wilhelmus Comes, who is supposed by Camden and Dugdale to be William Fitzosborn earl of Hereford. He was killed in 1070; and his third fon, the heir to this castle, being doomed to perpetual imprisonment, it was probably transferred to the illustrious house of Clare, in whose possession we find it in the reign of Henry I. Isabella, the daughter and heirefs of Richard Strongbow, earl of Pembroke, conveyed, on the death of her father in 1176, the castle and manor of Striguil, with all his other possessions, to her husband William, earl marshal of England, who, on the death of king John, became protector of the realm, and was created, in right of his wife, earl of Pembroke and Eltrigol or Striguil. By this illustrious nobleman, who, in a period of warfare, exhibited the most heroic prowes, and in an age of rebellion the most unshaken loyalty, the tottering crown of John was supported, the confederacy of the barons who had sworn allegiance to the Dauphin was disfolved, young Henry was fixed on the throne of his ancestors, and his distracted country blessed with peace. The Earl's five fons dying without iffue, his eldest daughter: Maud transferred the castle and borough of Striguil to her husband Hugh Bigod earl of Norfolk. But their grandson Roger having furrendered to the crown all the honors and estates of his family, they were granted by Edward II. to his brother Thomas de Brotherton; after whose death the castle and manor of Chepstow descended to the Mowbrays, and were fold by John, duke of Norfolk, to William Herbert, earl of Pembroke, with whose other estates they were conveyed by marriage to Sir Charles Somerfet, and are now in the possession of his descendant the duke of Beau-

the fame name; I league from the sea, and 9 E. of Panama; fort.

N. lat. 10° 42'. W. long. 77° 50'.

CHEPSTOW, a town of Monmouthshire, England, ruined walls, which were strengthened by round towers, The town of Chepftow was formerly fortified; and the : reach from the bank of the river below the bridge to the castle, which, at one period, surpassed, in extent as well as importance, any fortress in this part of Great Britain. Its ruins stand on a precipice which overhangs the west bank of . fituation and scenery of Chepstow are extremely picturesque the Wy; the northern side, being built close to the edge, and romantic. From some eminences the masts and fails of appears part of the cliff, and the vy by which the walls are

overspread,..

CIIE CHE

overforced, twines and clusters about the unwieldy frag. A confiderable foreign trade is carried on during peace; ments, and down the perpendicular fide of the rock : towards the land a moat defended it, and it was flanked with lofty towers. A very confiderable space is occupied by the the shells of the kitchens, grand hall, and other numerous apartments; from the fecond, which is now a garden, a passage leads into the third, and to a building called the chapel; there was formerly a communication from the third, which is also a garden, to the fourth, to which now the only access is by creeping through a fally-port in the wall. The characteridic ftyle of the architecture appears, from a general furvey, to be Norman: the shell feems to have been constructed on one plan and at the same period; but the other buildings have been altered and enlarged by later proprietors. Great importance attached to this fortrefs during the civil wars, when it was at first garrifoned for the king, till colonel Morgan, aided by the mountaineers, took possession of the town, and forced the castle to furrender. It was recaptured by the loyalifts under Sir Nicholas Kemeys, who, with only 160 men, made a courageous stand against the assaults of Cromwell; but after a laborious fiege, it was stormed, and Sir Nicholas and forty of his brave adherents, perished in the attack. At the fouth-eastern extremity of the first court of the castle is a tower, remarkable as the prison of the celebrated regicide Harry Marten. An early affertor of republican principles, he zealoufly co-operated with Cromwell in the abolition of monarchy; and on the trial of the king he fat as one of the judges. From the diffolution of the long parliament until the refloration, he remained in obscure retirement, when he furrendered on the king's proclamation: he was arraigned and condemned for high treason, but his sentence was commuted for perpetual imprisonment, and he was removed to Chepftow castle, where he was treated with great lenity, was allowed the possession of his whole property, and the privilege of vifiting the neighbouring gentry. In the twentieth year of his abode here, an apoplexy terminated his confinement and life, at the age of feventy-eight. He was buried in the chancel of the church of Chepstow, where a flone with an infeription of his own writing, was placed over his remains: but the zeal of the vicar not fuffering the monument, of a regicide to pollute the vicinity of the altar, it has fince been removed into the body of the

Chepflow is about three miles from the paffage over the tiver Severn at Ault ferry: five from the new passage at Black Rock; fifteen from Monmouth; fixteen from Briftol,

and 135 from London.

The tide of the Wy flows with great rapidity up to the town. It frequently rifes at the bridge to 56 feet, and in January 1768 it arose about 70 feet; a phenomenon occafioned by the projection of the rocks at Beachley and Aust, which turns the tide with great violence into this river. The floor of the bridge, constructed similar to that of Caerleon, is level; and was formerly supported by wooden piers, about the height of 40 feet, which the counties of Glocester and Monmouth jointly contributed to keep in repair. They remain in their original flate on the Gloucestershire side, but stone piers have been substituted on the opposite shore. Part of it belongs to the county of Gloceiter, and part to Monmouthshire.

Chepitow contains no manufactories; but supplies Herefordshire and this part of Moomouthshire with the necessary imports by the Wy, and exports the native productions, which are principally timber, grain for the Brittol market, coal, grind and mill-stones, iron, oak-bark, and cyder.

and some vessels are built here. An alien priory for Benedictine monks (of which fearcely any traces remain) was founded here foon after the conquest, by one of the pro-prietors of the castle. The parish church was part of the priory chapel, and displays a curious specimen of Norman architecture. Its wettern entrance is a magnificent portal, enriched with the mouldings peculiar to the Saxon and Norman styles. In the neighbourhood are the remains of several religious houses. A pleasant eminence to the west of the town was occupied by St. Kynemark's priory; the walls of which, still visible, enclose the garden and yard of a farm-house, called St. Kynemark's farm. The foundations of St. Lawrence's chapel may also be traced. The traveller, in passing to this spot along the shire Newton road, and along the fields, commands a fingular and beautiful prospect of Chepstow and its environs. The remains of several other chapels still exist. In the garden belonging to a house in Bridge-street, is a well, remarkable for good water, which at high tide becomes perfectly dry: a little before which it begins to subside, and soon after the ebb it returns; neither wet nor dry weather affects it, but its increase and decrease regularly correspond with the tide. The well, which is thirty-two feet deep, has frequently fourteen

About two miles north of Chepstow is Piercefield, a feat of much celebrity, and a just theme of a descriptive encomium with the tourills and topographers of Monmouthshire. The grounds are extensive, and embrace much diverlified scenery of wood, lawn, rock, and river. Stretching along the irriguous banks of the Wy, from the castle at Chepstow, to a lofty perpendicular rock called the Wyndcliff, is a walk of about three miles in length: the prospects from which, and its accompanying fcenery, are described in the following terms by Mr. Coxe. "On entering the grounds at the extremity of the village of St. Arvans, and at the bottom of Wynd-cliff, the walk leads through plantations, commanding on the right a diffant view of the Severn, and the furrounding country; it penetrates into a thick forest, and conducts to the Lover's Leap, where the Wynd-cliff is feen towering above the river in all its height and beauty, and below yawns a deep and woody abyfs. waves almost imperceptibly in a grand outline, on the brow of the majeltic amphitheatre of cliffs impending on the Wy opposite to the peninsula of Laneant, then crosses the park, runs through groves and thickets, and again joins the Wy, at that reach of the river which stretches from Lancant to the castle of Chepstow. From the Lover's Leap the wall is carried through a thick mantle of foreils, with occasional openings, which feem not the refult of art or defign, but the effect of chance or nature. This bow'ry walk is confonant to the genius of Piercefield; the fereen of wood prevents the uniformity of a bird's eye-view, and the imperceptible bend of the amphitheatre conveys the spectator from one part of this fairy region to another without disco-covering the gradations. Hence the Wy is sometimes concealed, or half obscured by overhanging soliage, at others wholly expanding to view is feen faceping beneath in a broad and circuitous channel; hence at one place the Severn spreads in the midst of a boundless expanse of country, and on the opposite side to the Wy; at another, both rivers appear on the same side, and the Severn feems supported on the level fummit of the cliffs which form the banks of the Wy. Hence the same objects present themselves in different aspects, and with varied accompaniments; hence the magic transition from the impervious gloom of the forest to open groves; from meadows and lawns to rocks and preci-

pices,

pices, and from the mild beauties of English landscape to ing 29 cantons and 307 communes. The population was

the wildness of Alpine scenery."

The house erected on this estate is a magnificent pile of building, of freestone, and stands nearly in the centre of the park. Piercesseld was long the property of the Waters samily, till the year 1736, when it was fold to colonel Morris, father of Valentine Morris, Esq. who afterwards possessed it, and to whose taste and liberality it is indebted for its chief artificial beauties, and its long established celebrity. In 1784 it was bought by George Smith, Esq. who again fold it in 1794 to Colonel Wood, formerly chief engineer at Bengal. This gentleman has recently disposed of Piercessield to — Wells, Esq.

For the most recent account of this feat, of Chepstow, and this county, fee Coxe's "Historical Tour in Mon-

mouthshire." 2 vols. 4to.

CHEQ. CHERIF, or SHERRIFFE, the prince, or highpriest of Mecca; fovereign pontiff of the Mussulmans; and owned as such by all the sects into which they are divided.

The grand fignior, fophies, mogols, khans of Tartary, &cc. fend him yearly prefents; efpecially tapeftry, to cover Mahomet's tomb, and tents for himfelf; for the cheq has a tent near the mosque of Mecca, wherein he lives during the feventeen days of devotion in pilgrimage to Mecca. The tapeftry and tent are changed every year, and pieces thereof fent to the princes who furnish new ones.

His dominions are extensive; and his revenue is very confiderable, consisting of presents made by the Mahometan princes, and pilgrims, to the mosque of Mecca and Medina.

See SHERRIFFE

The cheq subfits all the pilgrims during the seventeen days of devotion; on which account he is every year furnished with a very considerable sum of money from the grand signior: the better to obtain this, he makes him believe, that there are constantly, during this time, seventy thousand pilgrims; and that, should the number fall short, the angels, in

form of men, would make it up.

CHEQUETAN, or Seculatanelo, in Geography, a town of North America, on the coalt of Mexico, in the province of Mechochan, 7 miles W. of the rocks of Seguetaneio. Between this and Acapulco towards the east is a fandy beach, 18 leagues in extent, against which the beating of the sea is so violent as to prevent beats from landing; nevertheless there is a good anchorage for shipping at a mile or two from the shore, during the fair season. The harbour of Chequetan, though hard to be traced, is very important to vessels that cruize in these seas; as it is the most secure in a vast extent of coast, yields plenty of wood and water, and may be defended by a few men. When lord Anson touched here, the place was uninhabited.

CHER, a river of France, which rifes near Auzanic, in the department of the Crenfe, paffes by Montlugon, Ainayle-Vicux, St. Amand, Chatcauneuf, St. Florent, Vierzon, Meneton, Villefranche, Chabris, Selles, St. Aignan, Montrichard, Blere, &c. and joins the Loire a few miles below

Cours.

CHER, a department of France, deriving its name from the river Cher, which traverses a part of it, and bounded on the north, by the departments of Loire and Cher, Loiret and Nievre; on the east, by that of Nievre, from which it is separated by the Allier; on the south, by those of Creuse, Allier, and Indre; and on the west, by those of Indre, Indre and Loire, and Indre and Cher. This department is formed of part of the province of Berry, and its capital is Bourges. The territorial extent comprehends 7385 killometres, or about 740,125 heckares, or 1,450,134 Iquare acres; and is distributed into three districts, contain-

ing 29 cantons and 307 communes. The population was estimated in the 11th year of the French æra at 218,297 perfons; its contributions to various purposes amounted to 1,742,031 francs; and the expences charged upon it for administration, justice, and public instruction, were 260,525 francs 79 cents.

CHERA, a river of South America in the province of Quito, in Peru, passing near Colan, and supplying Paita with

its fresh water.

CHERÆUS, in Ancient Geography, a small town of Lower Egypt, situate upon the Nile, from which a canal passed to Alexandria, that served to discharge the water of the lake Moeris.

CHERAMIS, in Antiquity, a medical measure. According to Erotian on Hippocrates, it was the hollow of hell-fish called myax, and took that name from χυρνμος, which fignifies a hollow place. It frequently occurs in Hippocrates, and feems not much different from the chema, which in Galen's Exegesis is expounded by it. Cornavius also explains cheramis by the measure of a CHEMA; and Calvus on ano-

ther paffage expounds it by a pugil.

CHERASCO, in Geography, a town of Italy, in the principality of Piedmont, and capital of a county of the fame name, on the borders of that of Asti, seated on a mountain, at the conflux of the Stura with the Tanaro. It is faid to have been built by fome inhabitants of Alba, Manzaon, Miana, &c. who were expelled their towns by the tyranny of their lords, and furrounded with walls. It was afterwards fortified in the modern manner with ballions, foffes, and out-works, by order of Christina of France, duchels of Savoy. Since that time it has been confidered as the key and bulwark of the effates of Savoy, being fituated on the frontiers of Piedmont, Montferrat, and the duchy of Milan, and strong both by nature and art. It was at first a republic, governed by its own laws, but professing dependence on the emperors of Germany. Cherafco continued in this flourishing state till the year 1260, when its allegiance was transferred to Charles I. of Anjou, king of Naples and Sicily; and it remained subject to that crown till the reign of Jane I. queen of Naples, when, left destitute of her protection, it was voluntarily furrendered to Amadeus VI. count of Savoy, and Jaques de Savoy, prince of Achaia. In a few years it became successively subject to other powers, till at length it was possessed by Charles V., who gave it, in 1530, to Charles 1II. duke of Savoy, furnamed the Good, in confideration of his marriage with Beatrice of Portugal. After having been taken in the same century by the Austrians and the French, it was reflored by the peace of Cambray, in 1559, to Emanuel Philbert, fon of Charles. Victor Amadeus gave it the title of city, and made it the capital of a province and refidence of a governor. It has, together with the whole of Piedmont, at a late period, fallen into the hands of the French .. See PIEDMONT. This town is in the diocese of Asti, and has 7 parish churches, 4 within the walls, and 3 without ... The county, of which it is the capital, is about 9 miles in diameter; the land is fertile; the plains produce great plenty of corn, and the hills of various heights yield good wine for exportation. It is 20 miles S.S.E. from Turin, and 15 miles E. from Saluzzo. N. lat. 44° 33'. E. long. 7° 41'.

CHERAW HILL, a mountain of North America, in the state of South Carolina; 40 miles N.N.E. of Queenborough.

CHERAWS, a dillrict in the upper country of South Carolina, bounded on the north and north-east by North Carolina; on the fouth-east by George-town dillrict; and on the fouth-west by Lynche's creek, which separates it from Camden district. Its length is about 83 miles, and its breadth 63.; and its subdivided into the counties of Darling-

ton, Chefferfield, and Marlborough. By the cenfus of 1701. the number of inhabitants appeared to be 10,706, of whom 7618 were whites, and the rest slaves. It sends to the state legislature six representatives and two senators, and in conjunction with George-town district one member to Congress. This district is watered by Great Pedce river and other fmaller threams; on the banks of which the land is populoufly fettled and well cultivated. The chief towns are Gren-

CHERBOURG, a sca-port town of France, in the department of the Channel, and chief place of a canton in the diffrict of Valognes; fituated at the bottom of a large bay, between Cape Barfleur and Cape la Hogue. The place contains 11,389 and the canton the fame number of inhabitants. The territory comprehends 17 1/2 killiometres and one commune. Before the revolution, Cherbourg was the feat of a governor and an admiralty. The chief employment of the inhabitants confitts in building small vessels, and manufacturing woo'len stuffs. In 1758 this town was taken and plundered by the English, the port destroyed, and the ships burned in the harbour. The French have always considered this port as of great importance in the navigation of the English Channel; and they have expended immense sums on the erection of piers, deepening and enlarging the harbour, and erecting fortifications. Vessels of 900 tons can be admitted in highwater, and in low-water those of 250 tons. N. lat. 49° 38' 26". W. long. 1° 38' 11".

CHERCHESENE, a town of Afiatic Turkey, in the

province of Curdiftan: 62 miles S. of Kerkuk.

CHEREF, or SHARIF, a title affumed by the emperors of Morocco.

CHEREM, among the Jews, is used to fignify a species of Annihilation.

The Hebrew word cherem fignifies properly to destroy, ex-

terminate, devote, anathematize.

CHEREM is fometimes likewife taken for that which is confecrated, vowed, or offered to the Lord, so that it may no longer be employed in common or profane uses. There are some who affert, that persons thus devoted were put to death; whereof, they fay, Jephtha's daughter is a memorable example. Judg. xi. 29, &c.

CHEREM is also used for a kind of excommunication in use

among the Jews. See Nippui.

CHEREN, in Ornithology, the Arabian name of the king-fisher, ALCEDO Ispida.

CHEREN tabanan, in Geography, a town of Chinese Tar-

tary. N. lat. 41° 32'. E. long. 119° 31'.

CHERIBON, one of the four empires or kingdoms into which the island of Java is divided: the other three are Bantam, Jaccatra, and Soesoehoenam. Cheribon is under the dominion of three different princes, who are independent of the Dutch, and fovereigns in their respective districts. Whill the company possessed power in the east, the princes of Cheribon were their allies, and bound, by treaty, to fell the whole produce of their territory exclusively to the company, and not to permit any other nation besides the Dutch, to enter their dominions. For the due maintenance of which conditions, the company took care to guard and garrifon their sea-ports. The company, on former occasions, has excreifed a kind of despotic power over these princes; dethroning one, and establishing another in his room. An instance of this kind occurred in the commencement of the year 1769; when one prince was fet aside and banished to the castle Victoria, in the island of Amboyna, and the elevated prince constrained to furnish a certain sum of money anaually, for the support of his imprisoned predecessor.

CHERIC, in Ornithology; the Gmelinian Motacilla Ma-

dagafearienfis is so called by Buffon; named by Latham the white-eyed Warbler

CHÉRI-KIAMEN, in Geography, a port of Chinese Tartary; 15 miles S.E. of Petouré Hotun.

CHERI-OUJOU, a town of Chinese Tartary; 8 miles S. of Geho.

CHERIPPE, an inconfiderable village of S. America, in Terra Firma, which furnishes the weekly market of Pa-

CHERIWAY, in Ornithology. See FALCO.

CHERLERIA, in Botany, (so called in honour of J. Henry Cherler, fon-in-law and affistant to John Bauhin). Hall. opufe. 300. Linn. gen. 570. Schreb. 775. Willd. 898. Juff. 301. Vent. vol. 3. 243. Clafs and order, decandria trigynia. Nat. ord. Caryophyllea, Linn. Juff. Vent.

Gen. Ch. Cal. Perianth five-leaved; leaves lanceolate, concave, keeled, striated, expanding. Cor. Petals none, Hall. Linn. Lam. Smith. (five, strap-shaped, green, Segn.) Nectaries five, very small, emarginate scales. Stam. Filaments ten; five attached to the scales of the nectary; five alternating with the calyx-leaves, inferted into the receptacle between the scales. Pift. Germ superior, styles three. Peric. Capfule egg-shaped, twice as long as the calyx; three-valved, three-celled, with three feeds. Linn. Lam. &c. (onecelled, with many feeds, Smith.) Seeds angular.

Eff. Ch. Calyx five-leaved; nectariferous glands five, emer-

ginate; capfule fuperior, three valved.

Sp. C. fedoides, Hall. Helv. tab. 21. Segn. tab. 4. fig. 3. Jacq. Aust. tab. 284. Lam. Illust. tab. 379. Eng. Bot. 1212. (Lychnis Alpina; Pluck. Alm. tab. 42. fig. 8. Sedum montanum; Morif. Hilt. tab. 6. fig. 14.) Root perennial, long, fomewhat woody, much divided. Stems forming a tuft, an inch long, thickly befet with leaves. Leaves awl-shaped, obtuse, threenerved underneath. Flowers yellowish, green, erect. Peduncles folitary, axillary, towards the top of the flem, one flowered, with two connate bractes about the middle. A native of moist places near the summits of high mountains in the highlands of Scotland, Carniola, &c. flowering in July and August. First observed in Great Britain by some of Dr. Hope's travelling pupils.

CHERMANSICK, in Geography, a town of Afiatic Turkey, in the province of Natolia; 30 miles N.N.E. of

CHERMES, in Entomology, a genus of hemipterous infects. The fnout is placed in the break, and contains three inflected briftles; antennæ cylindrical, and longer than the thorax; wings four, deflected; thorax gibbous; posterior

legs formed for leaping.

There are many species of the chermes genus, some of which are peculiar to particular plants, while others inhabit a variety of plants indifcriminately. The females are furnished with a sharp tubular instrument at the extremity of the abdomen, with which they pierce the leaves of the willow, ash, oak, fir, and other trees, in order to deposit their eggs beneath the furface, and by these punctures ocfion the swellings or excrescences of various fizes, which are commonly known by the name of tree-galls. These galls contain the infant brood of chermes, both in the larva and pupa, as well as egg state: the larva has fix feet, and is generally covered with a kind of hairy or woolly fubstance, and the pupa is diffinguished by two protuberances of the thorax which contain the embryo wings. In the perfect or winged state the chermes leap or spring with great agility. Geoffroy, who names several of this tribe of infects Pfylla, obferves, that both in the larva and pupa state they eject from the vent a fugar-like fubiliance of a white colour, and much re-

fembling manna: fometimes this matter occurs in the form of fmall white grains upon the leaves of plants, and is often feen attached to the posterior extremity of the infect's body. The galls occasioned by these insects are useful for various purpofes. Some late French writers comprehend the two Linnman genera, chermes and coccus, under one, denominated Kermes.

GRAMINIS. Found on graffes, particularly the aira flexuofa, Linu. Inhabits Europe

ULMI. On the ulmi sampefiris, Linn. Fn. Succ. Found in the curled leaves of this tree.

CERASTII. On-the leaves of the ceraffium vifcofum, Linn.

Fn. Succ. Pyri. On the leaves of the pyrus communis, Lina. Fn. Succ. Chermes pyri of Degeer. This is of a brownish-green

colour, with dufky spots and bands; and has the wings fpotted with brown.

Sorbi. On the Sorbus aucuparia, Fabr. Above varied with black lines and characters; beneath greenish; thorax yelish, with two dots in front, and four black lines behind.

PERSICA. On the amydgalus perfica, Fabr. Chermes perfica oblongus, Geoffr. Le kermes oblong du pécher. This is chiefly on the branches of the amydgalus perlica; the body is oblong and ferruginous.

CALTHE. On the flowers of caltha paluftris, Fabr. Antennæ black at the tip; thorax rufous with three black curves; wings white, with yellowish veins and a brown dot.

Buxi. On the box, and other ever-greens, Fabr. &c. This is of a green colour, with fetaceous antennæ, and the wings yellowish brown. The punctures of this infect make the leaves bend in towards each other at their extremity, forming a hollow knob in which the larvæ are enclosed.

URTICE. On the urtica divica, Linn. Fn. Suec. This is of a green or fuscous colour with the sides of the abdomen

spotted with white.

BETULE. On the branches of the betula alba, Linn. ALNI. On the betala alni, Linn. Chermes alni lanata viridis, Degcer. I ermis fuctorius alni, Frifch. The antennæ are varied with white and black; fnout white tipped with black; body whitish; wings white with brown veins.

QUERCUS. On the oak, Linn. Fn. Succ. FAGI. On the fagus fylvatica, Linn. Fn. Succ.

ABIETIS. On the branches of pinus abies, Linn. fl. Cappon, &c. Pfylla pallide flavefeens oculis fufeis, alis aqueis, Groffe. Infectum tuberculi muricati arboris taxi, Frifch. Picea pamila, Cluf. This species occasions by its puncture enormous scaly Iwellings or protuberances at the end of the branches of the

Salicis. On various species of falix found in Europe, Fabr.

FRAXINI. On the fraxinus excelsior, Linn. This is of a black colour varied with pale yellow.

ACERIS. On the branches of acer platanoides, Linn. The body is yellowish, beneath green; tail awl-shaped and

Ficus. On the ficus carica, Fabr. The body is brown;

antennæ thick and hairy; wings with brown nerves. LICHENIS. On various species of lichens, Gmel. &c. This

is of a fuscous colour dotted with black, and has the antennæ longer than the body; the wings are spotted with brown. PINT. Linn. Inhabits pines. It is not perhaps diffinct

from C. abictis.

CASTANEA. Fuscous; antennæ setaceous and smooth; wings nervous, Geosfr. &c. Inhabits various plants.

RUBRA. Red; wings nervous, Geoff. Inhabits various p'anti. VOL. VII.

Paunt. On the prinus dimeflieus, Scop. The abdomen is red, with dots, and lateral bands of brown.

CRATIEGI. On the cratigus oxyacantha, Scop. The

EUONYMI. On the euonymus europeus, Scop. Colous black, legs pale.

SENECIONIS. On the fenecio vulgaris, Scop. The body is of a greenish yellow colour; the last joint of the antenna

CHERMITES, or CHERMITES, in the Natural History of the Ancients, a name given by many to a species of very bright and white marble or alabafter, which feems to have been the fame with that called afterwards Lyoning mar-

CHERNIBS, derived from xue, the hand, and ware, to wash, in Antiquity, a vessel wherein people used to wash their hands before they went to attend religious fervice.

CHERO, in Geography, a finall island of European Turkey in the Archipelago. N. lat. 36° 53'. E. long.

CHEROKEES, a nation of Indians in N. America, once powerful and flourishing, but now declining. They refide in the northern parts of Georgia, and the fouthern parts of the frate of Tennessee; having on the east the Apalachian or Cherokee mountains, which separate them from north and fouth Carolina; on the north and west the Tenneffee river; and on the fouth the Creek Indians. Their country, extending wellward to the Missisppi and northward to the Six nations, was furrendered, by treaty at Wellminter, in 1729, to the crown of Great Britain. The present line between them and the state of Tennessee is not yet fettled. 'A line of experiment was drawn in 1792 from Clinch river across Holston to Chilhove mountain; but the Cherokee commissioners not appearing, it is called a line of experiment. The complexion of the Cherokers is brighter than that of the neighbouring Indians. They are robust and well made, and taller than many of their neighbours; being generally fix feet high. Their women are tall, slender, and delicate. The talents and morals of the Cherokees are held in high estimation. They were formerly a powerful nation; but by their continual wars with the northern Indian tribes, and with the whites, they are now reduced, 28 fome fay, to 1500, or, according to others, to 3000 warriors; and they are becoming feeble and pufillanimous. They have 4) towns now inhabited.

CHERON, ELIZABETH-SOPHIA, in Biography, the daughter of Henry Cheron, painter in enamel, was born at Paris in 1648, and instructed by her father, who observed her pathonate fondness for the art of painting, in delign and colouring. Her improvement was very rapid, and the foon acquired great reputation by her performances; particularly by her portraits, which, independently of their ftriking refemblance, were elegantly disposed, well-coloured. and neatly finished; she also painted history, and her portraits were executed in the historical style: she employed herfelf much in drawing from the antique, and excelled in copying the figures on gems. Her father was a Calvinifi; but from her mother the received early impressions in favour of the Catholic religion; and at a mature age she abjured Calvinism, and thus facilitated her admission into the Academy of Painting, in 1676, by the recommendation of Charles Le Brun. Her genius comprehended music and poetry, as well as painting; and many of her compositions in verse were much esteemed by J. Bapt. Rousseau. These productions obtained for her a feat in the Academy of Ricovrati at Padua; and as she played well on the lute, and had

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occasional evening concerts, her house was frequented by persons of talte and literature. At the age of 60 she marned M. Le Hay, engineer to the king, who was also advanced in years; and foon after, viz. in 1711, died at Paris, aged 63. This lady amused herfelf with engraving : and we have a feries of gems partly from her own delign, but mostly from the antique; and of these, three were etched by herself, viz. Bacchus and Ariadne, Mars and Venus, and Night scattering her poppies. She also engraved a " Descent from the crofs," and a "Drawing book," confilling of 36 prints in folio. D'Argenville. Filkington. Strutt.

CHERON, Louis, the youngest son of the preceding lady, was born at Paris in 1660; and having acquired the first principles of painting in his own country, he was enabled by the liberality of his fifter to vifit Italy and remain there 18 years. His models were the works of Raphael and Julio Romano; but though he composed with facility and drew correctly, he never attained the grace of the Italian malters; his heads having a ferocious air and his figures being too mufcular. As he adhered to the Calvinitic profession, he was obliged to leave France, and in 1695 he fought a refuge in England, where he found some patrons, and particularly the duke of Montagu. He was a man of enlarged ideas and also of correct morals; so that he refused to paint for a nobleman a licentious subject. He died at London in 1713. He engraved with great tafte the following prints, from his own composition; viz. " St. Peter healing the lame man at the gates of the temple." "The death of Ananias and Saphira," and "St. Paul baptizing the Eunuch." Pilkington. Strutt.

CHERONÆA, in Ancient Geography, a town of Greece in Bœotia; formerly called Arne, and fituated in the environs of Lebadæa. On the plains of Cheronæa are two trophies, which are faid to have been erected by the Romans and Sylla, in commemoration of a victory obtained over the general of the army of Mithridates. The Thebans who perished in their contest against Philip were buried near Cheronæ, and over their tomb was placed a lion. The principal divinity of the Cheronwans was the fceptre which Vulcan made for Jupiter, called "the lance:" from Jupiter it was transferred to Mercury, and at length it descended to Agameninon, and is celebrated by Homer. This deity had no temple, but a priest waited on him, and daily facrifices

were offered to him.

CHERONNAC, in Geography, a town of France, in the department of the Charente; 15 miles S. of Confo-

CHEROPOTAMUS, in Zoology, one of the fynonyms

of the hippotamus.

CHEROY, in Geography, a town of France, in the department of the Yonne, and diltrict of Sens; 10 miles W.

CHERRONESUS, or CHERRURA, in Ancient Geography, a town of Africa in Libya. Steph. Byz .- Also, a promontory of Asia Minor in Lycia.—Also, a town of Asia Minor, in the Doride, near the town of Cnidus. Id.—Also, a town of Spain near Sagonte. Strabo .- Allo, an island in the vicinity of that of Crete .- Also, a port of Thrace, in the Euxine sea, between Apolloniades and Thyniades, according to Arrian .- Alfo, a town in the western part of the Tauric Chersonesus, at the distance of 20 stages from that of Bosphorus in the caltern part. It was also called "Cher-fonefus" or "Chersone." Pliny says, that it was also called "Megarice," and that it was made free by the Romans. Scylax reckons it in the number of the Greek cities, and Strabo makes it a colony of the inhabitants of Heraclea of Pontus; and fays, that it was built by the Greeks

on the gulph of Carcinitis, now the gulph of Nigropoli, on the well coast of the Chersonesus. It was freely surrendered to Mithridates. Procopius says, that it was the last frontier of the Roman empire; and that the country between the two towns was possessed by the Huns. Peystonel fays that the Chersonites were faithful subjects to the emperors of the east; and that they were governed by an officer called " Proteron," who had a council of fenators or old men, denominated the fathers of the city; and that in process of time they fent them prætors. He adds, that they were very commercial, and possessed the who'e trade of the Black fea. He moreover fays, that when Constantius, who had employed the Chersonites against the Bosphorians, became emperor, he availed himfelf of their affiltance against the Scythians, and in acknowledgment of their fervices granted them many exemptions and privileges. At length there was a conspiracy of the Bosphorians against the Cherfonites, which was discovered by a young woman called "Gycia," to whom were erected flatues, upon the pedeltals of which were inferibed an abiliract of this adventure.

CHERRONISO, in Geography, a town of European Turkey, on the N.E. coast of the island of Negropout ;

25 miles E. of Negropont.

CHERRY-TREE, in Botany. See PRUNUS Cerafus. This tree is called Cerafus, according to Servius, from the name of a city in Pontus, which Lucullus destroyed; and the fruit of it was brought by him to Rome, A. U. C. 630, and into Britain about 100 years afterwards, or A.D. 55. Soon after it was foread through most parts of Europe.

CHERRY, Barbadoes. See MALPIGHIA.

CHERRY, Cornelian. See Cornus.

CHERRY, Dwarf. See Louicera. CHERRY, Hottentot. See CELASTRUS lucidus.

CHERRY, Winter. See PHYSALIS Albekengi.

CHERRY brandy, a drink made of brandy, with the addition of cherries.

The cherries commonly used for this purpose, are of the black kind : with thefe, a bottle being half filled, is filled up with brandy, or spirits. The whole is to be shaken up now and then; and in a month's time it becomes fit for

To sweeten it, and improve the flavour, some choose to

put in fugar, with a quantity of raspberries.

CHERRY-water is made by bruiling 20 pounds of black cherries with the kernels, and drawing off by diffillation, with as much pure water as is sufficient for avoiding empy-reuma, 20 pounds. This water has been formerly used as a vehicle in preference to other distilled waters, and has been kept for this purpose in the shops. But it has been found by various experiments, that the kernels of cherries communicate to diffilled water a poisonous quality; and the water has therefore been laid aside by both the London and Edinburgh colleges.

CHERRY-wine is made by adding two pounds of fugar to every two gallons of the juice of cherries. The liquor is afterwards put into a veffel to ferment; and after flanding about two months in the cask, is bottled off with a little

fugar for use.

In Russia they make cherry-wine by crushing about 5 or more vedros (each vedro being 131 pints) of ripe cherries in a tub, fo that even the stones are broken: and then adding 1, 11, cr 2 pounds of honey, and a quarter or half a quart of good brandy or wine, with fome yealt to make it ferment. When it has done fermenting, it is cleared of the yealt and poured into kegs or bottles, and then placed in a cool cellar. Wine and brandy are often omitted, and a greater quantity of honey used in lieu of it, by which the wine proves suffi-

ciently firong.

CHERRY-valley, in Geography,, a post town of America, in the county of Otlego and state of New York, at the head of a creek of the same name, about 12 miles N. E. of Cooperflown, and 18 foutherly of Consjohary, 61 W. of Albany, and 336 from Philadelphia. It contains about 30 houses, a Presbyterian church, and an Academy. The township is very large, and extends along the east side of Otfego leke, and its outlet to Adiquatangie creek. By the flate census of 1796, it appears that 629 of its inhabitants were electors.

CHERSA, called also fecula, in some medical writers, fignifies a root reduced to a farinaceous powder. This way of preparation some condemn, as exhausting the virtues of the drug, and rendering it good for nothing; others defend it.

CHERSÆA, earthy, from X 5705, earth; an epithet of the three species of ASPS, mentioned by Galen, and

CHERSETUM, in Old Cuftoms, is used for churcheffet.

See CHURCH-SCOT.

CHERSEUS, in Ancient Geography, a river placed by Ptclemy in Phænicia; the mouth of which, according to him, lay between Dora and Cæfarea of Strabo, which were towns of Palestine.

CHERSO, in Geography, an island of the Adriatic, on the coast of Croatia, about 150 miles in circumference. It is mountainous and stony : neverthelessit yields much wood, cattle, wine, oil, and honey. It belongs to the Venetians, who fend a nobleman as governor every two years, with the title of count or captain, who relides at the capital, fituated in the centre of the island, which has the same name, and contains about 2500 inhabitants. N. lat. 45° 10'. E. long. 14° 26'.

CHERSON, or KHERSON, a town of Ruffia, in the province of Catherinenflaf, feated on the Daieper, about 14 verits below the mouth of the Ingulitz, and a little above the mouth of the Bog, in the neighbourhood of the Liman, a fwampy lake, the entrance of which is guarded by the fortress of Kinburn, and is about a mile over. This lake has depth sufficient for the reception of large vessels; but they very quickly decay in it, as the water is fresh. The ancient city of Cherlon was fituated fome miles to the fouth-west of the spot, where the Ruslians have built Swastopl. The prefent Cherson was founded by Catharine II. in 1778; it is chiefly built of hewn stone, and the completion of it was much accelerated by the activity of Prince Potemkin. It was intended to be the principal mart for all the commodities of export and import; but if an extensive trade should take place in this quarter, the great depositary for the merchandize would be more conveniently fixed on some spot below the bar of the Dnieper; and 12 miles S. of Cherson. In 1783 Cherson contained 40,000 inhabitants within its walls: and from its dock were launched not only veffels for the purpofes of commerce, but thips of war deftined to thrike terror into the Ottoman empire. A new town, however, called Nicolaiof, now the principal dock, was built by Potemkin, on the confluence of the Ingul and the Bog. The port and city of Cherson have not perhaps been equalled with regard to celebrity, prosperity, and importance, if we consider its recent standing, by any colony of modern times. Artifans, manufacturers, and merchants, have poured into it from all quarters, and the time feems not to be distant when it shall rank as the fecond port in the extensive empire of Russia, Its commerce was, if we may be allowed the expression. guaranteed and fecured to the empress by the ceition of

The fame process is used with other Kinburn, which lies opposite to Oczakow, at the mouth of the Dnieper. Cherson is celebrated as the place where the empress Catharine principally relided during her memorable journey to the Crimea, when she took possission of the provinces conquered from Turkey, and where the was vilited by the emperor Joseph II. It is also on record as the place where the illustrious Mr. Howard closed his career of humanity and benevolence on the 20th day of January 1790. It is distant about 10 leagues from Oczak iw and 2000 verits from Petersburgh. N. lat. 46° 40'. E. long. 32° 54'.

CHERSONESUS, XESTOVICTOS; of XESTOS, land, and mass, island; which fignifies the same, in Geography, as peninfula; or a continent almost encompassed round with the fea, only joining to the main land, by a narrow neck, or

This term is used by the moderns, in complaifance to the ancients, who called all their peninfulas by this name : accordingly fuch places as were hereby diffinguished among them retain the name among us: as the Cherfonefus of Peloponnefus, of Thrace, Cherfonefus Cimbrica, Aurea, &c.

CHERSONESUS Aurea, the golden Chersonese, in Ancient Geography, a peninsula delineated by Ptolemy as if it firetched directly from north to fouth, and having at its fouthern extremity Sabana Emporium, the latitude of which he fixes at three degrees beyond the line. To the cast of this peninfula he places what he calls the Sinus Magnus, or great bay; and in the most remote part of it the station of Catigara, the utmost boundary of navigation in ancient times, to which he affixes no less than 810 of southern latitude. Beyond this he declares the earth to be altogether unknown, and afferts that the land turns thence to the westward, and stretches in that direction till it joins the promontory of Prassum in Ethiopia, which, according to his opinion, terminated the continent of Africa. M. D'Anville, who has attempted to bring order out of the confusion in which this part of the geography of Ptolemy is involved, affigns to the peninfula of Malacca the polition of the golden Cherlonese of Ptolemy; but, instead of the direction which he has given it, we know that it bends fome degrees towards the east, and that cape Romania, its foutbern extremity, is more than a degree to the north of the line. This geographer confiders the gulf of Siam as the great bay of Ptolemy; but the position on the east side of that bay, corresponding to Catigara, is actually as many degrees to the north of the equator as Ptolemy Supposed it to be south of the line. Major Rennell has given the fanction of his approbation (Introd. p. 39.) to the geographical ideas of M. D'Anville, and they have been generally adopted. But M. Gosselin has lately published "The Geography of the Greeks analysed, &c." in which he differs from M. D'Anville, with respect to many of his determinations. According to M. Goffelin, the Magnum Promontorium, which M. D'Anville concludes to be cape Romania, is the point of Bragu (which fee), near to which he places Zaba, supposed by M. D'Anville to be lituated on the strait of Sincapura or Malacca. The Magnus Sinus of Ptolemy he maintains to be the same with the gulf of Martaban, and not the gulf of Siam; and the polition of Catigara corresponds, as he at-tempts to prove, to that of Mergui, a confiderable port on the west coast of Siam. Think or Sink Metropolis, which M. D'Anville removes as far as Sin-hoa in the kingdom of Cochin-China, is fituated, according to M. Goffelin, on the same river with Mergui, and now bears the name of Tana-scrim. The Ibadii infula of Ptolemy, which M. D'Anville determines to be Sumatra, is, by Gosselin's arrangement, one of that cluster of small isles which lie off

this part of the coast of Siam. M. Gosselin conceives, that the ancients never failed through the straits of Malacca, had no knowledge of Samatra, and were altogether unacquainted with the cattern ocean. With regard to the golden Cherfonele of Ptolemy in particular, he observes that what chiefly characterizes it is the mouth of a large river, which there divides itself into three branches before it joins the sea. bore the name of a river, the Chryfoana, the Palandar, and the Attabas. It does not appear that Ptolemy knew the fource of this river, or that he had any knowledge of the interior of this country, as he does not determine the polition of any place. Without detailing the other arguments of M. Gosselin, we may observe, that upon comparing Ptolemy's map with that of the country, there feems little reafon to doubt that the Golden Chersonese is the southern port of the kingdom of Pegu, which may be confidered as inulated. In the fouthern part of the Malayan peninfula, which has hitherto been regarded as the Golden Cherfonese, the river John is fo fmall a fircam, that it could never have supplied the three important mouths noted by Ptolemy; and his delineation of the country of the Sinæ, stretching along a western sea, palpably corresponds with Tana-serim; while M. D'Anville's map fo much contradicts that of Pto-Jemy as to place the fea on the east of the Sinæ, and proceeding towards the north instead of the fouth. Moreover, the rivers laid down by Ptolemy, between the mouths of the Ganges and the Delta of the Golden Chersonese, amount to five; of which three appear in our maps, but we are ignorant of the fouthern part of Arracan, which probably contains the other two. The three chief mouths of the Irrawaddy, in the map of Mr. Dalrymple, fenfibly correspond, even in the form and manner of division, with those in the Golden Cherfonese of Ptolemy; and the bay to the fouth of Dalla feems to be the Perimulicus Sinus of the Greek geographer, the fmall river to the east of which is that of Sirian or Pegu. If the Malayan peninfula had been the Golden Cherfonese of the ancients, the ancient geographer could not have been wholly ignorant, as he feems to have been, of the straits of Malacca, and of the northern part of the great island of Sumatra. Many have thought, but without lufficient reason, that the Ophir of Solomon was fituated in the Golden Chersonese. See Ophir.

CHERSONESUS Cimbrica, a peninfula of Europe to the north of Germany, supposed to have derived its appellation from the Cimbri who came from thence, and now called Jutland; which see. From this peninfula, bounded by the river Elbe on the fouth, by the German ocean on the well, and by the Baltic fea on the north and east, those people came into Britain, from whom the great body of the English nation is descended. When the unhappy Britons formed the fatal resolution of calling in foreign auxiliaries to preferve them from that destruction with which they were threatened by the Scots and Picts, they could find none nearer than the inhabitants of that country, who were likely to afford them necessary succour and protection; for their nearest neighbours and natural allies, the Gauls, who spoke the same language, and professed the same religion with themselves, were in no condition to give them any affiltance; having been invaded, and almost conquered by the Franks, another German nation. The country above-mentioned, to which the Britons directed their views for relief in their diffress, was at that time inhabited by three nations, which were called Saxons, Angles, and Jutes; who fent armies into Britain, and here obtained fettlements. From these three nations the English in general derive their origin; though

feveral other nations, particularly Danes and Normans, have fince mingled with them in very great numbers. See Angles, Jutes, and Saxons.

CHERSONESUS Mignus, a port of Africa, in Marmarica, near the port called Phtha. Scylar places it opposite to the isle of Crete. The great Chersonesus of Prolemy is supposed by some to be the present Cape Raccallino in the kingdom of Barca: so called because it forms a penin-

fula. M. D'Anville places it on the coast N.W. of Marmarica, at fome distance S. E. from the promontory Drepanum.

CHERSONESUS Parva, a port or castle of Egypt, mentioned by Ptolemy and Strabo; and placed by the latter at the distance of 70 stadia S.W. from Alexandria, on a part

of the coast which formed a small promontory, CHERSONESUS Taurica, Crimea, a contiderable peninfula of Europe, lying between the Euxine fea, the Palus Mxotis, John Chardin, 61 leagues from east to well, and about 35 from north to fouth; and joined to the continent by a narrow ithmus about a mile broad. In very remote times this peninfula was governed by its own fovereigns. Its most ancient inhabitants were the Tauri, or Taurofcytha, as Pliny and Ptolemy call them, and from them it derives its appellation. The mythologists refer to these remote times the first voyage of the Greeks into Taurica. In process of time the Greeks traded here and founded cities. Mithridates, king of Pontus, possessed the peninsula, and it is said, drew from it annually a tribute of 220,000 measures of grain, and 200,000 talents in filver. It was conquered by the Romans, and given by them to the kings of Bosphorus. name of Huns, established themselves here, and many of them remained till the time of the emperor Julian. It afterwards paffed to the princes of the family of Genghitkan. The cities of note in former times were Taphræ or Taphrus on the illhmus, where Przekop or Precop now flands; Cherfonefus, or Cherfon; Theodolia, afterwards called Caffa, but now known by its ancient name; Nymphæum, Lagyra, and Charax, feated on the Euxine fea, and Panticapæum on

CHERSONESUS Thracia, the Cherfonefus of Thrace, a peninfula enclosed on the fouth by the Ægean fea, on the welt by the gulf of Melas, and on the eath by the Hellespont. and joined on the north to the continent by a neck of land, about 37 furlongs broad. In former times this peninfula was separated from the continent by a wall called in Greek " Macrontichos." The ishmus, connecting with the continent, was, according to Herodotus, 36 stadia; according to Strabo, 400. The length of the ifthmus, fays Herodotus, was 480 stadia; but Scylax says, that it was 400. It contained the following cities, viz. Cardea, Agora, Panormus, Alopeconnefus, Elæus, Sestus, Madytos, Cista, Callipolis, Lysimachia, and Pactye. The Athenians were for some time in possession of this peninsula. By the counsel of the oracle at Delphos, it is faid by Cornelius Nepos, they fert hither Miltiades, the fon of Cimon, at the head of a colony; but the account of Herodotus is different. The Dolonces, he fays, a people of Thrace, had possession of this peninsuia; but having carried on an unfavourable war with the Ablinthians, they fent to confult the oracle. The Pythian :... commended their obtaining a colony under the conduct of the first person who offered them an asylum. Accordingly having fent deputies to Athens, where Pilistratus reigned, they were hospitably treated by Miltiades, the fon of Cypfelus, a rich and powerful man in that city. Upon their being thus kindly treated, they informed him what was the opinion of the oracle, which they had confulted. Upon this, Miliades engaged a number of the Athenians to accompany him to the Cherfouclus, and the Dolonces immediately invelted him with the fovereign power. He began his reign with creeding the wall which separated the peninfula from the continent. At his death, he bequeathed the fovereignty to his rephew Stefagoras, who was affaffinated; and when this difattrous event occurred, the Piliftratides fent Miltiades, the fon of Cimon, and brother of Stefagoras, to take possession of the government of the Chersonesus. At length the Athenians loft this peninfula; and under the kings of Macedon, after Alexander, it belonged to Thrace, and made part of their kingdom.

CHERSYDRUS, Keraudios, an amphibious ferpent; fo called, because it lives first in watery places, whence it is called hydrus; after which it shifts its habitation, and lives on dry ground, and thence has its compound appellation

cherfydrus. CHERT, in Mineralogy. See Horn flonc.

CHERTOBALUS, in Ancient Geography, a town of Upper Pannonie, fituated near the Danube

CHERTSEY, in Geography, a town of England, in the county of Surrey, fituated near the banks of the Thames; 20 miles W.S.W. of London. This town was formerly the refidence of fome of the Saxon kings, and the first burial place of Henry VI. who was afterwards removed to Windfor. Here was formerly an abbey, founded in 1664; of which, only part of the walls now remains. It has a weekly

market on Wednesday.

CHERUB, or CHERUBIM, a celeftial spirit, which, in the Hierarchy, is placed next in order to the feraphim. The word is formed of the Hebrew 377, cherub; the plural whereof is cherubin. In Hebrew, this term is fometimes taken for a calf or an ox. In Syriac and Chaldee, the word cherub fignifies to till or plough, which is the work of oxen. It also denotes strong and powerful, implying the strength of an ox. According to Grotius, the cherubim were figures refembling a calf. Bochart and Spencer think they were similar to the figure of an ox. Josephus merely fays, that they were extraordinary creatures, whole figure was unknown to mankind. Clemens of Alexandria is of opinion, that the Egyptians imitated the cherubim of the Hebrews in their sphinxes and hieroglyphical animals. The figure of the cherubim was not always uniform, fince they are differently described in the shapes of men, eagles, oxen, lions, and in a composition of all these sigures put together. Moses likewife calls these symbolical or hieroglyphical representations, which were represented in embroideries upon the veils of the tabernacle, cherubim of costly work. Such were the fymbolical figures which the Egyptians placed at the gates of their temples, and the images of the generality of their gods, which were commonly nothing but statues composed of men and animals.

The two cherubim that covered the mercy-feat are reprefented by Mofes as extending their wings on both fides, and looking upon one another with their faces turned towards the mercy-feat, which covered the ark. It would afford our readers little inftruction or entertainment to introduce in this article the fanciful conjectures of the Hutchinfonians, with regard to the form or import of the Hebrew cherubim; or to detail the refult of the refearches of Mr. Parkhurst in his Hebrew lexicon on this subject, who has minutely traced in the cherubic figures emblents or reprefentations of the three perfons in the Trinity. That the cherubim were hieroglyphic or emblematical figures, composed of the various parts of different animals, is unquestionable. L'ach cherub had four heads or faces; viz. thote of a man,

of a lion, of an ox, and of an eagle. Their bodies, at least in the upper part, refembled the human form. The prophet Ezekiel describes the cherub as having four wings: the feraph of Ifaiah had fix wings. They had four hands or arms; and their lower part from the rim of the belly downwards was composed either of human thighs, legs, and feet, to which were appended behind, the body and hinder legs of an ox, or, more probably, the body and four legs of an ox, out of which the human part feemed to rife, fo that the whoic below the rim of the bely was in the form of an ox, and that above this divition was human. As to the fervices which they were defigned to perform, it has been suggested (fee Fragments annexed to the last edition of Calmet's Dictionary) that, as the vision of Ezekiel and also of Isaiah was that of the likeness of a moveable throne or chariot of immense fize, in which the conductor was supposed to fit, the wheels annexed to it were fuch as were joined to the royal travelling or military thrones of the Perlian kings, and the four cherubim occupied the places of four horses for drawing this capacious machine. As to the eyes in the wheels and the cherubim it has been conjectured, that they were spots or streaks embelished with brilliant colours. After all the fuggettions and conjectures of ingenious and learned persons, it still remains to be determined, what these emblematical figures were intended to represent. It is certain that they are very ancient, and that they have been adopted in other countries besides that in which they were originally introduced. Symbolical figures refembling cherubin embellished part of the palace of Persepolis; and they are thus described by Sir John Chardin. In the front of each pilaster is a figure of monstrous fize, whose head and feet stand out in whole relief, and make the front of the pilatter. The relief is two inches high. Those figures, which look towards the plain, have their faces fo mutilated, that it cannot be known, whether they represented horses, lions, rhinoceroses, or elephants. Those figures which look towards the mountains are more entire; and represent monstrous creatures, whose body is, e.g. that of a winged horfe, with the head of a man covered with a high cap, having a crown upon it. The figures delineated by Chardin have at least three parts of the cherubic compofition, the bird, the ox, and the man.

CHERUB, in Heraldry, a child's head between two wings. or between three pair of wings. We shall here observe, that the word, ברום, formed of א, or יא, as, and און, or יא, a child, denotes as a child.

CHERUBIM, was also the name of an ancient military order in Sweden, otherwife called the order of Scraphim. It was inflituted by Magnus II. in 1334, in memory of the fiege laid to the metropolitan city of Upfal, and abolished by Charles IX, upon the change of religion which happened in Sweden: but it was revived Feb. 11th, 1748, by Frederic I. king of Sweden. It took its denomination from the golden figures of cherubin, whereof the collar of the order was

The habit of the order is a white fatin jacket, trimmed with black lace, and lined with black; white breeches, floes, and flockings, trimmed with black, and black ribbons; a black fatin short cloak lined with white, and a black cape, trimmed with black lace; a hat of black fatin, bound with white, having on the left fide four white offrich feathers, and in the middle one black feather. Upon the left breaft of the cloak is a ttar of 8 points embroidered in filver; and upon the jacket on the same tide is the like star, fomewhat less in fize. The collar of the order is composed of cleven golden heads of Scraphs, with wings expanded, and 11 blue patriarchal croffes, enamelled in gold, all joined with chains of

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the last. To the collar is suspended the ensign of the order: viz. a star of 8 points, enamelled white, the centre blue, with the arms of Sweden, and the initial letters I. H. S.; over the H. a cross; the arms enclosed with 4 heads of Scraphs, as in the collar; in the arms, under the bottom crown, the passion-nails. The Scraphs heads are between the double points of the star, and over the upward points is the regal crown of Sweden, by which it is pendant to the collar. The ensign is also pendant to a broad sky-blue watered ribbon, worn scarf-wise, and brought over the right shoulder, and under the left arm.

CHERUBIN, Father, of Orleans, in Biography, an afficient and philosopher, concerning whom little is known. He flourished about the year 1650. Having acquired a competent knowledge of the languages, he was admitted a capuchin friar in the convent at Orleans. His large work, entitled, "Dioptrique Oculaire," on the theory, use, and mechanism of telescopes, is adorned with engravings of instruments d-signed by himself, and was printed at Paris 1671, fol. Another work, supposed by some to be an engagement of the former, and entitled, "La Vision Parfaite," was published in 2 vols. fol. in 1677 and 1681. Moreri.

CHERVES, in Geography, a town of France, in the department of the Charente; one league N.W. of Cognac. CHERVEUX, a town of France, in the department of the Two Sevres, and diffrict of Niort; 24 leagues N.E.

of it.

CHERVIL, in Botany. See SCANDIX cerefolium, CHE.

ROPHYLLUM Sylvestre, and TAMULENTUM.

CHERUSCI, in Ancient Geography, a powerful people of Germany, who were fituated near the Hercynian forest. They had the Cauchi to the fouth, and were separated from the Catti by the forest Baceni. Tacitus and Cæsar mention them.

CHESAPEAK, in Geography, one of the largest and fafett bays in the United States. Its entrance is nearly E.N.E. and S.S.W. between Cape Charles, N. lat. 37 tz', and Cape Henry, N. lat. 37°, in Virginia, 12 miles wide; and it extends 270 miles to the northward, feparating Virginia from Maryland. Its breadth is from 7 to 18 miles, and general depth about 9 fathoms: it affords many convenient harbours, as well as a fafe and eafy navigation. It has many fertile islands, particularly along the eastern fide, and some on the weltern shore. A number of navigable rivers, and other streams, discharge themselves into it: the chief of which are Sulquehannah, Pataplco, Patuxent, Potowmack, Rappahannock, and York, all which are large and navigable. This bay has also many excellent fisheries of herring and shad, as well as of very good crabs and oysters. It is the refort of Iwans, and of a species of wild duck, called " Canvasback," much admired for its richness and delicacy. In a commercial view, Chefapeak bay is of very confiderable advantage to the neighbouring states, and particularly to Virginia.

CHESELDEN, WILLIAM, in Biography. By the affiltance of Mr. Bowyer's biographical ancedetes, we are enabled to give a pretty diffind account of the life of this celebrated furgeon and anatomith. He was of a respectable family in Rutlandshire, and born at Burrow-on-the-Hill, in Leicestershire, in the year 1688. After such acquirements in Latin, as might be picked up at a neighbouring gramm arschool, he was put apprentice, in 1703, to Mr. Wilkes, a surgeon at Leicester, and at the end of his apprenticeship, he came to London, and was admitted a pupil in St. Thomas's hospital, under Mr. Ferne, whom he afterwards succeeded. In anatomy he was instructed by Cowper, at whose house testified. The progress he made under these preceptors

was fo confiderable and rapid, that he commenced lecturer in furgery and anatomy as early as the year 1711, when he was only 22 years of are. The fame year he was elected fellow of the Royal Society. In 1713, he published his "Anatomical Description of the Human Body," in Svo. with plates, to which were added fome felect cases in furgery, and a fyllabus of his lectures. Chefelden had the pleafure of feeing this work pals through fix editions, each more improved than the former one. To the fourth and fubfequent editions the author added an appendix, in which he gave a fhort history of the operation of cutting for the from in the bladder. He performed the operation in the manner recommended by Dr. James Douglas, on nine patients in St. Thomas's hospital, with success; but failing in some subsequent trials, he resorted to the mode recommended by Rau, which he fo much improved, that the first 27 patients, whom he cut by that method, all recovered. Notwi hflanding the candour with which Chefelden had acknowledged the improvements made by Dr. Douglas in the method of performing the high operation, yet he did not escape censure: an anonymous pamphlet, supposed to have been written by the Douglases, being addressed to him, under the title of " Lithotromus castratus." But his character, both as a lithotomist and as a furgeon in general, was too well established to be injured by so feeble an attack. To the same edition of his anatomy he added some curious obfervations, made by a patient, who had been blind from his infancy, and whom he reflored to his fight. The cafe was first published in the Philosophical Transactions. In 1729. he was elected a corresponding member of the Royal Academy of Sciences at Paris; and in 1732, he was made foreign affociate to the Royal Academy of Surgery, then newly instituted. He had before been appointed principal furgeon to queen Caroline, to whom he dedicated his fplendid work on the bones, published in 1733, in folio. The bones are given on a large scale, and are beautifully, and the large ones correctly, delineated. Some errors in delineating the small bones of the head, drew upon him the censure, much too severe, of his opponent and rival, Dr. Douglas. In 1738, Mr. Samuel Sharp dedicated to him his treatifeson the operations in furgery, acknowledging the great improvements he had made in the art. Chefelden had the year before been appointed furgeon to Chelfea hospital, to which place he retired, to enjoy a comparative flate of leifure, from the hurry and buftle of public practice. Befides the works we have mentioned, foine of his lucubrations on subjects of anatomy and surgery, were published in the Philosophical Transactions, and he furnished 21 valuable of Le Dran's treatife on the Operations in Surgery. wards the end of the year 1751, he was feized with a stroke of polfy, which induced him to go to Bath, where he appeared for a time to have received fome benefit, but this was of thort duration, as he died in a fit of apoplexy, on the 11th of April, in 1752, aged 64 years.

Chefelden was strongly attached to his profession, and was always ready with his advice, and assistance, to young practitioners. He was of a social and chearful disposition, and among other acquaintance, was intimate with Mr. Pope, who appears to have had a great effect of him. To his patients he was tender and humane, and he is said to have sold the acquaintance, and he is said to have felt a considerable depression of spirits, when about to perform an operation, but this never proceeded so far as to occasion any wavering, or unsteadiness of his hand, which the funcess of his practice, and the high character he enjoyed, abundantly teltify. It was probably to cure himself of this weakness, that he became a frequent attendant at the places

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where prize-fighting and other athletic exercifes were performed. With 10 much acknowledged ability, that there foodled be mingled fome portion of vanity, and being allowed to decide on fubjects or furgery, that he flould fometimes expect the fame attention to be paid to his opinion, on fubjects with which he was not 10 well acquainted, flould excite no furprize. Some flories of the kind, which we fhall not contribute to propagate, have been handed down. He left only one child, a daughter, who had been married to Charles Coates, M. D. of Woodcote, in Shropflire, member of parliament for Tamworth, in Staffordhire. She became a widow in 1748, and removed to Greenbithe, in the parith of Swanfcombe, in Kent, where the died feveral years after her father, leaving no iffue.

CHESELETH-THABOR, or CARTHA, in Ancient Geography, a town of Judgea, in the tribe of Zabulon. Johna gave it to the Levites of this tribe, who were of the family of Merari. It was fituated on the fide of Mount Tabor. Eufebius and Jerom call it Cafalus or Exalus, and place it to miles E. from the S.W. part of Diocedares.

CHESHAM, in Geography, a small but populous town of England in Buckinghamshire, fituated in a pleasant and fettile valley, and consisting of three streets, which are principally occupied by shoe-makers and lace-makers, and the manufacturers of wooden articles, in the representative branches of round, hollow, and Tunbridge ware. The turnery goods produce a considerable sum annually; and the number of shoes made every week has been computed at a thousand pair. The inhabitants are for the most part diffenters; and the town has 4 places of worship, besides the parish church. There is also a free-school for the education of the children of the poor. Chesham has a weekly market on Wedaesday. It is 29 miles W. N. W. from London.

CHESHIRE, one of the western counties of England. was included by the Romans in the division named Flavia Cæfariensis; but on the final departure of that people from the island, it reverted to the Britons, who continued in poffeffion till about the year 607, when it was conquered by Ethelfrith, the Saxon king of Bernicia, who defeated the army of Brochmael Yscithroc, king of Powys, near Chefter. On this occasion, Ethelfrith is faid to have flain 1200 defenceless monks, whom Brochmael had called from the neighbouring monattery of Bangor, and flationed on a neighbouring hill, that they might affilt him with their prayers. It was afterwards wrested from Bernicia by the Mercians, and continued a part of their kingdom till the reign of Egbert, who united it with the other Saxon states under one government. Canute the Dane, who obtained this division of the kingdom by his famous partition treaty with Edmund Ironfide, invefted the administration of this county in the earls of Chester; three of whom enjoyed that dignity prior to the conquest; Leofric the son of Leofwin; Algar, his fon; and Edwin, fon of the latter; in whom ended the race of the Cheshire earls of Saxon blood. On the conquest, the provinces of Britain which had hitherto been governed by a few great men, were divided into leffer portions, and distributed as rewards among the followers of the Norman king. Cheshire was bestowed on Gherbod, a valiant Fleming; and after him on Hugh de Aurange, better known by the name of Hugh Lupus. To him the monarch delegated a fulnels of power; made this a county palatine, and gave it such a sovereign jurisdiction, that the ancient earls kept their own parliaments, and had their own courts of law, in which any offence against the dignity of the fword of Chefter was as cognizable as the like ofkace would have been at Westminster against the dignity of

the royal crown; for William allowed Lupus to hold this county "tam libere ad gladium, ficut ipse rex tenebat Angliam ad coronam." The fword with which he was invested is still to be seen in the British Museum, inscribed Hugo Comes Cestriæ. As soon as Lupus was firmly establish: i, he began to exert his regal prerogatives. He formed his parliament by the creation of eight barons, who were obliged to pay him attendance, and to repair to his court to give it the greater dignity. They were bound in all wars between this county and Wales, to find, for every knight's fee, a horse with caparison and surviture, or two without surviture, for the division of Cheshire. Their knights and freeholders were to have corfelets and libergeons, and were to defend their lands with their own bodies. This species of government continued from the conquest till the reign of Henry III., a period of 171 years, when in 1237, on the death of John Scot, the feventh earl of the Norman line, without male iffue, Henry took the earldom into his own hands, and gave the daughters of the late earl other lands in lieu; nowilling, as he faid, that fo great an inheritance should be parcelled out among distaffs. The king bellowed the county on his own fon Edward, who did not assume the title, but afterwards conferred it on his fon Edward of Caernarvon. Since that time the eldelt fons of the kings of England have always been earls of Chester as well as princes of Wales. The palatinate was governed by the earls of Chester as fully and independently for nearly three centuries after this period, as it had ever been by the Norman earls; but Henry VIII. by authority of parliament, made it subordinate to the crown of England. Yet notwithstanding this restraint, all pleas of lands and tenements, and all contracts within the county, are to be heard and determined in it; and all determinations out of it are deemed void, " et caram non judice," except in cafe of error, foreign plea, andforeign voucher; and for no crime but treason can an inhabitant of this county be compelled to be tried out of it. Thus being folely under the jurisdiction of its own earls, and confidered in a certain degree as a separate kingdom, representatives to the national parliament were never sent, cither for the shire or city, till the year 1549, the third of Edward VI., when upon the petition of the inhabitants, two members were summoned from each.

Cheshire is bounded on the north by the rivers Mersey and Tame, which separate it from Lancashire; on the east by the conties of Derby and Stafford, the division between which is chiefly marked by a chain of hills and by the rivers Goyt and Dane. The fouthern fide unites with Shropshire and Flintshire; and the western border is skirted by Denbighshire, Flintshire, and the estuary of the Dee. The dimensions of the county are estimated by Mr. Wedge, in the "General View of the Agriculture of Chefhire," at about twenty-two miles and a quarter, on a medium, in width, and nearly forty miles in length from W. S.W. to E.S.E. Its form is rather oval, with two projecting necks of land; one about twenty miles in length, and fix in breadth, running out into the Irish sea, between the estuaries of the Dee and Merfey, and called the Wirral. The other forms part of Macclestield hundred, and extends about fifteen miles in length from Stockport, between the counties of Derby and York; but rarely exceeds four miles in width. Alfred divided this county into feven hundreds, exclusive of Chester which is a county in itself; it contains one city, twelve towns, 670 villages, about 35621 houses, and 191,751 inha-

Cheshire is in general a slat country, though some considerable hills rise mear its eastern borders, and connect with those of Derbyshire and Stassordshire. These ex-

tend about twenty-five miles in length from Congleton to the north-eathern corner of the county. terrupted ridge of high ground also croffes it from north to fouth, on the western fide, beginning near Frodsham, where a bold promontory overhangs the Meifey. After crofling the large tract of heath, called Delamere Forelt, it exalts itself in the towering rock of Bectlon, near the middle of the county. About Macclesfield are a few other hills, and fome on the Shropshire side. Another chain runs worth and fouth through the peninfula of Wirral. The rest of the county is nearly level; and the principal part of it confilts of arable, meadow, and palture land. A black moor, or peat, feem to predominate; and the under foil is commonly clay, or marl. The red grit rock is the most prevalent stone of the county, and of this most of the towns and villages are built. There are few large woods in the county; yet, as the generality of farms abound with hedge-rows, a confiderable quantity of timber is produced, and particularly a great number of oak-trees, from which the tanners derive a fupply of that invaluable antifeptic, oak bark. Cheshire was formerly distinguished for its numerous yeomany; and though they have decreased for the last hundred years, they are still very considerable. In the vicinity of manufacturing towns, and particularly on the borders of Lancathire and Yorkthire, many parcels of land farms; but the greatest portion of the county is retained and cultivated by gentlemen who refide on their own estates. The evil of congregating farms has in a limited degree extended into Cheshire; and the poss-short furnished support, and gave independence, to feveral families, have been thus confined to one. The tenure is almost universally freehold; yet in the manors of Macclesheld, Halton, and fome others, there are a few copyholds, or what may be denominated cultomary freeholds, paying fines and rents certain. Leafing for lives, which was formerly a very conflant and general practice, is yet continued by a few landtillage (usually about one-fourth of his farm) and a particufrom 150 to 300 acres; but fome few contain upwards of

500. The Dairy is the principal object of attention with the Cheshire husbandman; yet it is rather a singular fact, that though the county has for many ages been famed for its cheefe, it was formerly as celebrated for its wheat. Strabo and Pliny have affirmed, that cheefe-making was introduced into this country by the Romans; but this is improbable, from various circumstances; and we are certain that the Roman armies on the continent received a great supply of cheefe The quality and flavour of Chefire cheefe are almost univerfally known; yet as few perfons, comparatively (peaking, are acquainted with the process of its manufacture, we shall give a brief detail of the chief particulars. A dairy farm of one bundredacresis usually divided in the following proportions: from ten to fourteen acres of oats, from fix to eight acres of fallow-wheat, and the like quantity of fummer fallow; the remainder is appropriated to patture and hay, the latter occupying about twelve acres. The judicious dairy farmer is more attentive to the fize, form, and produce of the udder of his cows, than to any fancied beauty of shape. Utility to him is preferable to fashion. This consideration induces him to be ferupulous in the breeding and rearing of calves, and in the management of his cows during the winter and

fummer feafons. The annual quantity of cheefe made from each cow varies from 50 to 500ib, and upwards; the prostock. On the whole, the average produce may be stated at about 200lb, from each animal. The quantity of milk, according to this estimation, yielded daily by each cow, during the milking feafon, is about eight quarts, which is commonly supposed to produce one pound of cheese. The Cheshire cheefe is generally made with two meals' milk; though nearly twenty-two weeks, with four, five, or fix: for as the cheefes are ufually made very large, it is necessary to have a fufficient quantity of milk to make one at a time; thoughin some of the dairies two are made in a day. The most common fize for a cheefe is fixty pounds; a weight fufnext morning, when it is tkimmed, heated, and incorporated with the new milk; and after being mixed in a large tub, article, an adulterated colouring is often subflicted. In making cheefe of the belt quality, the milk used is as pure the practice of making a certain quantity of fresh butter weekly, frequently occasions an appropriation of that cream After the cheefe is "come," or when the milk is properly coagulated, the dairy-maid breaks the curd into very fma. particles, which are then left to fubfide, and the whey fkimmed off. This process is repeated till the whey is nearly expelled, when the curd is placed in a vat, and occasionally fprinkled with falt. Some dairy women use about thre bandfuls to a cheese, and make it a rule to put the greatell prefs; as it is very material to expel all the whey, and also to keep the vat quite full of curd. The cheefe is commonly off the edges, and turn it; and foretimes it is immerfed in maining in the prefs two or three days, it is next conveyed tub, in which it continues about three days more, and is next placed on the benches for about eight days, being well falt ! all over, and turned every day. After this process it is turned twice daily for fix or feven days, and then washed in warm water, and wiped dry with a cloth; and when do, fmeared over with whey butter, and placed in the warmest

The principal mineral prodoctions of Chefnire are fail at a coal. Of the latter, a confiderable quantity is found on the caftern fide, and fome is obtained from the hundred of Wirrs. The former is more abundant in this county than in any oth a part of England. The immenfe trade carried on in this article, and vall revenue derived from it, render it an object of certificarable local and national importance. The principal falloworks are at Nantwich, Middlewich, Winsford, and Nortawich. See Nantwich and Salt.

The cotton bulinels, next to the manufacture of falt, feer s to be the most confiderable. This flourithing branch of traits has lattly been extended from Lancashire, and fome of the burdering counties, over many parts of Chelhire. Exclusive

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of thefe; manufactures of leather, ribbon, thread, gloves, buttons, and shoes, are carried on at Nantwich, Macclessield,

Congleton, Knutsford, and fome other places.

Most of the rivers and streams which wind through this county direct their currents northward, and empty themselves into the Mersey or the Dee. The former divides Cheshire from Lancashire for a course of nearly 60 miles, about 35 of which, from Liverpool to the mouth of the river Irwell, are navigable for veffels of confiderable burthen. The Merfey derives its fource from a conflux of small streams at the junction of the county with Derbyshire, and slowing in a westerly direction, receives in its course the waters of the Goyt, the Tame, the Bollin, the Irwell, and the Weaver. After its junction with the latter, it swells into a broad estuary, and taking a north-western course, soon unites with the Itish channel. The Dee was held in great veneration by our British ancestors, and its waters regarded as sacred and purifying. It derives its origin in the mountainous district of Merionethshire, and after forming the large lake of Pemble-mere, passes through a series of very picturesque and grand scenes, and approaches the western border of this county, to which it forms a boundary from Worthenbury to Aldford. It then passes on to Chester, whose walls it nearly encircles, and afterwards flows to the west, through an artificial channel, which was formed, at an immense expence, by a body of gentlemen, called The River Dee Company. This river also forms a large fandy estuary between the county of Flint and the hundred of Wirral, and joins the Irish sea about 14 miles N.W. from Chester. The Weaver, deriving its fource from Ridley Pool, close to Cholmondeley Hill, passes the towns of Nantwich, Minshull, Weaver, Winsford, and Northwich, where it is joined by the Dane, from the northern parts of Staffordshire, and two or three other streams from the central parts of the county. Hence it proceeds to Wareham, Acton-Bridge, and Frodsham, where it falls into the swelling bason of the Mersey. The Weaver receives feveral tributary streams in the course of its progress; and from Winsford to Frodsham it has been rendered navigable by means of various locks. See CANAL. Several other rivers meander through this county, the principal of which are the Goyt, the Bollin, the Dane, and the Whirlock. Cheshire also abounds with broad sheets of water, denominated meres, lakes, and pools. The principal are Oak-Mere, Rofthern-Mere, Mere-Mere, Tattow-Mere, Comber-Mere, Broad-Mere, and Bag-Mere; Petty-Pool, Rookery-Pool, and Ridley-Pool. Most of these waters abound with fish.

The county is interfeded by portions of four canals, which allow a very constant and cheap intercourse between the towns of Chester, Liverpool, Manchester, the north of England, Staffordshire, Shropshire, and adjacent counties.

SEE CANAL.

The diocese of Chester comprehends all Cheshire and Lancashire, and various parts of Westmoreland, Cumberland, Yorkshire, Denbighshire, and Flintshire, and is divided into two archdeaconries. Cheshire returns four members to parliament, viz. two for the shire, and two for the city of Chester: pays seven parts of the land-tax, and furnishes the militia with 560 men. Gower's Sketches towards a Hiltory of Cheshire. Leigh's Natural History of Lancashire and

CHESHIRE, a county of America, in New Hampshire, on the E. bank of Connecticut river, bounded on the S. by the frate of Massachusetts, on the N. by Grafton county, and by Hillfborough county on the E. It contains 34 townthips, the chief of which are Charlestown and Steine, and 28,772 inhabitants, including 16 flaves.

VOL. VII.

CHESHIRE, a township in the county of Berkshire and state of Massachusetts, famous for its good cheese; 140 miles N. westerly from Boston .- Also a township of New-Haven county in the state of Connecticut; 13 miles N. cf New-Haven city, and 26 S.W. of Hartford. It contains an episcopal church and academy, and three congregational churches.

CHE-SINEN, a town of China of the third rank, in the province of Chen fi ; 15 leagues N.W. of Hin-ngan,

CHESINUS, in Ancient Geography, a river of European Sarmatia. Ptolemy.

CHESIUM, a small town of Asia Minor, in Jonia. Steph. Byz.

CHESLEY, in Geography, a town of France, in the de-

partment of the Aube; 9 miles S.E. of Ervy. CHESLON, in Ancient Geography, a town of Palestine,

in the tribe of Juda. CHESNE. See LA CHENE.

CHESNE, ANDREW Du, in Biography, called "the Father of French History," was born in 1584, at l'Isle Bouchard, in Touraine. His historical and geographical refearches were very various, and his productions, confidering that his life was not very extended, were aftonishingly numerous. In these he appears rather the diligent and laborious compiler, than a judicious writer. His premature death in 1640, was

occasioned by an accidental injury.

He wrote "A History of England," 2 vols. fol. 1634; "A History of the Popes," 2 vols. fol. 1633; "A History of French Cardinals;" "The Genealogies of several great Families of France," 7 vols. fol.; "Hiftory of the Dukes of Burgundy," 2 vols. 4to.; "A Bibliotheque of Authors who have written on the History and Topography of France." He was also the editor of the works of feveral other authors, as Abelard, Pasquin, &c.; and he iffeed proposals for printing a large collection of French hiltorians, in 24 vols. fol. of which 2 volumes, comprising the period from the origin of the nation to the time of Hugh Capet, were published in 1636; and other two volumes, in the press at the time of his death, together with a fifth, bringing the History down to Philip the Fair, were published by his fon, Francis du Chesne, who was also a learned Moreri.

CHESNE, or QUESNE, called also QUERCETANUS, an eminent practitioner and voluminous writer in medicine, which he practifed fuccefsfully many years in Germany, was born in the county of Armagnac in Gafcony, about the middle of the fixteenth century. Applying himfelf to the fludy of medicine, particularly of chemistry, in which he acquired a confiderable proficiency, he was admitted to the degree of Doctor at Balle, about the year 1573. In the latter part of his life, he removed to Paris, and was made one of the physicians in ordinary to the king, Henry IV. As he affected great mystery, and was a professed admirer and follower of the doctrines of Paracelfus, he drew upon himself the censures of many of his cotemporaries; among them, Riolan was one of the most formidable of his opponents. We also find Guy Patin, who flourished some years at Berlin, treating his doctrines with great feverity, and in fact, whatever popularity his works might enjoy in the lifetime of the author, they are long fince deferredly forgotten. Haller has given the titles of them, and analy fes of the principal of their contents. The most celebrated among them, which passed through the greatest number of editions, is his Pharmacopœa Dogmaticorum restituta, pretiosis, selectifque Hermeticorum Floribus illustrata. Gieffe Hels. 160: This is faid to have been recommended by Boerhaave to his pupils. Schroder, in 1643, published a volume, in quarto, 4 H under

under the title of Quercetanus redivivus, containing an Hyde, and aferiles the invention of this came to the Hinabriligment of his doctrines. He died at Paris in 1629.

Haller, Bib. Elsy. Dict.

appears to have had a large share of practice in his profeswas printed at Leyden in 4to. Haller has given an abridged account of its contents. Amidit fome infignificant and fome incredible accounts of cures, there are contained in it many

uleful practical observations. Haller Bib.

CHESNUT, in Botany. See Fagus castanea.

CHESNUT, herse. See Asculus hipporastanum.

CHESNUT hill, in Geography, a township of America, in the county of Northampton and state of Pennsylvania.

CHESNUT creek, a branch of the Great Kanhaway, in Vir-

CHESKUT ridge, part of the Alleghany mountains, in Penn-

CHESS, an ingenious game performed with little round pieces of wood, on a board divided into fixty-four squares; where skill and address are so indispensably requisite, that chance has no place; and a person never loses but by his

own fault.

Sarafin has a precife treatife on the different opinions of the origin of the Latin feacehi; whence the French echees, and our chess, is formed. Menage is also very full on the fame head. Leunclavius takes it to come from the ufcoches, famous Turkish robbers. P. Sirmond from the German feachbe, theft; and that from calculus. He takes chefs to be the same with ludus latrunculorum of the Romans, but mistakenly. This opinion is countenanced by Voffius and Salmafius, who derive the word from calculus, as used for latrunculus. Some derive it from the Hebrew jo, sejag, fepes, whence vallare, vallavit; ל רוב, mut, mori, mortuus; others again from ל feok, lufus, and אין, mori, mortuus; whence chefs and chefs-mate. Fabricius fays, a celebrated Persian astronomer, one Schatrenscha, invented the game of cheft; and gave it his own name, which it still bears in that country. Nicod derives it from scheque, or xeque, a Moorish word for lord, king, and prince: Lochart adds, that fchach is originally Persian, and that fchachmat, whence our check-mate, in that language, fignifies the king is dead.

The learned Hyde has undertaken to shew, from undoubted authorities, that this game was first invented in India, and passed from thence to Persia before the year of Christ 576, and from Persia to Arabia. He adds, that the antiquity of this game is traced much higher, or to the middle of the fecond century, in an Irish chronicle, the authenticity of which is doubtful. And he shews, that shah, i. c. rex, was a term much in use among the orientals, whilit engaged in this play, and that they used it to caution the king against any danger; and hence the Europeans and others have denominated the game skachiludium and skahiludium, and in English chess, from this circumstance. He also derives the word mat from the Perlic manit, laffatus oft; and fays that it was used in play; when any of the men was fixed in its place, or taken captive. See Historia Shahiludii apud Syntagma Dissertationum, &c. Hyde, editum a Doctore

Sharpe, vol. ii. p. 1. &c.

Sir William Jones concurs in opinion with the learned

guages, combined with indefatigable industry in his redecifive authority to his opinion, (See Afiatic Refearches, unanimously agree, that the game was imported from the west of India in the 6th century of our zra. It seems to of "chaturanga," i. c. the four angas, or members of an army; which are thefe, elephants, horfes, chariots, and foot foldiers; and in this fense the word is frequently used by epic poets, in their descriptions of real armies. By a natural corruption of the pure Sanfcrit word, it was changed by the old Persians into chairang; but the Arabs, who scon after took possession of their country, had neither the initial nor final letter of that word in their alphabet, and confequently altered it further into flatranj, which found its way presently into the modern Persian, and at length into the dialects of India, where the true derivation of the word is known only to the learned. Thus has a very fignificant word in the facred language of the Brahmins been transformed by progressive changes into axedraz, feacchi, echees, chefs; and, by a whimfical concurrence of circumstances, has given birth to the English word cleck, and even a name to the Exchequer of Great Britain."

It is confidently afferted, that Sanfcrit books on chefs exist in Bengal; but Sir William had feen none of them when he wrote the memoir which we have quoted. He exhibits, however, a description of a very ancient Indian game of the same kind, but more complex, and in his opinion more modern, than the simple chess of the Persians. This game is also called "Chaturanga," but more frequently "Chaturaji," or the four kings, fince it is played by four persons representing as many princes, two allied armies combating on each fide. The description is taken from a book called "Bhawishya Purán;" in which the form and principal rules of this factitions warfare are thus laid down: "Eight squares being marked on all lides, the red army is to be placed to the east, the green to the fouth, the yellow to the well, and the black to the north. Let the elephant (fays the author of the Puran) fland on the left of the king; next to him the horse; then

boat must be placed in the angle of the board."

" From this passage (says the president,) it clearly apeach fide of the board, fince an elephant could not stand, in any other position, on the left hand of each king; and Radhacant (a Pandit) informed me, that the board confided, like ours, of 64 fquares, half of them occupied by the forces, and half vacant. He added, that this game is mentioned in the oldest law-books, and that it was invented by the wife of a king, to amuse him with an image of war, while his metropolis was belieged in the fecond age of the world. game for the "rat'h," or armed chariot, which the Bengalese pronounced "rot'h," and which the Persians change l into "rokh;" whence came the rook of fome European n.tions; as the vierge and fol of the French are supposed to be corruptions of ferze and fil, the prime minister and elephant of the Perfians and Arabs."

As fortune is supposed to have a great share in decidi g the fate of a battle, the use of dice is introduced into this game to regulate its moves; for (fays the Puran) " if ciaq " be thrown, the king or a pawn must be moved; if quatre, the elephant; if trois, the horse; and if deux, the boat, The king passes freely on all sides, but over one square only; and with the same limitation the pawn moves, but he advances straight forward, and kills his enemy through an angle. The elephant marches in all directions as far as his driver pleases; the horse runs obliquely, traversing the squares; and the ship goes over two squares diagonally. The elephant, we find, has the powers of our queen, as we are pleased to call the general or minister of the Persians; and the ship has the motion of the piece to which we give the unaccountable appellation of bishop, but with a restriction which

must greatly lessen its value. In the Puran are next exhibited a few general rules and superficial directions for the conduct of the game. Thus, " the pawns and the ship both kill and may be voluntarily killed; while the king, the elephant, and the horse may slay the foe, but must not expose themselves to be flain. Let each player preferve his own forces with extreme care, fecuring his king above all, and not facrificing a fuperior to keep an inferior piece." Here (fays the prefident) the commentator on the Puran observes, that the horse, who has the choice of eight moves from any central polition, mult be preferred to the ship, which has only the choice of four. But this argument would not have equal weight in the common game, where the bishop and tower command a whole line, and where a knight is always of less value than a tower in action, or a bishop of that side on which the attack is begun. " It is by the overbearing power of the elephant (continues the Puran) that the king fights boldly; let the whole army, therefore, be abandoned in order to fecure the elephant. The king must never place one elephant before another, unless he be compelled for want of room, for he would thus commit a dangerous fault; and, if he can flay one of two hottile elephants,

he must destroy that on his left hand." All that remains of the passage which was copied for Sir William Jones relates to the several modes in which a partial fuccess or complete victory may be obtained by any one of the four players; for, as in a dispute between two allies, one of the kings may fometimes affume the command of all the forces, and aim at a separate conquest. First, "When any one king has placed himfelf on the fquare of another king (which advantage is called "finhafana" or the throne) he wins a stake, which is doubled, if he kill the adverse monarch when he feizes his place; and, if he can feat himfelf on the throne of his ally, he takes the command of the whole army." Secondly, " If he can occupy successively the thrones of all the three princes, he obtains the victory, which is named "chaturaji;" and the stake is doubled if he kill the last of the three, just before he takes possession of his throne; but if he kill him on his throne, the stake is quadrupled. Both in gaining the "finhafana" and the "chaturaji" the king mult be fupported by the elephants, or by all the forces united." Thirdly, When one player has his own king on the board, but the king of his partner has been taken, he may replace his captive ally, if he can feize both the adverse kings; or if he cannot effect their capture, he may exchange his king for one of them, against the general rule, and thus redeem the allied prince, who will supply his place." This advantage has the name of "nripacrishta," or recovered by the king. Fourthly, " If a pawn can march to any square on the opposite extremity of the board, except that of the king or that of the thip, he assumes whatever power belonged to that square." Here we find the rule, with a flight exception, concerning the advancement of the pawns, which often occasions a most interesting struggle at our common chess; but it appears that, in the opinion of one ancient writer on the Indian game, this

privilege is not allowable when a player has three pawns on the board; but, when only one pawn and one fhip remain, the pawn may advance even to the fquare of a king or a fhip, and affilme the power of either. Fifthly, According to the people of Lanca, where the game was invented, "there could be neither victory nor defeat if a king were left on the plain without force; a fituation which they named "cacacafht'ha." Sixthly, "If three ships happen to meet, and the fourth ship can be brought up to them in the remaining angle, this has the name of "vrihannauca;" and the player of the fourth seizes all the others."

The account of this game in the original Sanfcrit is in verfe, and there are two or three couplets ftill remaining, so very dark, either from an error in the manuscript, or from the antiquity of the language, that Sir William Jones could not understand the Pandit's explanation of them, and sufpects, that even to him they gave very indistinct ideas. It would be easy, however, he thinks, if it be judged worth while, to play at the game by the preceding rules; and a little practice would perhaps make the whole intelligible.

The Honourable Daines Barrington, in his elaborate " Historical Disquisition on the Game of Chess," (See Archaologia, vol. ix.) afferts, and maintains the claim of the Chinese as inventors; though, he says, Hyde inclines against it, chiefly because they have some additional pieces, which differ from ours, both in their form and powers. This fingle circumstance, he thinks, is by no means conclusive; because, in all countries where any game hath been of long continuance, the players will make innovations, though in substance it remains the same. Du Halde cites a Chinese treatife, by which it appears that it is the favourite game of that country, and, as fuch, is sometimes depicted upon Chinese paper. Indeed, in China, it makes a confiderable part of the education of their females, and feems to take the place of dancing among us. The origin of this game has been traced to China, in a letter from Eyles Irwin, Efq. to the Earl of Charlemont, published in the 5th volume of the Transactions of the Royal Irish Academy. During a long residence in the East Indies, where the game of chess is generally supposed to have originated, Mr. Irwin has often heard of its existence in China; though on a different footing, as well in respect to the powers of the king, as to the aspect of the field of battle. A tradition of this nature obtained among the Brahmins, who excel in this game. When a young Mandarin was shewn an English chess-board, he informed Mr. Irwin, that the Chinese had a game of the same nature; and he specified the difference that subsisted in the pieces and the board. Upon farther investigation of the subject, the young Mandarin, named Tinqua, brought a Chinese MS, which contains an account of the origin of the game of chess in that country. From this MS. it appears, that 370 years after the time of Confucius, or 1965 years ago, Hung Cochu, king of Kiangnan, fent an expedition into the Shenfi country, under the command of a mandarin, called Hanfing, to conquer it. After one fuccefsful campaign, the foldiers were put into winter quarters; where, finding the weather much coider than what they had been accultomed to, and being also deprived of their wives and families, the army, in general, became impatient of their Etuation, and clamorous to return home. Hanfing, upon this, revolved in his mind the bad consequences of complying with their wifhes. The necessity of foothing his troops, and reconciling them to their polition, appeared urgent, in order to finish his operations in the ensuing year. He was a man of genius, as well as a good foldier; and having contemplated some time on the subject, he invented the game of chefs, as well for an amusement to his men in their va-AHI:

being wholly founded on the principles of war. The litra-tagem fucceeded to his wish. The foldiery were delighted with the game, and forgot, in their daily contests for victory, the inconveniencies of their post. In the spring the general took the field again, and, in a few months, added the rich country of Shenti to the kingdom of Kiangnan, by the defeat and capture of its king, Choupayuen, a famous warrior among the Chinese. On this conquest Hung Cochu affumed the title of emperor, and Choupayuen put

an end to his own life in despair.

From the above extract from the Concum, or Chinese annals, it appears, that the inflitution of this game forms a principal æra in the Chinese history; since, by the conquest of Shenfi, the kingdom was first connected in its present form, and the monarch assumed the title of emperor. Mr. Irwin observes, that the confined situation and powers of the king, refembling those of a monarch in the earlier parts of the world, countenance the supposition of the Chinese origin of chels; and that, as it travelled westward, and descended to later times, the fovereign prerogative extended itself, until it became unlimited, as in our state of the game. The agency of the princes also, in lieu of the queen, points out the nature of the Chinese customs, which exclude females from every kind and degree of influence and power; and these princes, in the passage of the game through Persia, were changed into a fingle vizier, or minister of state, with the enlarged portion of delegated authority that exists there; initead of whom, the European nations, with their afual gallantry, adopted a queen on their board. The river between the parties is exprellive of the general face of this country, where a battle could hardly be fought, without encountering an interruption of this kind, which the foldier was here taught to overcome; but, on the introduction of the game into Persia, the board changed with the dry nature of the region, and the contest was decided on terra firma. Moreover, with the Indians, this game was defigned by a Brahmin, to cure the melancholy of the daughter of a rajah. But with the Chinese, it was invented by an experienced foldier, on the principles of war; not to difpel lovefick vapours, or instruct a female in a science that could nei-

ther benefit nor inform her; but to quiet the murmurs of a

discontented foldiery, to employ their vacant hours in leffons on the military art, and to cherish the spirit of conquest

in the bosom of winter quarters. Its age is traced by the

Chinese actually on record near two centuries before the

Christian æra; and among the numerous claims for this no-

ble invention, that of the Chinese, who call it by way of

diffinction, Chong-Ke, or the royal game, feems to Mr.

Irwin to be indifputable. In Thibet and the Birman empire, as well as throughout Bengal and Hindooitan, the game of chess is held in high citimation. The board used by the Birmans, as we learn from Symes's Embaffy to Ava, (vol. iii. p. 289) is exactly fimilar to ours, containing 64 fquares, and the number of their troops the faine, 16 on each fide; but the names, the power, and the disposal of them differ effentially, the king and his minitter (a queen being never introduced by the orientals) are mounted on elephants; these are defended by two callles, two knights on horseback, two officers on foot, and eight foot foldiers; the forces of each party are arranged in three lines, by which eight squares remain unoccupied; none of the pieces polless equal force with our queen: and this re-Bristed operation renders the Birman mode of playing more complex and difficult than ours. The Birmans affirm that it is a game of high antiquity, and that it is acknowledged and authorized by their facred writings, although every play

cant hours, as to inflame their military ardour, the game of chance is prohibited. The name of this game, viz. " Chedreen," bears some resemblance to the name which is given to the game in most other parts of the world. Col. Symes infers from this detail, that chefs was invented in India, according to the opinion of fir William Jones, and that it is not of Persian origin. Others may probably condeducing it from the long civilifed empire of China, and to Perlia. If indeed this most interesting game had been known in Persia, whilst Alexander or his successors continued there, they would undoubtedly have introduced it into Greece, and its name would certainly have been transmitted to us, together with its pieces and their moves.

Chefs is unquestionably a very ancient, as it has been a very general, game. The opinion maintained by fome learned writers, and which has much prevailed, afcribes the invention of it to Palamedes at the flege of Troy. Most of the passages relied upon in proof of this opinion may be found in Stephens's Thefaurus, Art. History, or pebble. Mr. Barrington fays, that he has examined all these pasfages, and that he can venture to affirm, that none of them relate to chefs, because there is not the most distant allusion to the putting of the enemy's king in fuch a lituation that he cannot be extricated, which is the great object of each player. From a line in the first book of the Odyssey it has been inferred that Penelope's fuitors amufed themselves with this game before the gates of Ulysses's palace. The game played by Penelope's fuitors, and called marian, is particufophillæ, on the authority of a native of Ithaca, and it differs most materially from chefs, as the pieces were in number 108 inflead of 32. The principal authority for Palamedes's having been the inventor of chels is a line from Sophocles,

Efetys (fc. Palamedes) meroois, xuSois te, tegmor aggias axos.

But nothing more can be inferred from this line than that he invented fome game which was played with pebbles, misrois. The game called merrus in Greek, was by the Romans termed calculi or latrunculi; and Ovid (de Art. Am. l. iii. 357-366) has fo described the mode of playing it, that no perfon who is acquainted with the moves even at chefs, can read it with attention, and conceive that it alludes to this game. Mr. B --- n has also examined a passage cited Romans, and shown that it is not juilly applicable to this game, supposing that the passage is genuine or ancient. Donatus, on Terence's Eunuch, observes, that Pyrrhus, the most knowing and expert prince of his age, ranging a battle, made use of the men at chess to form his designs; and to shew the fecrets thereof to others. Vopiscus, in his rors had the title Augustus given him, because of his gain-

Tamerlane is also recorded as a very expert gamester at

It appears from Mr. B-n's historical account, that the game of chefs, called by the Perhans \(\Sigma_{\infty}\alpha_{\inf Constantinopolitans Exaxes, was a common game at Constantinople in the 12th century, when Anna Comnena flourished; rope. The first crusaders, before the destruction of the nople, and thus probably became acquainted with this bewitching game, which, on their return, they introduced into their respective countries. Among the European nations it was first known to the Italians, as we may conclude

from their being nearer to Constantinople than others, and from their early trade with the eastern ports of the Mediterranean. Accordingly we find by Boccace, who lived in the 14th century, that it was a most common amusement at Florence, and that there was a celebrated player, who (like Philidor) could beat two antagonists without feeing either of the chefs-boards. Of its first introduction into Italy we have further evidence in the term gambat at chefs, now known in most European languages, which is confessedly of Italian origin; for dare il gambetto fignifics to throw down your adverfary in wreftling, by placing your foot against his. Chess thus introduced, became the favourite game throughout Europe till it was given up for cards; but before cards had banished chess, it was in such vogue that the kings both of Spain and Portugal pensioned the great players, whilit they also staked confiderable fums on the event of the game. We find that three Italians fet out from Naples for the court of Philip II., in which was a famous player, and by concealing their skill won very large fums. Hence it happened that as it was impossible to form a just estimate of the abilities of an antagonist, no one would play at chefs for money, which, therefore, like drafts, fell into difuse. Italy, however, continued to produce the greatest proficients at this game, till the middle of the 17th century. The Italians are faid to have been fo much devoted to chefs, that a father, who had died before the conclusion of a game, has bound his fon to finish it; and the fame custom is also said to obtain among the Germans. See Hyde, ubi supra, p. 7, 8. As Italy was the country from which Europe in general derived its knowledge of chefs, Spain feems to have had the next claim for having produced at an early period players of eminence; and it has been faid that in this country whole cities have challenged each other at this game. As to the time of its introduction into England, the learned Hyde supposes that it was known in our country about the time of the conquest, because the court of exchequer was then first established. See Exchaquer. Mr. Barrington, however, is of a different opinion; and though he allows it possible that chess might have been known in England in the next century after the first crufade had taken place, he rather supposes that it was introduced during the 13th century, upon the return of Edward I. from the Holy Land, where he continued to long and was attended by to many English. The Turks, who never change their habits, are still great players at this game, which well fuits both their fedentary disposition and their taciturnity. Many of them were often prisoners in the Christian camp, as were also the Christians to the Saracens, so that they had many favourable opportunities in all these ways of obtaining instruction. The first mention which Mr. Barrington has met with of chess being known in England is in a MS. of Simon Aylward, faid by Hyde to be in the library of Magdalen college. The fame learned writer cites another MS. of Lydgate, monk of St. Edmund's Bury, who calls it the "game royal," in which are the following lines:

"Was of a Fers fo fortunate,"
"Into a corner drive and maat,"

which lines are very intelligible, if we suppose that the preceding line relates to the piece called the king; and they will then have the following meaning; "the king was by a fortunate queen (of the adversary) driven into a corner of the chefs-board, and check-mated," which of course concludes the game.

We find in Gale's edition of Hist. Ramsieins. (c. 85.) that the bishop Ætheric obtained admillion to Canute the Great about midnight, upon some urgent business, he found the king and his courtiers engaged at play, some at dice, and others at chefs. From Hist. Olai Magni (p. 572.) we learn, that when a young nobleman applied to a father for permiffion to pay his addreffes to his daughter, the parent, as it
is said, commonly made a trial of his temper, by playing with
him at dice and chefs, before he gave him an answer.

It is certain that our ancestors played much at chess before the general introduction of cards, as no fewer than 26 English families have emblazoned chess-boards and chess-rooks in their arms, and it must therefore have been considered as a valuable accomplishment. Hyde moreover states, that chefs was much played both in Wales and in Ireland; and that in the latter country fome of their best estates depended upon it, and that it was a condition by which two noble families enjoyed their lands, that the one should engage the other every year at this game. Barrington, however, expresses his doubts as to these facts, because neither of these countries was fearcely civilized till the latter end of the reign of Henry VIII. With respect to both Ireland and Wales he apprehends, that they have no term for this game in their respective languages. From a treatise, entitled "the Game at Chefs," and published by Caxton in 1474, it appears, that this game was not uncommon during the reign of Edward IV.; and it is certain also that it was a fashionable amusement in most houses of rank in the time of Richard III.

From the time of Edward IV. chefs continued to be played by our ancelors, till cards became the more general amusement. We have reason to believe that queen Elizabeth was a chefs player. Charles I. was also supposed to have been a player at this game; though in the Edwardson, ascribed to him, he advifes his son against it, because it is over-wise. In the last century Stamma, who was a native of Aleppo, and resided some time in England as translator of Oriental dispatches, published some select games at chefs, together with a few instructions; and after him Hoyle taught how to open the game at a crown per lesson.

In France this game feems to have been known at an earlier period than in England. The traces of its antiquity, however, are few and faint. The historian Carte gives us the following account of a chefs-match between Henry I. before his accession to the throne of England and Louis le Gros, fon to Philip of France; which took place at Philip's court in 1087. Louis loft feveral games to Henry, and a confiderable fum of money, by which he was fo much irritated, that he threw the chess-men at Henry's head. Henry retaliated the affiont by firiking Louis with the board, fo that he was laid bleeding on the floor, and Henry would have killed his antagonith, if his elder brother Robert had not interposed. This is without doubt a very early instance of the game being known in France; but Barrington fays, it is much to be wished that Carte had stated the term used in the Norman chronicle to which he refers, and which he has translated chefs, as the game of drafts was very ancient, bears a confiderable affinity to chefs, and equally requires a chequered board.

John of Saiifbury relates, that in a battle between the French and English in 1117, an English knight feizing the bridle of Louis le Gros, and crying out to his comrades, the king is taken, that prince ltruck him to the ground with his fword, faving, Ne feats tu pas qu' aux cehtes on me prend pas le roy? Doft thou not know, that ut chefs the king is never taken? The reason is, that when the king is reduced to such a pass, that there is no way for him to escape, the game ends, without expeding the royal piece to further affront. This saêt is said to be related in John of Salisbury's book "De Nugis Curialium;" but Mr. Barrington has not been able to discover it. In the reign of Charles V. of France, the king, as Froissart relates, played at this game with the duke of Burgundy. Chefs is alluded

to in the Romance of the Role, which afcribes the invention of it to one Attalus; and many of the French families bear in their arms a chefs-rook. In the fixteenth century it was much played in this kingdom; and in the feventeenth century the treatife intitled "The Calabrian" was translated from the Italian into French, and might have contributed to revive the game after it had been supplanted, as it has been with us, by the more general amusement of cards. At a later period, and even in our own times, Philidor, who was born at Dreux, was the most distinguished champion in this wards bringing him over to England, that the amateurs of chefs might have an opportunity of perceiving his decided fuperiority. It is well known, that he could play two games against able adversaries, and generally beat them, without farily bear in their minds feveral moves which are probably to enfue, both on their own part and that of their adverfary; and he, who, like Philidor, can do this throughout the whole game, even with a fingle antagonift, must commonly

With regard to Germany Mr. Barrington has not been able to obtain much information; but he fays, that Selenus, duke of Brunswick, wrote a treatise on that subject, and named one of his towns from it. In Muscovy it is faid to be in great vogue among the shop-keepers and common people, who play before the doors of their shops or houses; and it is highly probable that they received it, together with their profession of faith, from the eastern empire, whilst the Greek fovereigns relided in Constantinople. The Ruslians are said to be great proficients in chess. With them the queen has, in addition to the other moves, that of the knight, which, according to Philidor, spoils the game, but which renders it more complicated, and of course more interesting. The Russians play also at chess with four persons at the same time, two against two: for which purpose the board is longer than usual, contains more men, and is provided with a greater number of fquares. This mode, it is faid, is more difficult, but more agreeable, than the common manner. Hyde informs us, that this game is not unknown even in Iceland; and it would undoubtedly be a very conwenient game for occupying their very long nights during the winter. As the Mahometan religion forbids gaming for money, the Moors of Africa, particularly in the empire of Morocco, are only allowed by the government publicly to play at chefs, which is in itself a game sufficiently interesting without the affiltance of wagers.

Cardinal Cajetan, and other cafuifts, rank chefs in the number of prohibited games, as requiring too much application; and Montaigne blames it as too ferious for a game.

Hyde (ubi fupra) has given a copious account of the names of the feveral pieces used in this game, as they occur in different languages. The honourable Daines Barrington has also made some remarks on this subject. Conceiving that the game was originally Chinese, and that it was transferred from their country to Thibet, Bengal, Hindoostan, and Perlia, he thinks it highly probable that the pieces did not differ materially in these several countries, either in name or figure. But when the Turks had learned it from the more eathern inhabitants of Arabia, they of course made the pieces destitute of any particular form or figure, as they understand the second commandment in its most literal and rigid fenfe. The Greeks and Crufaders, becoming adepts in this game by their long continuance in Paleftine, took the liberty of giving any name or form to the pieces at their own pleasure; and consequently they often differ in the feveral parts of Europe where chefs hath been introduced. It was natural, therefore, that their principal

piece should be a king, both in form and name, and this frems to have obtained also in the more eastern parts of Alia. In most of these governments, however, the kings are rather indolent monarchs, and confequently this piece tacks. The emperor himfelf, being thus indolent, necesfarily requires a minister or general, who can protect his matter by vigorous and extentive motions, against distant infults, in the most remote parts of the board. Accordflyled " Pherz," or general. Chefs having been univerfally confidered as an engagement between two armies, and the piece of the greatest importance being termed the general, the allusion is properly pursued. When the game, however, was introduced into Europe, the Christians did not trouble themselves about the Asiatic names for the pieces, and flyled the " Pherz" (or general) queen, probably among the Afiatics; but this does not keep up fo properly the idea of a military conflict, as when the "Pherz," or general, is placed in the fame fituation. Another impropriety arifes from the Pawn's becoming a queen, when he hath reached the last square of the adversary's camp; as it is a fuitable reward to the Pawn (or foot-foldier) to make troops; but certainly no prowefs on his part can entitle him to be transformed into a queen. The French, and after them the English, in the middle ages, called the queen fieres, fierges, &c. from the eastern word "Pherz;" but the title Queen is of confiderable antiquity. The next piece in power to the "Pherz," or Queen, is that which we fometimes call the Rook, but more commonly the Castle. Mr. Douce (Archæologia, vol. vii.) fuggests, that the European form of the castle was copied in part from some ancient Indian piece of the elephant with a callle on his back. Mr. Barrington conceives this term to be derived from the Italians, the first Europeans who played at chefs; as rocce in their language not only fignifies a rock but a fortrefs, which was generally placed on fuch an eminence. Hence, he adds, our phrase at chess, "the King castles," or puts himself in a state of security, by exchanging, in some measure, places with the castle, which then becomes more exposed to the enemy. The piece, which we call the Bifhop has been termed by English writers aiphin, aufin, &c. from an Arabic word, fignifying an elephant; fometimesit was named an archer; by the Germans the hound or runner; by Ruffians and Swedes the elephant, by Poles the pried; and by the French at a very early period the fou or feel. The reason of this last appellation seems to be, that as this piece stands on the sides of the King and Queen, some wag of the times, Mr. Barrington fuggetts, from this circumstance, ityled it the fool, because anciently royal personages were commonly thus attended, from want of other means of thus amuling themselves. But it is not so easy to account for our term Bifhop, as our kings and queens have never ha! any such constant attendants. When it was first introduced cannot be exactly ascertained; as in Caxton's time this piece was styled the Elphyn. Probably the change of name took place after the reformation. The top of this piece which was exhibited to the Antiquarian Society by Mr. Barrington, among those chess-pieces that belonged to Charles I. fom what refembles a bishop's mitre. The Knight has always retained this distinction, says Mr. Douce, on the French an i English chess-board: the Germans, from the nature of their motion, give them the appellation of leapers, and the Russians call them horses. The Pawns are supposed to receive their name from pedones, a barbarous Latin term f. r foot-foldiers. The Germans, Danes, and Swedes have L' 111 : 12 CHE CHE

converted them into feafants. The writers of the middle ages, in speaking of the chess men, universally thyle them familie. In this game each player has eight dignified pieces, viz. a king, a queen, two bishops, two knights, and two rooks, and also eight pawns, which were anciently called feachi, q. d. milites, and made in different figures, and of various materials, mostly of wood or ivory. These pieces are distinguished by being painted in white and black colours.

As to their disposition on the board, the white king is to be placed on the fourth black house from the corner of the board, in the first and lower rank : and the black king is to be placed on the fourth white house on the opposite, or adversary's side of the board. The queens are placed next to the kings, on houses of their own colour. Next to the king and queen, on each hand, place the two bishops; next to them, the two knights; and last of all, on the corners of the board, the two rooks. As to the pawns, they are placed, without diffinction, on the fecond rank of the house

one before each of the dignified pieces.

Having thus disposed the men, the onset is commonly begun by the pawns, which march flraight forward in their own file, one house at a time, except the first move, when they may advance two houses, but they never move backwards: the manner of their taking the adversary's men is fideways, in the next house forwards; where, having captured the enemy, they move forward as before. The rook goes forward or crofs-ways through the whole file, and back again. The knight fkips backward and forward to the next house, fave one, of a different colour, with a fidling march, or allope, and thus kills his enemies that fall in his way, or guards his friends that may be exposed on that fide. The bishop walks always in the same colour of the field which he is placed in at first, forward or backward, aslope or diagonally, as far as he pleases. The queen's walk is more universal, as she takes all the steps of the fore-mentioned pieces, excepting that of the knight; and as to the king's motion, it is one house at a time, and that in any direction. As to the value of the different pieces, next to the king is the queen, after her the rooks, then the bishops, and last of all the knights. The difference of the worth of pawns is not fo great as that of noblemen; however, the king's bishop's pawn is the best, and therefore particular care is taken of him. It ought also to be observed, that, whereas any man may be taken, when he falls within the reach of any of the adverfary's pieces, it is otherwise with the king, who, in fuch a cafe, is only to be faluted with the word check (Jhack), warning him of his danger, out of which he must move; and if he cannot move without expofing himfelf to a fimilar inconvenience, it is check-mate, and the game is loft.

CHESS-trees, or CHEST-trees, in Ship-Building, are two fmall picces of timber with a hole in them, bolted on each fide of the ship, and placed as far before the main-malt as the length of the main-beam; their use is to confine the clue of the main-fail, and for this purpole a rope passes through, that usually extends the clue of the fail to windward.

CHEST, in Anatomy, that part of the body which contains the heart and lungs. See BREAST and THORAX.

CHEST, in Commerce, a kind of measure, containing an

uncertain quantity of feveral commodities.

A chell of figur, v. g. contains from ten to lifteen hundred weight; a chell of glafs, from 200 to 300 feet; of Caftile foap, from two and a half to three hundred weight; of indigo, from one and a half to two hundred weight; five fcore to the hundred.

CHEST at Chatham was established in 1588, for the benefit

of maimed and superannuated English mariners, out of which pensions are paid to such for their lives. This fund was at first raised by a voluntary monthly contribution of the mariners out of their pay, and afterwards made perpetual by queen Elizabeth.

By 43 Geo. III. c. 110. this inflitution was removed from Chatham to Greenwich, denominated "The Cheft at Greenwich," and committed to the management of a body corporate, confishing of the lord high admiral of Great Britain and Ireland, the comptroller of his majefty's navy, the governor of the Greenwich hospital, and the auditor of the fame hospital, and denominated "The Supervisors of the Cheft at Greenwich." These supervisors are empowered to appoint five persons out of the lieutenant governor, captains and lieutenants belonging to the Greenwich hospital, to be directors of the faid cheft, together with subordinate officers and clerks, with fuitable falaries. This act contains feveral provisions, for the management of the funds of the institution, and ameliorating the condition of the penfioners.

CHEST of viols. See BASE-VIOL, SIX-STRINGED BASE,

and VIOL di Gamba.

CHESTER, or WEST-CHESTER, in Geography, an ancient city of Cheshire in England. From its proximity to the Welsh principality, and its peculiar local character, its annals embrace much curious hiltory: and hence we shall find it necessary to give a more copious account of this, than of the generality of topographical articles. This respectable city is fituated near the fouthern boundary of the county, on a rocky eminence, above the river Dee, and is half encircled by a fweep of that river; a circumstance that occasioned the Roman geographers to name it Deva or Deunana; an appellation that has been relinquished by later historians for that of Cestria, or Ceaster; from costrum, a camp or military flation, which it feems to have been made previous to Agricola's expedition to Scotland. That commander made it the head-quarters of the twentieth Roman legion, whence the Britons gave it the name Caer Lleon water, or the camp of the great legion on the Dee. The Saxons ftyled it Legaceafter, and Legecester; but its denomination West-Chefter was obtained through its relative fituation to other places which have the name of Chefter with fome addition. Its Roman occupation is illustrated by the frequent discoveries that have been made of remains of antiquity belonging to that nation, fuch as coins, flatues, altars, and hypocaults, and many of them with correllative inferiptions. The walls of the present city determine the limits of the ancient; and the form in which the buildings are disposed is evidently the fame as that of the Roman camp. Chefter principally confifts of four firects, running from a centre towards the points of the compais, and each was formerly terminated by a gate. These streets were excavated from a stratum of rock, and are funk feveral feet beneath the furface, a circumstance that has been the cause of a singular construction in the houses. On the level of the thrests are low shops or warehouses, and above them a gallery on each fice, reaching from firect to firect, open in front, and balluftraded. Thefe galleries, called the rows by the inhabitants, appear exceedingly curious to strangers, who, when walking in them, can hardly divest themselves of the idea of their being up on: pair of stairs. Along the rows are ranges of shops, and above them the higher stories, which project to the streets, and form a line with the warehouses beneath. The whole appears as if the first stories of the fronts of all the houses were laid open and made to communicate with each other; pillars only being left for the support of the super-structure. "Thefe rows," hys Mr. Pennant, "appear to me to have been the fame with the ancient vellibules, and to have been

a form of brilding preferred from the time that the city was possible by the Romans. They were built before the doors, midway between the streets and the houses, and were the place where dependents waited for the coming out of their patrons, and under which they might waste away the tedious minutes of expectation. Plantus, in the third act of his Marchia, describes both their stration and use:

- Viden' vestbulum ante ædés et ambulacrum ejulmodi.

magazines for the various necessaries of the owners of the houses. The fireets were once considerably deeper, as is apparent from the thops, whose Boors lie far below the prefent nun pavement is often discovered at the depth of four feet below the modern." The Roman modes of fortification bryond bow-shot of each other, that the arrows might reach the enemy who should attempt to scale the walls. From Domefdry Book it appears, that in the reign of Edward the Confessor, Chester contained 431 houses that were taxable, catery, analogous to a modern corporation; fo that no perof the guild were maintained by two overfeers, who were felected from the principal citizens, and who received, for the use of the city, the customs paid by strangers. A supreme officer, called the profitus regis, or provoft, had the fuperinpeculiar usages prevailed in this city at that period, among pioughland 200 hefthas or capons; one cuna or vat of ale; and one rufea of butter: and whoever made bad ale, were either to pay four shillings, or sit in a tumbril or dungcart. The commerce of Cheffer, according to Lucian the monk, who lived near the time of the Norman conquest, was even then very confiderable. "The beautiful river on the fouth fide," he remarks, "ferves as an harbour for ships from Gafcoign, Spain, Ireland, and Germany, who, by the guidance of Christ, and the industry and prudence of the merchants, fupply and refresh the heart of the city with abundance of goods; fo that, through the various confolations of the divine favour, we have wine in profusion from the plentiful vintages of those countries." The principal exports and the frequent wars carried on with the Welfh, caused it greatly to flourish in this city. The chief of the other commodities exported were lead, copper, hides, horns, and cheefe, which the people of Cheshire had been celebrated for making even from the time of the Romans. Chefter, for two or three centrales from the conquelt, was the place of rendez-yous for troops employed in the Weish expeditions, and frequently suffered during the contest between the two nations. Llewelyn ap Gryffydd, in revenge for the cruel infults his Subjects had received from Geoffrey Langley, who acted as Leutenant to prince Edward, (afterwards Edward I.), carried fire and fword to the gates of the city, and deltroyed every thing round it. Thele ravages were committed in 1255; and within two years, king Henry fummoned his nobility to attend him at Chefter with their vaffals, that he might invade Wales, and repay the injuries sustained by his people. This city all, was appointed by Edward I. in 1275, to receive the homage of Llewelyn; a degradation to which that high-

sp'rited prince refused to submit, and was in confequence involved in the war which proved so fatal to him and to his country: his subjects being obliged to acknowledge the sovereignty of England, and make personal homage and fealty of their lands to Edward of Caernaryon, prince of Wales, who received their fubmission in this city in 1300. Richard II. converted Cheiter into a principality; and having annexed to it the callle of Holt, with feveral lordships in Wales, and on the borders, made an act that it should only be held by the king's eldest fon; but this was rescinded by Henry IV., who, in 1399, seized the city and callle, when on his way to Flint, where Richard was then imprisoned, through the treachery of those in whom he had confided. The ravages of the plague and fweating-fickness rendered the fixteenth century memorable in this city. During the unhappy civil war in the time of Charles I. Chefter was particularly diffinguished for its loyalty, and consequently suitained many years, till the flege being converted into a regular blockade, and the garrison reduced by famine to the utmelt distress, and compelled to feed on horses, dogs, cats, &c. they surrendered on honourable terms February 3, 1645-6. Within two years the city was vifited by a dreadful perfilence, which carried off more than 2000 perfons, and reduced the place almost to a defart. In the reign of William III., Chester was one of the fix cities appointed for the refidence of an affay-mafter, and permitted to iffue a coinage of filver.

In reviewing the ecclefiastical state of this ancient city, it may be necessary to premise, that the kingdom of Mercia was divided into the five bishopries of Litchseld, Worcester, Lydneaster, Dorchester, and Chester. About the year 785 the latter became incorporated with Litchseld, though its annual payments to the pope amounted to 5000 florins, while that fee only advanced 3000. This, and other evidences of its prosperity, attracted the attention of Peter, bishop of Litchfield, who removed his episcopal seat to Chefter, in 1075, and during the remainder of his life made use of the church of St. John for his cathedral. This translation was but of short continuance; for his successor established himself in the former diocese, and Chester remained without a bishop till after the suppression of the monafteries, when it was reflored to its priffine honour by Henry VIII, who, in 154; made it one of the fix new fees that were then formed. At this period, the church of the diffolved abbey of St. Werburgh was converted into a cathedral. A very important alteration in the concerns of commended him to the favour of the rapacious Henry, who removed him from Bangor, the fee he had before occupied. His disposition harmonized with the spirit of the times; in 1546 he granted the manors and demesnes of the bishopric to the king, and accepted impropriations and refleries in exchange. The fee was thus deprived of all its possessions; and, with the exception of the fingle acre on " which the palace stands, and the court before it; another house adjacent, a little orchard called the Woodvard, two houses near and fome lands in Boughton and Childer Thornton, bequeathed in 1703," is completely divested of its temporalities, and though the greatest in extent of any in England, is of the smallest value. St. Werburgh's abley, from whose possessions this fee was formed, was of great and unquestionable antiquity, but its origin is enveloped in the obfcurity of with the wifnes of his daughter St. Werburgh; and it feems probable that it was ruined by the Danes, when they posfeffed themselves of Chester, in 89.5. In place of the nuns, a fociety of canons regular was established in the reign of Athelstan, by Ethelsteda, the heroic daughter of Alfred. These were suppressed by Hugh Lupus, on his accession to the earldom of Chester, and a colony of Benedictines introduced in their stead. Liberal grants were made to the abbey, which continued to flourish till the general diffolution. Various remains of its buildings are yet standing.

The cathodral is a spacious irregular pile, become ragged through the decay of the mouldering from with which it is built. The lower part of the wall has a row of arches now filled up, and appears to be the oldest part of the present building; though not any of it can boatt of a remote date. All the labours of the Saxons, and almost all of its refounder, Hugh Lupus, are now lott. Simon Ripley, elected abbot in 1485, finished the middle aisle and the tower, and the initials of his name are interlaid in cyphers on the capitals of fome of the pillars. The columns are thick, furrounded by pilasters, with small rounded arches. Above is a gallery, with a neat stone balustrade in the parts where it is entire, and a row of large and broad pointed windows, which is the general flyle. With the exception of these flight fragments, most of the present structure seems to have been built in the reign of the three last Henrys. The beautiful west end was begun in 1508, and the first stone laid with much ceremony. The window over the door is filled with elegant tracery; and the door-cafe enriched with figures and other foulpture. The descent into the church is by several steps, whence it is reafonably inferred that the prefent was creeted on the foundation of the ancient church, which was originally on a level with the old freets. Besides the cathedral and St. Oswald's which forms a part of it, Chefter contains eight parify churches; but St. John's only is entitled to particular notice. This ftructure flands without the walls, on the east fide of the city, and is reported to have been founded by king Ethelred in 689, on being admonished in a vision to erect it on a spot where he should find a white hind. It was a collegiate church, and, at the diffolution, was possessed by a dean, seven canons, seven vicars, two clerks, four choritters, and various fervants.

Chefter cafile, which stands within the walls on the fouthwell, seems to have been rebuilt by the Conqueror, and enlarged considerably beyond the space it occupied when post selfed by the Saxons. It consids of an upper and lower ward; the entrance to each is defended by a gate and round tower.

Within the callle precincts is the new county gaol, which is scarcely exceeded by any other in the kingdom. It is built with white free-stone, and contains sive yards, with a working-room and two day-rooms in each. The apartments for the women and debtors are separate from the others. The number of folitary cells for condemned criminals is fourteen. The principal charge incurred in building this fabric was defrayed by the income arising from the river Weaver navigation. The cattle is garrifoned by two companies of invalids; and has a governor, lieutenant-governor, and constable. The latter holds his place for life, and is the keeper of the prison, but appoints a deputy. The punishment of pressing to death, or the prine forte et dure, for itanding mute when arraigned, is faid, by Mr. Pennant, to have originated within the walls of the old goal. The statute for the purpose was made by Edward II. in whole fourth year, Adam, fon of John, of the Woodhouses, was charged with burning his own houses, and carrying away the goods. Hestood mute; and, a jury having decided that he could speak if he thought proper, he was imprisoned ad dietam. This was an ironical term, expr. flive of the fullenance allowed, which, on the first day, was three morfels of the worlt bread; on the fecond three VOL. VII.

draughts of water out of the next puddle : and fo alternate. ly till the fufferer died. This Adam's death being certified, the statute for proffing was made, as being less horrible than flarving. The fuperior wifdom and humanity of modern times have again altered the law, and a refufal to plead is now confidered the fame as pleading guilty. The walls round Chefter are, in circuit, one mile three quarters, and one hundred and one yards. They are the only entire fpecimens of ancient fortification, those of Carlifle excepte.', in Great Bitain, but are now only preferred for the pu-pofes of recreations. The continued walk on the top af-fords a great variety of prospect. "The Welsh mountains. the Cheshire hills of Broxton, and the insulated rock of Beefton, crowned with its caftle, the rich flat interpoled, and the perpetually changing views of the river," are the most prominent and striking objects in this favourite tour. The expence of the repairs is defrayed by certain imposts, called murage-duties, collected at the cultom-house, on all merchandize brought from beyond fea into the port of Chefter. The whole annual duty is about 2001., great part of which arises from Irish linens, though the sum levied is only two-pence for one hundred yards. The gates were anciently under the protection of the Earls of Shrewfbury, Oxford, and Derby, and the principal magistrates of the city: the guard was maintained by tolls, exacted from firangers at each entrance. The Norman earls invested Chefter with great privileges, which were confirmed by Henry III. in whose reign its government assumed the form of a regular corporation. The fucceeding fovereigns granted various charters and immunities. The date of the last charter is 1676, temp. Charles II. The corporation of Chefter confilts of a mayor, recorder, two sheriffs, twentyfour aldermen, and forty common-councilmen, two of whom are leave-lookers, whose office it is to inform of all persons exerciting trades within the city without being freemen. The two fenior officers are murengers, or receivers of the murage-duties, for repairing the walls; and two are treafurers, who are generally next in fuccession to the mayor. There are likewife a fword-hearer, mace-bearer, and other inferior officers The principal charitable inflitution is the Blue-coat School, which is fituated near the north gate, and was founded, in 1706, by Bishop Stratford, and endowed for the complete maintenance of thirty-five boys for four years: a fufficient fum was allowed to bind them apprentices at the expiration of that time. Various alms-houles are dispersed through the city: the chief of these is for forty decayed freemen, aged fixty years or upwards, who are allowed 4l. annually, and a gown every third year. The infirmary is a handsome structure, situated in an airy spot, on the west side of the city. Chester is distinguished as a fort of provincial metropolis, being a place of occasional residence to many of the gentry of the neighbouring counties. The only manufacture of confequence is that of gloves, which are made in valt numbers, chiefly by women. Additional employment is supplied by a small manufactory of tobacco-pipes, an iron-foundery, fnuff-mills, and some establishments for thip-building. The latter business is carried on to great advantage; many vessels, from 100 to 500 tons, being built yearly. These, in point of strength and beauty, are reckoned as complete and durable as those built in any port in the kingdom: the materials are entirely of British oak. A shot manufactory was likewise established in 1801. The maritime bufiness of Chefter chiefly confitts of the Irish and coafting trades. Great quantities of linen cloth are imported from Ireland; and, for the better accommodation of the merchants, a new hall was erected in the year 1778: this is a handfome fquare brick building, incloting a spacious area, and containing III shops. Besides linen, the com-

modities imported are, wood, hides, tallow, feathers, but. Country round Manchester, 4to. Pennant's Tours in Wales, ter, provitions, and other articles, from Ireland; groceries, from London; timber, hemp, flax, iron, and tallow, from the Baltic; kid and lamb-skins, from Leghorn; fruit, oil, barilla, and cork, from Spain and Portugal; and from the latter, a large quantity of wine. The exports are, coal, lead, lead-ore, calamine, copper-plates, calt-iron, and valt quantities of cheefe, with which veffels are laden at stated times for London from the large cheefe warehouse on the river. The limits of the port extend, on the Chefhire fide of the Dee, to the end of the Wirral; and on the Flintshire fide to the mouth of the river Clwyd; yet the number of thips is but fmall in proportion to the extent of the commerce. The port of Chefter was much improved during the last century. The great breadth of the estuary of the Dee, and the comparative smallness of the body of water flowing through it, rendered it liable to be choked up with the fand brought in by the tide; and this gradually fo increafed, that in the year 1674, veffels of twenty tons could fearcely reach the town; and ships of burthen were obliged to lie under Netton, ten mites lower, which was the origin of that affemblage of houses on the adjacent shore, called Park Gate. In that year a plan was formed by Mr. Audrew Yarrenton, to make a new channel for the river, and at the same time to recover, by embankment, a large tract of land from the fea. Between the years 1730 and 1750, a company was established to execute this project; and different powers were granted from time to time by parliament; but the first operations were so expensive, that many subferibers were obliged to fell their shares at 90 per cent. lofs: but the concern, by that means falling into the hands of fewer and wealthier persons, was at length nearly effected. A fine canal was made, protected by valt banks, in which the river is confined for the space of ten miles, with such a depth of water as to allow veffels of 350 tons to come up to the quays at spring tide. The cross embankments made at the same time, have preserved a considerable quantity of land from the fea; and flourithing farms now occupy the space that was formerly bare sand, covered every tide by the water. Two ferries across the canal, or New River, preserve the communication with the opposite counties of Wales. The population of this city, in 1781, was found to be 14,860; of which 6339 were males, and 8521 females: and, by various calculations from the bills of mortality, its proportional healthiness appears considerably to exceed that of most other towns in England : for which, independent of the falubrity of the air, two especial causes may be affigned; the fituation of the buildings on a dry fand-lione rock, and the far less proportion of poor inhabitants, than that of places where manufactures are the chief support. Under the act of 1801, the number of inhabitants returned was 15,052, of houses 3194. Chester is situated 184 miles N.W. from London; has markets on Wednesdays and Saturdays. Among the more eminent natives of this city, were Dr. William Cowper, a physician, who made fome collections towards a history of Chefter, and published a few tracks on the subject : the Rev. John Downham, author of the Christian Warfare; and those distinguithed mathematicians, Edward Brerewood and Samuel Molyneux; the former, born 1565, had the honour of being the first Gresham professor of astronomy; the latter, born 1680, devoted great attention to the fame science, and to the improvement of telescopes; he was also fecretary to George II. when Prince of Wales, and afterwards a commillioner of the admiralty. Two newspapers are published weekly at Chefter. A concise History of the County and City of Chefter, 12mo. 1791. Aikin's Description of the

and Tour from Chester to London.

CHESTER, a township of Nova Scotia, in Lunenburgh county, in Mahone bay, first settled by a few families from New England. The road from this place to Windfor is 25 miles.—Alfo, a fmall plantation of Lincoln county, in the diffrict of Maine; 9 miles from Titcomb.-Alfo, a township of Hampshire county, in the state of Massachusetts, adjoining Wellfield on the E. and about 20 miles N.W. of Springfield. It contains 177 houses, and 1119 inhabitants. -Alfo, a large and pleasant township of Rockingham county, in New Hampthire; 21 miles in length, with a lake on the west side, the waters of which flow into Merrimack river. This township was incorporated in 1722, and contains 1902 inhabitants, chiefly farmers. It is fituated on the E. fide of Merrimack river, 14 miles N.W. of Haverhill; 35 W. by S. from Portfmouth, and 6 N. from Londonderry. This is a post town, and contains about 60 houses and a congregational church.-Alfo, a township of Windfor county, in the state of Vermont, II miles W. by S. from Charlettown, in New Hampshire, containing 981 inhabitants .- Also, a borough and post-town in Pennsylvania, and the capital of Delaware county; pleasantly fituated on the well fide of Delaware river, near Marcus hock, and 13 miles N.E. of Wilmington, and contains about 60 houses, a court-house, and a gaol. The first colonial affembly was convened here in December, 1682. This place is the refort of much company from Philadelphia, the metropolis, diltant 20 miles by water, and 15 N.E. by land, in the fummer feafon. It was incorporated in December, 1795, and is governed by two burgesses, a constable, a town-clerk, and three affittants .- Alfo, a county in Pennfylvania, W. of Delaware county, and S.W. of Philadelphia; about 45 miles long, and 30 broad; containing 33 townships, of which Weit-Chester is the shire town, and 27,937 inhabitants, of whom 145 are slaves. In the northern parts of this county is found iron ore, which employs fix forges, and producing about 1000 tons of bar-iron annually .- Alfo, a court-house in South Carolina, 22 miles S. of Pinckney court-house, and 58 N.W. of Columbia .- Also, a navigable river on the eastern shore of Maryland; rising two miles within the Delaware state from two fources, Cyprus and Andover creeks, which unite at Bridge-town; purfuing its course nearly S.W. after passing Chester S. nearly three miles, when it receives S.E. creek, and 15 miles further in. a S.W. direction; and discharging itself into Chesapeak bay, at Lore point. At its mouth it forms an island, and by a channel on the E. fide of Kent island communicates with Eastern bay. It is proposed to cut a canal, about II miles long, from Andover creek, 12 mile from Bridgetown, to Salisbury, on Upper Duck creek, which falls into the Delaware at Hook island.—Also, a small town in the county of Shannandoah and state of Virginia, situate on the point of land that is formed by the junction of Allen's, or North river, and South river, which form the Shannandoah; 16 miles S. by W. from Winchester. N. lat 39° 2'. W. long. 78° 22' .- Alfo, a county of Pinckney district, in South Carolina, lying in the S.E. corner of the dillrict on Wateree river, and containing 6866 inhabitants, of whom 5866 are whites, and 938 flaves. It fends two reprefentatives, but no fenator, to the state legislature .- Also, a town in Cumin Cumberland county, Virginia, fituate on the S.W. bank of James river; 15 miles N. of Blandford, and 6 S. of Richmond.

CHESTERFIELD is a large but irregularly built town, fituated on the west side of the river Rother, in Derbyshire, England. Its name decidedly implies that it

originated

originated from a Roman station; as all places whose appellations begin or terminate with "Chester" were occupied by the Romans during their residence in Britain. The Rev. Mr. Pegge, in the 12th vol. of the "Archæologia," observes, that the Roman road from Derby to York passed this way; and that the fortress, or camp, was on the hill called Tapton or Topton, but diftinguished in several ancient writings by the name of Castle-hill. Chesterfield, at the time of the Norman Survey, appears to have been of fo small importance as to be noticed in Domesday Book only as a bailiwick, belonging to Newbold, which is now a small hamlet at a short distance to the north. After this period, it rapidly increased, both in fize and population: a church, erected here towards the end of the eleventh century, was given by William Rufus to the cathedral at Lincoln. In the reign of king John, the manor was granted to William de Briwere, or Bruere, his particular favourite, through whose influence with the king the town was incorporated, and an annual fair of eight days continuance and two weekly markets obtained. The Stanhopes derive the title of earl from this town. Chefterfield has been particularly distinguished from a battle fought here in 1266, temp. Hen. III. between Henry, the king's nephew, and Robert de Ferrers, earl of Derby. After the discomfiture of the barons at Eversham, this earl bound himself by an oath to a forfeiture of his estate and honours, if ever he joined their party again: but after some proceedings in the parliament held at Northampton in 1265, which were obnoxious to the barons, he, in the fpring of the enfuing year, again affembled his followers in his castle at Duffield, and, being strengthened by several distaffected nobles, advanced and took post at Chesterfield; where he was surprised by the forces of Henry, and, after a severe conflict, descated and taken prisoner. The church, which is faid to have been dedicated in the year 1232, is a spacious handsome building, in the form of a crofs, but more particularly remarkable for the appearance of its spire, which rifes to the height of 230 feet; and is so fingularly twifted and difforted, that it feems to lean in whatever direction it may be viewed. An hospital for lepers was founded in this town previous to the tenth of Richard I., and continued till the time of Henry VIII. Here was also a guild, dedicated to St. Mary and the Holy Cross: feveral other guilds are mentioned in ancient writings belonging to the corporation: from the chapel of one of them, called St. Helen's, the grammar-school is supposed to have received the name Chapel-school, by which it is generally known. This school was founded in the reign of queen Elizabeth, and was formerly the largest in the north of England: both the master and usher are clergymen. The prefent school-house was crected in 1710. In the market-place, a neat town-hall was built a few years ago, under the direction of Mr. Carr of York: on the groundfloor of which is a gaol for debtors, and a refidence for a goaler; and on the second sloor a large room for holding the sellions, &c. Several alms-houses have been endowed in different parts of the town. The charter, granted by king John, has been confirmed and enlarged by several fucceeding sovereigns. The government of the town till the reign of Elizabeth appears to have been exercised by an alderman and twelve brethren; but the charter of incorporasion granted by her, vefls it in a mayor, fix aldermen, fix brethren, and twelve capital burgeffes; who are affifted by a town clerk. By an enumeration made in 1788, it was found that Chesterfield contained Sor houses, and 3626 inhabitants. Since that time its fize and population have increased, as appears from the returns under the late act, by which the number of houses was ascertained to amount so 920, and of refidents to 4267. The support of the lat-

ter is principally derived from the iron-works of the town and vicinity, and the manufacture of flockings. Some additional employment ariles from three potteries for coarfe earthen-ware; from a carpet manufactory; and from the making of floes, of which a large quantity is annually fent to the metropolis. Chetterfield is 150 miles N.W. from London.

CHESTERFIELD, a township of America, in the county of Hampshire, and state of Massachusetts, 14 miles N.W. of Northampton, containing 180 houses, and 1183 inhabitants .- Alfo, a township in Cheshire county, New Hampshire, on the east bank of Connecticut river, having Westmoreland to the north, and Hinfdale to the fouth. This township was incorporated in 1752, and contains 1905 inhabitants. It lies about 25 miles S. by W. from Charlestown, and about 90 or 100 W. from Portsmouth. West river mountain in this township has frequently alarmed the inhabitants with explosions and columns of fire and smoke; and in two places the rocks bear marks of having been heated and calcined .- Alfo, a county in South Carolina, in the dillrict of Cheraws, in the N. Carolina line; 30 miles long, and 29 broad .- Alfo, a county in Virginia, fituated between James and Appamatox rivers, about 30 miles long, and 25 broad; containing 14,214 inhabitants, of whom 7487 are flaves .-Also, an inlet on the western side of Hudson bay, in New South Wales, upwards of 200 miles in length, and from 10 to 30 in breadth; full of islands.

CHESTER-LE-STREET is pleafantly fituated in a valley to the work of the river Wear, and on the Roman military way leading to Newcaftle. It is fupposed by Camden to be Condercum of the Romans; by the Saxons it was called Cuneagester, and under that name became the parent of the see of Durham; as it is only 5 miles north of Durham, and 10 south of Newcastle, lying immediately on the high road, and in the neighbourhood of numerous coal works, it has rifen to importance, and promises to become still more important: its ancient and modern history will,

therefore, be not uninterelling.

In 882 the body of St. Cuthbert was first removed from Holy Island, the ancient Lindisfarne, and, after a variety of misfortunes to his followers, was carried to a fettlement appointed for them by the interpolition of such miracles as a conjurer of the present date would refuse to own. These, however, bishop Eardulf pretended were sufficient to stop the wanderings of the religious party which attended the body, and whilit the place afforded a fecure afylum to the facred remains, thefe, in their turn, procured a respectability and reverence for the fituation. Eardulf died in 900. Eighteen of the last years of his life were fpent in Chefler-le-ffreet. The faint becoming afterwards an object of more general devotion, Athelftan, in the 10th year of the pontificate of Wigred, who fucceeded Eardulf, vifited the tomb in his expedition to Scotland, enriched the church by a multitude of gifts, and ordered, should be fall in the undertaking he was entering upon, that his body might be buried as near the relics as possible. In 947 Sexhelme usurped the bishopric; but so addicted was he to the -love of riches, that he oppressed not only the people, but the very perfons who were officiating in the facred duties. We are told by Symcon, that the bishop was admonished by dreams against practices so debasing to his holy functions, and those visions were so deeply impressed upon his mind, and were attended with fuch afflictions of body, that at length he retired from the fee in the greatest diftrefs, and was not rellored till he got without the limits of St. Cuthbert's " circle of power." In the year 995, the fee, which had been enjoyed by Chester, was removed from it, perhaps for ever; the remains of St. Cuthbert, with every

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other facred relie, as well as all other kinds of riches, were removed. The inceffant troubles which dillurbed the province of Northumberland from the time the fee was fettled at Chelter, gave little opportunity for the progress of literature, arts, fciences, or manufactures. The bishops too, whilit they were studious of miracles, appear to have left good works and real piety out of their view. Architecture had made few improvements, for the cathedral of Lindilfarne, from whence the relics of St. Cuthbert had been originally transported, was built of stone, though the monatteries of Jarrow and Monkwearmouth were also erected with the same materials. Yet with all its splendour of prieftly miracles, and princely homage, that of our prefent Subject still remained of wood. All the lands between the Tyne and the Wear, comprehending the prefent county of Durham, were in the pollellion of these eccletialtics, and obtained the title of "Saint Cuthbert's Patrimony," (after the example of St. Peter's Patrimony at Rome) and the inhabitants were reconciled to the claim, by the idea that they were confequently freed from every fort of military the re-affumption of the bishopric by Egelric, at which time it is faid by Symeon, that when the workmen were digging a deep foundation for the new church of Chefter, a very great treasure was discovered, hidden, it was presumed, by the officers of the avaricious Sexhelme, who being obliged to abfcond, left it there; but it is very probable it was a more ancient concealment; be that as it may, the hishop removed it to Peterborough, and withdrew himself from the fee to that place. Unlike, however, the generality of prietts of that day, he employed the treasure upon objects, not of munificence only, but of general utility, as bridges, caufeways, and other public accommodations; it is therefore no wonder this good man should be perfecuted by the rest of the clergy. In 995, the see being removed to Durham, this place loft its confideration and weight, and it is only lately that it has obtained a new importance. The prefent church is a handsome stone edifice, with a nave, side a'fles, and tower; the bale of the latter is of a square form, but above the roof of the church it assumes an octagonal shape apparently more modern, and is terminated by a very elegant stone spire, second only to that of Reyton, (a village mp the Tyne) in the north of England. The entire height is 156 feet. The interior of the church is neat, and well preferved; it contains a fingular arrangement of monuments, with effigies of the deceafed ancestors of the noble family of the Lumlevs. The deanery house, now the feat of the ancient family of Hedworth, commands a fine view of Lumley caltle, and is furrounded by excellent meadow grounds. The manor of Chelter deanery is copyhold, belonging to the bishop, and its jurisdiction is very extensive: it has a coroner, and gives name to the ward. The township, as returned under the late act, contains 1662 inhabitants, and 259 houses; most of the latter are of stone, and they are chiefly arranged in one flreet, nearly a mile in length.

CHESTERTOWN, a post town of America, and the capital of the county of Kent, in Maryland, feated on the west side of Chester river, 16 miles S.W. of George town, 38 E. by S. from Baltimore, and St S.W. of Philadelphia; and containing about 140 houses, a church, college, courthouse, and gaol. The college was incorporated in 1782, by the name of Washington; and in 1787, it had a permanent fund of 1250 l. a year fettled upon it by law. N. lat.

59° 12'. W. long. 75° 57'.

CHESTNUT. See Chesnut.

CHEST-ROPE, in a ship, is the same with the guest. or gift-rope, and is added to the boat-rope when the boat is

CHE towed at the stern of the ship, to keep her from shearing. i. c. from fwinging to and fro. CHEST-TREES. See CHESS-trees.

CHESULLOTH, in Ancient Geography. See CHESE.

CHETA, in Geography, a river of Siberia, which runs into the Charanga. N. lat. 70° 20'. E. long. 107° 29' .-Also, a river of Russia which runs into the Enisei. N. lat. 69° 40'. E. long. 85° 14

CHET-CHEOU-OUEI, a town of China, in the province of Hou-quang; 700 miles S.S.W. of Peking. N.

Att. 30° 16'. E. long. 108° 54'.

CHE-TCHING, a town of China, in the province of Quang-tong; 8 leagues W.S W. of Hoa.—Alfo, a town of China, of the third rank, in the province of Kiang-fi;

CHETECAN-HEAD, a cape on the west coast of the island of Cape-Breton. N. lat. 46° 40'. W. long. 60° 45'.

CHETIB and KERI, in Billical Literature, the one derived from and, to write, and the other from 1877, to read, are terms frequently used by Jewish authors to express the difference between the reading of the MSS, and that of the printed copies of the Old Testament. Chetib is the word adopted in the text, and is marked with a small circle above it, which refers to a different reading in the margin, named the Keri, commonly distinguished by the letter koph p. and fometimes written in Rabbinical characters. These different readings are supposed to have been gogue. With regard to the introduction of the keri and chetib, the celebrated R. Dav. Kimchi observes, that during the captivity, the facred books were loft or dispersed, and wife men, who excelled in the knowledge of scripture, were dead. Hence it happened, that the men of the great fynagogue, who restored the law to its former state, found varieties in different books, and employed the knowledge they possessed in adjusting them. But in those instances, with regard to which their knowledge failed, they wrote one word, without pointing it, or wrote it in the margin, without inferting it in the text; and they wrote one word in the margin, and another in the text. Kennicott's Dif-

fert. General. p. 10. CHETIMACHAS FORK, in Geography, an outlet of the river Missippi in Louisiana, about 30 leagues above New Orleans, which, after running in a foutherly direction about 8 leagues from that river, divides into two branches, one of which runs fouth-westerly, and the other foutheasterly, to the distance of 7 leagues, when they both difcharge their waters into the Mexican gulf. On the Chetimachas, fix leagues from the Missisppi, there is a settlement of Indians of the same name; and thus far it is uniformly 100 yards broad and from two to four fathoms deep, when the water is lowest. At its mouth in the Missippi fome drifted logs have formed a shoal which it would not be difficult to remove; and the Indians fay that no impediment to navigation occurs between their village and the gulf. The banks are higher than those of the Missippi, and so elevated in some places as never to be overflowed. The productions are the same as those of the fize and compactness of the caues, is superior. By proper attention the most prosperous and important settlements in

that colony might be formed upon its banks.

CHETIMACHAS, grand lake of, a lake of Louisiana, near the mouth of the Missippi, 24 miles long, and 9 broad. Lake de Portage, which is 13 miles long, and 12 broad, communicates with this lake at the northern end, by a Arait 3 of a mile wide. The country bordering on thefe lakes is low and flat, producing cyprefs, live and other kinds of oak; and on the eaftern fide the land between it and the Chafalaya river is divided by a great number of navigable ftreams, occasioning as many islands. Nearly opposite to an island, at a small distance from the fouth-eastern store of the lake of Chetimachas, there is an opening which leads to the feat about 150 yards wide, and having 16 or 17 fathoms of water.

CHETRAN, a town of Arabia, 6 miles fouth of Kalaba, CHE-TSIEN, a city of China, of the first rank, in the province of Koci-tcheou, 875 miles S.S.W. of Peking. N.

lat. 27" 30'. E. long. 1070 44'.

CHE-TSUEN, a town of China of the third rank in the

province of Se-tchuen; 30 miles N.E. of Mao.

CHE-TSUNG, a city of China, of the fecond rank, in the province of Yun-nan; 340 leagues S.S.W. of Peking, N. lat. 24° 56′. E. long. 103° 38′. CHETTÆA, in Ancient Geography, a maritime town of

Africa, in Marmarica; fituate, according to Ptolemy, in

the nome of Libya.

CHETTENHAM, in Geography, a township of America, in the county of Montgomery, and state of Pennsylvania.

CHEVAGE, or CHIEFAGE, in Law, formed of the French, chsf, head, according to Bracton, fignifies a tribute by the head; or a kind of poil money, anciently paid by fuch as held lands in villainage, or otherwife, to their lords, in acknowledgment.

teknowiedginen.

The word feems also to have been used for a sum of money yearly given to a man of power, for his patronage and protection, as to a chief, head, or leader: but lord Coke says, that it is a great misprisson for a subject to take sums of money, or other gifts, under the name of chevage, in this sense of the term. Co. Litt. 140.

In the first sense, Coke observes, there is still a kind of chevage substituting in Wales, called amalyr; paid to the prince of Wales for the marriage of his daughters; anciently by all, now only by some. Lambard writes it chivage.

The Jews allowed to live in England, long paid at Eafler chevage, or poll-money: viz. threepence per head, as ap-

Bears by Pat. S Ed. I. par. 1.

CHÉVAGNES, in Geography, a town of France, in the department of the Allier, and chief place of a canton, in the diltrict of Moulins, 9 miles east of it. The place contains 850, and the canton 6873 inhabitants: the territory includes 370 kiliometres, and 11 communes.

CHEVAL, in Zoology. See Equus Caballus, horse.
CHEVAL marin. See HIPPOPOTAMUS amphibius. Cheval marin is also the name given to the Syngnathus hippo-

campus, by Bellon.

CHEVAL de Bois, in Military Language, a wooden horse. It is commonly formed of two planks nailed to tressles, on which the French used to put their horsemen when they wished to punish them for some slight offence, as well as girls of a debauched and bad life, when they were found

with the foldiers.

CHEVAL de Frife, in Fortification, a large piece of wood, or beams, generally from 15 to 18 fect long, fluck full and traverfed with wooden pins or flakes from 5 to 6 feet long, pointed and armed each of them with iron at both ends. Chevaux de frife are made use of for stopping up breaches, and securing the avenues or passages to a camp against the intends both of infantry and cavalry; for rendering the passages along gullies, ravines, and narrow places impracticable. They are sometimes mounted on wheels with artificial first to roll down in an assault on the assaults, and at other times they are used instead of retrenchments, as also in front of ditches in lieu of abatis. On the medal of Licinius, is sound a kind of cheval de frise, made with spikes interposed; serving to express a sortified camp.

CHEVALER, in the Manage. A horse is said to chevaler, when, in passaging, upon a walk or a trot, his far fore-leg crosses or over-laps the other fore-leg, every second time or motion.

CHEVALERIE. This word figuified formerly what was afterwards and is now called robic fle; and took its origin from this circumflance, that the principal exercifes of the nobles were war, jufts, and tournaments, which were carried on or performed by them on horfeback. Chevaleric has, perhaps properly enough, been diftinguished into four kinds; namely, La militaire, La regulaire, L'honoraire, and La fociale.

La chevalerie militaire, was that which was acquired by arms, and was a mark of diffinction that was conferred with the observance of several military ceremonies, as the girding of a sword on him who was honoured with the title of chevalier, the putting of gilded spurs on him, the recommending to him the punctual and manly suffilment of the duties and functions of his prosession, and so forth.

La chevalerie regulaire was that order of chivalry or knighthood in which one engaged to wear a certain habit, and to carry arms for the defence of religion, and the protection of

pilgrimages to holy places, &c.

La chevalerie honoraire was that order of chivalry or knighthood which princes bestowed on each other, and on the first and favourite seigniors of their courts.

La chevalerie fociale was only a particular conflitution of people who affociated themselves under that title for dif-

ferent purpofes.

CHEVALET, in Fortification, an affemblage of feveral pieces of timber for supporting a bridge of fascines or planks, to enable a body of troops to cross a small river. Chevalets are also used for bridges of communication in the dirch of a fortified place between detached works.

CHEVALET d'armes, in Military Language, a fort of belltent, that was formerly used in the French service. It was conical and somewhat resembled the wigwam of an Indian.

CHEVALIER, ANTONY-RODOLPH, LE, in Biography, a learned French Protestant, was born in 1507, at Montchamps, near Vire in Normandy, and studied Hebrew first at Paris under Vatable, and then at Oxford under Fagins. He was tutor in the French language to princefs, afterwards queen Elizabeth, and remained in England till the death of Edward VI. He then removed to Germany, and having married the daughter-in-law of Tremellius, he perfected himfelf in the oriental language under his direction. From Strasburg, whither he was invited in 1559, he went to Geneva; where he taught Hebrew, and published an improved edition of Pagninus's Thefaurus. He afterwards fettled at Caen, but the civil wars obliged him to take refuge in England, and was kindly received by queen Elizabeth. However, as foon as the termination of the religious differences at Caen allowed of it, he returned thither; but the fatal day of St. Bartholomew again expelled him; and in his voyage to England he was feized with a diforder, which terminated his life at Guernsey, where he was landed, in 1572, at the age of 65. He translated from Syriac into Latin the " Targum Hierofolymitanum," and St. Paul's epistle to the Galatians; and his accurate Hebrew grammar, entitled "Rudimenta Hebraicæ Linguæ," 4to., was printed at Wittemberg in 1574. He had undertaken a bible in four languages, but died before it was finished. Moreri. Gen. Biog.

CHEVALIER, formed of the French cheval, horse, and that of the Latin cavallus, in a general acceptation, fignifies

a knight or horseman.

From the most remote period of modern history the title of chevalier has been very eminent and of high consideration.

The noviciate necessary for arriving at it was long and trouble on the second of the second o

through the first or principal degrees that conferred nobility, and to be irreproachable in point of morals and behaviour, as well as in point of bravery and courage. The admission or reception of a chevalier was very august and magnificent; it was accompanied by a degree of pomp altogether extraordinary. It even attracted the presence of stranger kings and emperors, whose children were not born chevaliers, and cou'd not be received as fuch, but subject to the formalities prescribed for esquires and gentlemen. When all these things began to decline and get into disuse, sovereigns established different orders of chivalry. See the articles Ecu-YER, and ORDRES de chevalerie militaire.

It is used, in Heraldry, to figuify any cavalier, or horseman armed at all points; by the Romans called cataphractus EQUES, now out of use, and only to be seen in coat armour.

CHEVALIER, in Ornithology, chevalier aux pieds rouges of Buffon. See Scolorax calidris, the red-fhank.

CHEVALIER of Ferm. Surin, the spur-winged waterhen. See PARRA jacana.

CHEVALIER vert, of Buffon. See RALLUS bengalenfis,

Bengal water-rail.

CHEVALIERS d'armes, ou chevaliers servans, form the third rank in the order of Malta. See the article SER-VANS d'armes.

CHEVALIERS errans, knights errant. Thefe were worthies, who were constantly wandering along the roads and ways in fearch of fine adventures and giving challenges and defiances

CHEVAN. See CHIAN.

CHEVANCY LE CHATEAU, in Geography, a town of the Netherlands, in the duchy of Luxemburg, about 12 'miles from Montmedy.

CHEVANTIA, in our Old Law Writers, is used for a

loan or advance of money upon credit.

CHEVAUX de Frise. See CHEVAL de Frise. CHEVAUX bien dresses, in Military Longuage, horses well

broken. See CAVALIER and CAVALRY.

CHEVAUX de troupes légéres, the horses of light troops. They ought to be as well conditioned as the horses of the heavy cavalry, though they may not be fo tall and powerful. They should however be neat, active, and light, as the duty and employment of those, who mount them, are to harafs the enemy inceffantly, and to drive him before them when they have an advantage over him; as also to render a retreat long and troublesome when the enemy is superior.

CHEVAUX legers. This was a corps of cavalry confiting of 200 men called maitres (masters), who formed part of the guard of the kings of France. It is remarked, to the honour of this corps, that they never loft either their kettledrums or standards. It owed its formation to Henry IV., and was originally composed of men of arms of Navarre.

CHEVECHE, in Ornithology, Grande Chevêche of Buffon, one of the synonymous names of the Short-eared Owl, STRIX brachyotos. The great Brown Owl, STRIX Ulula, is also called Grande Cheveche by some French authors.

CHEVELLE, a term used by the French Heralds to express a head where the hair is of a different colour from the

rett of the head.

CHEVERNY, in Geography, a town of France, in the department of the Loire and Cher; 7 miles S. of Blois. CHEVET du canon, in Gunnery, a billet, block, or quoin,

sufficiently strong for supporting the breech of a cannon. CHEVET du mortier, a wedge placed between a mortar

and its bed or carriage for elevating it with.

CHEVETAINE, a Military Term. The French cavalry as well as infantry were anciently conducted by chevetaines,

blesome. It was requisite, in order to obtain it, to pass that is to say, captains or connetables, who held not their commands for life, but by commission during the continuance

of a war or of a particular expedition.

CHEVILLE d'offut, in Gunnery, an iron bolt or piu, which ferves to bind together the whole of a gun-carriage by traverfing or running across through it. Those that have iron buckles, hasps, or staples, are called chevilles à oreilles.

CHEVILLE Ouvrière, a large nail or bolt, by means of which the limber is placed below the carriage of a piece

CHEVILLES de travaux militaires, artillery vails of different fizes, to fuit the purposes for which they are used.

CHEVILLON, in Geography, a town of France, in the department of the Upper Marne, and chief place of a canton in the district of Wasiy. The place contains 850 and the canton 5108 inhabitants; the territory includes 1374 kiliometres and 15 communes.

CHEVILLY, a town of France.

CHEVILS, or KEVELS, in Ship-building. See KEVELS. CHEVIN, a name used in some parts of England for the

chubb. See Carito, and Fishing.

CHEVIOT HILLS, in Geography, hills of England in the county of Northumberland, near which was a free chafe, called Cheviot, curruptly "Chevy Chafe," the scene of the encounter between the Piercies and the Douglasses, celebrated in the ancient popular fong: 6 miles from the borders of Scotland, and 18 S. of Berwick. These hills form a regular ridge, running from the S.W. where they join those of Galloway on the N.E., and thretching from near Berwick to the Solway frith, constitute a kind of natural rampart between the two kingdoms.

CHEVIRE', a town of France, in the department of the

Mayne and Loire; 5 miles N.W. of Bauge. CHEVISANCE, in the Law of England, is faid to be an agreement, or composition, or bargain between a creditor and debtor; but it feems chiefly to denote an indirect gain, in point of ulury, &c. In our flatutes it is often mentioned, and most commonly used for an unlawful bargain or contract. See the statutes against usury, anno 12 Annæ. In the flat. 13 Eliz. c. 7. it is used simply in the sense explained by Dutrefne, for making contracts.

The word is faid to be derived from the law French chevir, to come to the end, or finish any thing; in the same sense

as the modern French use achever.

CHEVITIÆ and CHEVISEÆ, denote in Mem. Angl, heads of ploaghed lands.

CHEVRE, a crab or gin. A machine for raising stones, large pieces of timber, and pieces of artillery. See CRAB and GIN.

CHEVRE, in Zoology, the goat among French writers: CHEVRE fauvage of Tavenier is the Caucasan Ibex. See

CAPRA Ægagrus

CHEVREGNY, in Geography, a town of France, in the department of the Aifne, and diffrict of Laon; 5 miles

CHEVRES, a town of France, in the department of the

Charente; 18 miles E. of Angoulesme.

CHEVRETTE, in Artillery, an engine to raise guns or mortars into their carriages; it is made of two pieces of wood of about four feet long, standing upright upon a third, which is fquare: they are about a foot afunder, and parallel, and are pierced with holes exactly opposite to one another, having a bolt of iron, which being put through these holes, higher or lower at pleafure, ferves with a hand-spike, which takes its poife over this bolt, to raife any thing by force.

CHEVRETTE, and CHEVREUIL, in Zoology, the name given by French writers to the Roe. See CERVUS Capreolus. CHEVREUIL, the name under which Du Pratz de-

feribes the Cervus virginianus. Chevreuil is likewise the of Guinea, Moschus pygmæus of Erxleben, Chevrotain des.

French name of the Roe, CERVUS capreolus.

CHEVREUSE, in Geography, a town of France, in the department of the Seine and Oile, and chief place of a canton, in the district of Versailles; 8 miles S.W. of it. The place contains 1730 and the canton 10,326 inhabitants; the territory includes 210 kiliometres and 21 communes.

CHÉVRON, or CHEVERON, in Heraldry, one of the honourable ordinaries of a shield, formed of two-fold lines placed pyramidically, and reprefenting two rafters of a

house joined together, without any division.

It descends from the chief towards the extremities of the coat, in form of a pair of compasses half open. Thus, he bears gules, a chevron argent. See plate, Heraldry.

The chevron is the symbol of protection, say some; or of constancy, according to others: some fay, it represents the knight's fours; others, the head-attire of priestesses; others, a piece of the lift, or the barrier or fence of a park.

When it is alone, it should take up the fifth part of the field, according to Leigh; and according to others, a third part : when it is accompanied with any other bearings, its breadth must be adjusted thereby.

It is borne divers ways; fometimes in chief, fometimes in bafe, fometimes enarched, fometimes reversed, &c.

The chevron is fometimes charged with another chevron,

one third of its own height.

Two chevrons are allowed in the same field, but no more: when they exceed that number, they are called chevronwife, or chevronels. There are chevrons of feveral pieces. The diminutions of the chevron are the chevronel, which is half the chevron, and a couple close, which is in space half the

chevronel. See CHEVRONEL and COUPLE-close.

A chevron is faid to be abased, when its point does not approach the head of the chief, nor reach farther than the middle of the coat; mutilated, when it does not touch the extremes of the coat; cloven, when the upper point is taken off, fo that the pieces only touch at one of the angles; broken, when one branch is separated into two pieces; couched, when the point is turned towards one fide of the escutcheon; divided, when the branches are of feveral metals, or when metal is opposed to colour; and inverted, when the point is towards the point of the coat, and its branches towards the chief.

A coat is faid to be chevroned, when it is filled with an

equal number of chevrons, of colour and metal.

Counterchevroned, is when it is so divided, as that colour is opposed to metal, and vice versa.

Per CHEVRON, or Party per CHEVRON, is when the field is divided by only two fingle lines, rifing from the two base points, and meeting in a point above, as the chevron does.

CHEVRONEL, a diminutive of chevron; and, as fuch, only containing half a chevron. Morgan and Guillim tell us, that when there are more than five chevronels in a coat, they should be called couple-closes; but Edmondson fays, that if there are 6, 7, 8, 9, or 10 in a coat, and they are placed at equal distances from each other, they ought to retain their name of chevronels; but in case they are placed in pairs, then, and then only, they are to be called couple-closes. The same writers also affert, that a chevron between two chevronels should be termed." A chevron between two couple-closes;" but Edmundson is of opinion, that a chevron cottifed, or a chevron between two chevronels, would be a truer blazon, and much better understood.

CHEVRONNE, or CHEVRONNY, fignifies the parting of the shield, several times chevronwife: Gibbon says, chep-

cone of fix. CHEVROTAIN, in Zeology, Buffon calls the Music

Indes Orientales. See Moschus pygmaus.

CHEVROTINE, in Military Language, a leaden ball of a fmall diameter, of which there are fometimes from 66 to

166 to a pound.

CHEVROTTER, in French Music, is a term given, in derifion, by mulicians to a bad fliake: when a finger, inflead of a rapid vibration on two diffinct founds at the diftance of a whole tone or a femi-tone, flutters only on one and the same note. The Italians call this pretended kind of flake, toffe di capra, "a goat's cough." Early in the 17th, century, before singing had been much cultivated, while a true shake was little known, it was common to write down, and even to print, an iteration of the fame note at a close, as a grace, when a real shake was afterwards required, as at a close in F:



This appears in the Sefle Mufiche of Claudio Seracini of Sienna, printed and published in 1624. We should have supposed this to have been the caprice of an individual, had we not found it elsewhere; but the fame monotonous trill. occurs, expressed in notes, not only in songs of this period, but is recommended to the practice of students in finging, by the celebrated Caccini, in his Nuove Musiche, printed at Venice, 1615.

CHEUX, in Geography, a town of France, in the department of Calvados, and diffrict of Caen; two leagues W. of it. CHEWASE, a town of America in the Tennessee go-

vernment; 24 miles S.W. of Tellico.

CHEWING balls, in Farriery, a fort of balls contrived for horfes to chew, not swallow at once; not intended asfood, but as incentives to appetite; and on other medicinal occasions very useful to the creature. The receipt now most efteemed for these balls is this: take liver of antimony, and of affa fætida, of each one pound; wood of the bay-tree. and juniper wood, of each half a pound; pellitory of Spain, two ounces: let all these be powdered together; then add as much fine grape-verjuice as is necessary to make the whole into a paste. This is to be formed into balls of about an ounce and a half weight, which are to be dried in the fun. These are the cheaving-balls, and are to be used one at a time in the following manner. The ball is to be wrapped up in a linen rag, and a thread is to be fastened to this, in such a manner that it may be tied to the bit of the bridle, and kept in the mouth: when the bridle is taken off, the horse will immediately eat; and when one ball is confumed, another is to be tied up, and put in its place, till the intent is an-

CHE-YAM-HOEI-HOTUN, in Geography, a town of Afia, in the kingdom of Corea ; 437 miles E.N.E. of Peking.

CHEYNE, GEORGE, in Biography, a native of Scotland, where he was born in the year 1670, was at first intended for the church, but attending the lectures of Dr. Archibald Pitcairne, he became a profelyte to his doctrines, and determined on practifing medicine. Having taken his degree of doctor, about the year 1700, he came to London, and foon after published his theory of acute fevers, in which he attempts to explain the doctrine of fecretion, on mechanical principles. His next work, on fluxions, was published in 1705, and procured his election into the Royal Society. Arrived at a maturer age, he calls this a juvenile production, and acknowledges it was justly censured by De Moivre, to whom, and to Dr. Oliphant, he makes an apology in the preface preface to his "Effay on Health and long Life," for having treated their centures with rudeness. This was followed foon after by his "Philosophical Principles of Natural Religion," containing the elements of natural philosophy, and the proofs This was dedicated for natural religion, ariling from them. to the earl of Roxburgh, for whose use it appears to have

As Cheyne was a voluptuary, the disposition to corpulency, which he inherited from nature, had so increased, by the time he attained a middle age, that he was become unwieldy, short-breathed, and lethargic; alarmed at these appearances of a broken constitution, he determined on altering his mode of living, to which he justly attributed the evil; accordingly he confined himself to a milk and vegetable diet, and submitted to a total abilinence from fermented liquors. The experiment succeeded, and he was soon relieved from the most diffreffing fymptoms of his complaints. Struck with the benefit he had received, he published in 1722, an " Essay on the true Nature and due Method of treating the Gout," together with the nature and quaitty of Bath waters, and the vature and cure of most chronic diseases. As he had resided for fome years, during the fummers, at Bath, and drank the waters, he attributed much of the benefit he had received to them.

His next publication, which appeared in 1724, was his famed "Effay on Health and long Life," Svo. In this he inculcates the necessity of a strict regimen, particularly in the article of diet, both in preventing and in curing difeafes. It was dedicated to Sir Joseph Jekyll, master of the rolls, who had been under the author's care. In the preface the author gives an account of his former works, which he cenfures, where faulty, with great freedom. He is particularly fevere on his own conduct, wherever he has treated other

writers with levity or difrespect.

Although fo much benefited by an abstemious course of living, he had not been able, it feems, to continue it, after his complaints were subdued; he once more therefore became a free liver, and indulged himself in wine, and other luxuries, but finding his complaints returning, he had again recourfe to a milk and vegetable diet, and with fuch manifest advantage, that he continued it for the remainder of his life, which was extended to the year 1742, when he died at Bath, being 72 years of age. He had feveral years before, viz. in 1733, published his "English Malady," or treatise on neryous difeases of every kind, as spleen, vapours, lowness of fpirits, hytheric and hypochondriae defeafes, which he thought were more frequent, if not confined, to this country. This work became very popular. In it is contained a candid and judicious narrative of the author's cafe, which may be read with advantage, particularly by persons who, by intemperance, have impaired their health. For the titles and accounts of a few other productions, fee Haller's Bib. Med, and the Gea. Biog. from which much of the above is

CHEZE, LA, in Geography, a town of France, in the department of the North Coalts, and district of Loudeac;

11 league S.E. of it.

CHEZERY, a town of Savoy, caded to France in the

CHEZY L'ABBAYE, or CHEZY-SUR-MARNE, a town of France, in the department of the Aifne, and chief place of a canton in the district of Chateau Thiery; 1½ league S.S.W. of it. The place contains 1286 and the canton 11,938 inhabitants; the territory includes 2521 kiliometres and 20 communes.

CHIA TERRA. See TERRA Chia.

Italian poet, was born at Savona in 1572. He passed his elementary studies at Rome, and was received into the Roman college. He was a youth of unbounded passions, and was concerned in many disputes, one of which forced him to become an exile for many months. He at length found means to appeale all animolities, and devoted himself to his literary pursuits. He was first noticed on account of some Latin verses, but he afterwards turned his talents to Italian poetry, of which he became a voluminous and highly admired author. His reputation as a poet caused him to be invited to the courts of feveral princes. By Ferdinand I. grand duke of Tufcany, he was munificently rewarded on account of verses composed for a dramatic exhibition given to the prince of Spain, and for others written in honour of the marriage of the princefs Mary, who became queen of France. Charles Emanuel, duke of Savoy, preffed him to refide at Turin; and on his refusal, made him magnificent prefents, and liberally paid his expences whenever he vilited that capital. Vincent Gonzaga, duke of Mantua, was another of his patrons, and affigned him an annual pension. But nothing conduced fo much to his reputation as the notice taken of him by the cardinal Barberini, himfelf a poet; who not only addressed to him an ode, but when pope, under the title of Urban VIII. honoured him with a brief filled with praises and high compliments. The republic of Genoa, of which he was a subject, conferred on him many honours and privileges, one of which was that of being covered when he addreffed the ferene college. Chiabrera lived univerfally respected to the age of 86; he married a wife at 50, but left no children. As a poet he filled up the interval between the most flourishing and declining ages of Italian poetry. He aimed at originality, and used to declare, that, like his countryman Columbus, "he was refolved to find a new world, or perish in the pursuit." This is perhaps to be chiefly understood of his lyrical productions, in which, it is faid, that he naturalized the graces of Anacreon and the fublime flights of Pindar. He enriched the Italian verse by the introduction of various new measures. He was likewise an elegant profe writer; his "Familiar Letters" possess the graceful eafe fitted to that species of composition. A collection of his most escemed poems was published at Rome, in 3 vols. in 1718.

CHIACA, or Ciaca, in Ancient Geography, a p'ace of Afia in Armenia, between Dascusa and Meintene a Roman garrison, according to the Notitia Imperii.

CHIAGORAS, a river of Africa, confidered by the ancients as one of those which contributed to form the

CHIAJA-BECH, or Kraya-ber, among the Turks, an officer whole duty or bulinels is to ferve the Aga of the Janizaries in quality of first maitre d'hotel in the name of all

the corps. See Klaya-bey.

CHIATA-Boch, or fecond lieutenant general, is the thi ! general officer of the Janizaries. He yields in nothing to the fecond general officer or first lieutenant general, who is called Seymer Bayy, in point of privilege, authority, and command. Some judgment may be formed of the good power of the Aga, or chief of the Jan 22 ries, from rights and authority of this second lieutenant general, . -> is captain of the richest company, namely that of Be -Dary's, and governs it despotically. He is heir to such of his foldiers as die without children and parents, and to bestows at his pleasure on his subaltern or subordinate oille s the governments of the cities of war or the offices i

CHIAIS, a feet of Monguls or Moors, inhabit ; CHIABRERA, GABRIEL, in Biography, a celebrated Surat in the East Indies, who, as well as the model Perti. s

Persians belonging to the same class, do not consider Abubeker, Omar, and Osmyn as the lawful successors of Mahomet, but as usurpers; esteeming Ali, the son-in-law of Mahomet, as the person who ought to have immediately succeeded to the place of the prophet; whereas the Turks, who are called "Sunnites," or "Sonnites," believe the contrary. This difference of belief is the cause of an irreconcileable hatred between these people, which is encouraged and cherished by the princes on both sides. See Shitts.

CHIALISH, in Geography, called also Yulduz, and by the Turks Karashar, or the black city, a town of Little

Buchari

CHIAMETLAN, a province of North America in Mexico, bounded on the north by Culican, on the east by the Zacatecas, on the fouth by Xalasco, and on the west by the Pacific ocean. It is said to be 37 leagues from north to south, and as wide from east to west. The soil is fertile; many mines of silver are sound in the country; and it produces a great quantity of honey and wax. The native Indians are well made and warlike. The river St. Jago discharges itself into the sea here; N.W. from the point of St. Blas. The chief town is St. Sebastian.—Also, a town of Mexico in the province of the same name; 325 miles N.W. of Mexico. N. lat. 23° 40′. W. long. 105° 1′.

CHIAMETLAN-Iflands, a cluster of small islands in the Pacific Ocean, near the coast of Mexico. N. lat. 22° 20'.

W. long. 104° 26'.

CHIAMPA, a small maritime country of Asia, bounded on the north by the desert of Cochinchina, on the east and fouth by the Indian sea, and on the well by Cambodia, from which it is separated by a ridge of mountains. Mr. Pennant, after M. d'Anville, calls this tract Ciampa; and Sir George Staunton (Emb. vol. i. p. 364.) substitutes Tsiampa, and says that it appears from the sea, as a sandy tract intersected with rocks. Mr. Pennant informs us from an old French narrative, that the people of this country are called Loyes; and are, large, muscular and well made, and have a reddist complexion, rather stat nose, and long black hair; their dress is very slight. The king resides at Feneri, the capital: and was tributary to Cochin-china. The productions of the country are cotton, indigo, and bad silk. Their junks are well built, and much employed in sishing.

CHIAN Marble. See MARBLE.

CHIANA, in Geography, a river of Italy, which joins the Tiber, about 10 miles S. of Orvieto.

CHIANNI, a town of Italy, in the duchy of Tuscany;

16 miles E.S.E. of Leghorn.

CHIANTLA, a town of Mexico, in the province of Chiapa; 100 miles S.E. of Chiapa dos Espagnols.

CHIAOUS, among the Turks, are officers in the corps of Janizaries. They are of three kinds or descriptions, and are dillinguished by different surnames. The first of these is the bas-chiaous, who as captain of the fecond Oila, or company, has the charge of registering those who enter into the corps of Janizaries. He receives them by taking them by the ear and giving them a cuff. He inflicts punishments on the guilty, and ranges the foldiers in a line, when the Aga is going to pass, in order that each of them may have it in his power to bless him, by repeating some words of the Alcoran. This bas-chiaous commands two others, who are subordinate to him, each of whom is called Porta-chiaous. Neither of thefe is a captain, but rather a fort of lieutenant or captain-lieutenant. But their duty is to cause the sentences of the captains against delinquent foldiers to be carried into execution. For the foldiers of that corps have the fingular privilege of being judged by their own proper officers, or those of their own companies. It is also the VOL. VII.

duty of the l'orta-chiaous to direct the order of march for the infantry, and more especially to salute the first with hands joined when it passes before the general. Every baschiaous then, or captain of a company of Janizaries, has two captain-lieutenants, or lieutenants under his orders.

CHIAOUS, an officer in the grand fignior's court, doing

the business of an usher.

The word, in the original Turkish, signisses envoy.

He bears arms offensive and defensive, and has the care of prisoners of distinction. His badge is a staff covered with silver; and he is armed with a scimiter, bow, and arrows. The emperor usually chooses one of this rank to fend as embassador to other princes. The chiaous are under the direction of the chiaous-bafchi, an officer who affists at the divan, and introduces those who have business there.

CHIAPA, in Geography, a province of Mexico or New Spain in North America; bounded on the north by the province of Tabasco, on the south-east by Vera-paz, on the fouth by Guatimala, on the fouth-west by Soconusco, and on the west by Guaxaca. It is about 85 leagues from east to west, and its breadth, where it is narrowest, is about 30, and in some parts nearly 100. This country abounds with forests of pine, cyprefs, cedar, oak, walnut, and wood vines; with aromatic gums, balfam, liquid amber, tacamahaca, copal, and other articles, that yield excellent balfams; and also with corn, cocoa, cotton, and wild cochineal; together with fruits of various kinds, as pears, apples, quinces, &c.; and achiotte with which the natives colour their chocolate. Chiapa has also a great variety of cattle; and it is particularly famous for a fine breed of horses, in such estimation, that they fend their colts to Mexico, at the dillance of 500 miles. This province teems with beafts of prey, and also with foxes, rabbits, and wild hogs. In the hilly parts, more especially, are fnakes of different forts, some of which are faid to be 20 feet long, others of a red colour, and streaked with white and black; which the Indians tame and even coil round their necks. The inhabitants of this province are of a fair complexion, courteous in their disposition and manners, well skilled in music, painting and mechanics, and respectful to their fuperiors. The country is well watered; its principal river is Chiapa, which running from the north through the country of the Quelenes, falls into the fea at Tabasco. This river enables the Chiapefe to carry on a confiderable trade with the neighbouring provinces, which confifts chiefly in cochineal and filk; and of the last commodity the wives of the Indians manufacture handkerchiefs of all colours; which are purchased by the Spaniards and sent to Europe. Chiapa is reckoned by the Spaniards as one of their poorest provinces, because it has no mines or fand of gold, nor any harbour on the South sea, yet in fize it is inferior to none except Guatimala. To the Spaniards it is of great importance, because the strength of their empire in America very much depends upon it; and it may be easily entered by the river Tabasco, Puerto Real, and its vicinity to Yucatan.

CHAPA, the name of two towns in the above province: the one is fometimes called "Cividad Real," or the royal city, and the other "Chiapa de los Indos," inhabited by Spaniards. The former is a bifhop's fee, and the feat of the judicial courts. It is delightfully fituated in a plain, furnounded with mountains, and almost equally distant from the North and South seas, and 100 leagues N. from Guatimala. The bishop's revenue is Sooo ducats a year. The town is neither populous nor rich; and the Spanish gentry who reside in it are proverbially proud, poor, and ignorant. It has several monasteries, a cathedral of cigant structure, about 400 Spanish families, and a fauxbourg, containing about 100 Indian families. The city is governed by magis-

trates chosen among the burgesses of the town, in consequence of a peculiar privilege granted to them by the king or Spair. The principal commerce of this place is ecoca, cotton, and coclinical. N. lat. 17°, W. long, 96° 40°.

The other town, called "Chiapa de los Indos," belonging to the Indians, is the largest they have in this country, and lies in a valley near the river Tabasco, about 12 leagues N.W. of "Cividad Real." The celebrated Bartholomew de las Cafas was the first bishop of Chiapa. See the biographical article CASAS. The town is large and rich, with many cloitters and churches; and no town has a greater number of Indians valuing themfelves on their rank than Chiapa. On the river they have feveral boats, with which they often exhibit fea-fights and fieges. In the environs are feveral farms well stocked with cattle, and some sugar plantations. Wheat is brought hither from the Spanish Chiapa; and of this they make hard bifcuit, which the poorer Spaniards and Indians carry about and exchange for cotton, wool, and fuch triffing things as they want. In this town there are about 20,000 Indians. The heat of the day is extreme, but the nights are cool.

CHIAPPEN, in Mythology, an idol of the favages in the valley of Tunia, near Panama; being their Mars, or god of war. Before they fet out for battle, they facrifice flaves and prifoners in honour of him, and befmear the body of the idol with the blood of the victims. In most of their enterprises they consult Chiappen; and they previously undergo a penance for two months, abltaining from the use of salt

and all commerce with women.

CHIARENZA, or CLARENCE, in Geography, a town of European Turkey, on the weil coast of the Morca, not far from the Mediterranean, near the river Sillus; once a confiderable place, but now almost ruined; 84 miles S.W. of

Livadia, and So W. of Corinth.

CHIAREZZA, Ital. Clearness; a Musical Term, one of the most effectial requisites in a musical composition. The definition of good music, by that spirited and inventive vocal composer, Galuppi, more frequently called Buranello, though thort, is very comprehensive. it consists (the told the author of the Present State of Music in France and Italy) in vaghezza, chiarezza, e buona modulazione.

Clearness in music is a very different quality from clearness in literature. In prose, verse, or reasoning, viva voce, when a thought has been prefented in the most appropriate terms, exempt from all extraneous matter, but accompanied with the accessor necessary to its developement, and intelligibility, it is clear; endeavouring to be too concise occasions obscurity, and in trying to be clear, we become diffused:

--- Brevis effe laboro,

Obscurus fio.

In literature, the greatest fecret of the art, is not the faying all that may be faid, but to let that be clearly conceived which is not faid. It is totally different in music: the moment we become diffused, we cease to be clear; so that as the opposite to clearness in literature, is obscurity; the opposite to clearness in music, is consulton.

A mufical idea, apart from all expression, is not an operation of the mind. It arises from a kind of instinct, or, if you please, from a sentiment which taste only directs; and just as it springs from the head of the musician, it is received by the audience, without the least obscurity. We speak here of simple melody. But if harmony is added to it, each part increases complication, obscures the principal idea, and it is then that clearness is wanted.

Each phrase in music should have a character, and this character arises from the melody. If the accompaniment

to this melody forms another melody of a different character from the principal part, and is interesting, to which should we attend? there will then be a consusion.

To make use of a term in painting, upon these occasions, when there are many melodies in motion at once, we should aim at transparency; the several parts should be heard through

ach other.

M. Framery, in the Energel. Meth., has extended this article, and pointed out the leveral caufes of confusion and obscurity; one of which he says, and perhaps with truth, is the present rage for modulation, which destroys the unity of melody, and calls off the attention from the melody to the harmony; breaks the chain of thought, and drives from the mind the original motive, and like sauce that is too acid, or too sweet, totally destroys the slavour of the principal viand. See Transparency, Melody, Modulation, Charge,

and LABOURED ACCOMPANIMENT.

Though clearness is a common epithet, and well underflood in common things, it is peculiarly necessary to be explained as applied to music. In compositions of many ports, when the principal melody is not diffurhed by the too great complication or activity of the subordinate parts; when not only the principal melody is heard through the reft, but that every part carrying on a particular defign, can be diffinguithed without confusion; here it is that the word transparent might be usefully admitted into the musical technica. However numerous the parts, the principal, the best or most interesting melody should be respected, to whatever part it may be affigned. When many deligns are carried on at the fame time, as in double fugues with counter subjects, in writing which, as the compoler's talk is different, fo is that of the hearer; as the science of the one is on the stretch, to is the attention of the other.

The compofer should never forget the place and the audience for which he is at work. In productions for the church, where tranquility and profound attention are supposed to reign, learning and complication are more likely to be understood than in a theatre, where the interest of the drama, the beauty of the poetry, the gestures of the actors, and the pomp of representation, all conspire to attract the attention of the audience from the labours of the musical composer. These considerations not only furnish an apology for a thin score in opera songs, but render it an object of praise. Clearness in dramatic music is so much more necessary than in that of the church or even chamber, as the objects that distract the attention of the audience are more nu-

merous.

CHIARI, FABRIZZIO, in Biography, a painter and engraver of confiderable reputation in his profession, was born at Rome in 1621, and died in 1695. He made several etchings from Poussin, which, though slightly executed and incorrectly drawn, manifest the hand of a master; among others are the following, viz. "Mars and Venus in a Landfeape," "Venus and Adonis," and "Venus with Mercury and several children." Strutt.

CHIARI, GUISEPPE OF JOSEPH, an eminent historical painter, was born at Rome, in 1654, and having studied the arts of design under Galliani, placed himself under the celebrated Carlo Maratta, whose style he copied and with whom he so ingratiated himself, that he was entrusted to sinis several of his pictures and designs, and recommended to other employment. As he advanced in reputation, he was engaged in many great historical works for churches and palaces, while he exercised himself in fancy compositions. His pictures, in which he exhibited delicacy of touch, an agreeable tone of colouring, and elegance and correctness of drawing, have been held in

high

high estimation. What he wanted in genius, fays Mr. Fu- lately established. The neighbouring country is covered with feli, he strove to supply by industry, moderation, and judgment. He died at Rome in 1727.

CHIARI, in Geography, a town of Italy, in the Bressan, between Brescia and Crema; 12 miles W. of Brescia.

CHIARO, Scuro, & Obscuro, among Painters. Sec

CHIAROMONTE, in Geography, a town of Sicily, in the valley of Noto; 25 miles W. of Syracuse. CHIASCIO, a river of Italy, which runs into the Tiber,

near Torfciano.

CHIASELLIS, a town of Italy, in the country of Friuli, belonging to the state of Venice; 7 miles W. of Palma-la-Nuova.

CHIASMOS, in Ancient Greek Medical Writers, is the concourse or meeting of any two things under the form and figure of a cross, or the letter X chi, whence it is named. The adverbs xiagi, and xiaginus, fignify the same thing: thus the optic nerves are faid to meet xiasixus, fo as to cross each other.

CHIASTOS, the name of a bandage in Oribatius, fo

called from its refembling a cross, or the letter X.

CHIASTOS, in Rhetoric, the same with what is otherwise called diallelos.

CHIAVAN, in Geography, a town of Persia, in the province of Ghilan; 120 miles N.W. of Reshd.

CHIAVARI, a town of Genoa; 15 miles W.N.W. of

CHIAVENNA, County of, a country of Swifferland, in alliance with the Grifons, fituated at the foot of the Rhatian Alps, N. of the lake of Como; about 8 leagues long and 6 wide. This county is fertile in wine and pastures; the inhabitants raise a considerable quantity of filk, but not corn fufficient for their wants, which they procure of their neighbours for cattle, wine, and filk. 'The inhabitants are Catholics, and dependent in spiritual matters on the bishop of Como. The county of Chiavenna came under the fovereignty of the Grifons at the same time and in the same manner with the Valteline. During the war of the Valteline, it frequently changed its mafters; but at the peace of Milan, was finally restored to the Grisons. It is ruled, like the other provinces, by a Grifon governor, under the name of commilfary, whose power in some instances is less limited than that of the judges of the Valteline. The criminal court of justice is formed by the commissary and the assessor, who is appointed by the commissary, from three candidates nominated by the county. He must attend all examinations, concur in ordering torture for the conviction of a criminal, be present when it is inflicted, and ratify the final fentence; but as the affestor owes his place to the commissury, and shares in his exactions, he is a mere cypher, and feldom ventures to exert his right of interposing a negative. This circumstance renders the courts of justice in Chiavenna more uniformly iniquitous than even those of the Valteline; for the close union between the commissary and affestor almost precludes a chance of redress, and gives unbounded fcope to oppression. The mode of proceeding established in this court of justice is similar to that of the Valteline, which fee. In civil causes the commissary receives 5 per cent. of the contested property, and an appeal from his decision may be submitted to the syndicate.

CHIAVENNA, the capital of the above county, is fituated at the foot and upon the fide of a mountain, and contains about 3000 perfons. The inhabitants carry on but little The principal article of exportation, excepting the stone-pots called " Lavezzi," is raw filk, of which the whole country produces about 3600 pounds. A manufacture of filk stockings, the only one in the town, has been

vineyards; but the wine is of a meagre fort, and only a small quantity of it is exported. The great support of Chiavenna is the transport of merchandise; - this town being the principal communication between the Milanefe and Germany, and from hence the goods are fent either by Coire into Germany, or through Pregalia and the Engadinas into the Ty-rol. A duty is laid by the Grifens upon all the merchandife which passes through Chiavenna; but it is fo sma'l, that the whole customs, including those in the Valteline, are farmed for 17,000 florins, or about 1260/. per annum.

The principal object of curiofity in the environs is the fortress in ruins, feated upon the fummit of a rock, which overlooks the town, once celebrated for its almost impregnable strength. The strongest part of the fortress was constructed upon an infulated rock, rent, as some suppose, from the contiguous mountain, by a violent convultion of nature. Others suppose that the separation of this rock was the work of art, and afcribe it to the order of Galeazzo Vifconti, in 1343. The length is above 250 feet, the height about 200, and the greatest distance from the adjoining rock about 20. Close to Chiavenna is a rock of asbestos. Coxe's Travels, &c.

CHIAULSA, a town of Mexico, in the province of Tlaf-

cala; 20 miles S. W. of Puebla de los Angelos.

CHIAVORIO, a town of Germany, in the duchy of

Carinthia; 8 miles S. of Tarvis.

CHIAUSI, among the Turks, officers employed in executing the vizirs, bashaws, and other great men; the orders for doing which the grand feignior fends them wrapped up in a black cloth, on the reception of which they immediately perform their office. See CHIAOUS.

CHIBARA TAI KIAMEN, in Geography, a post of Chi-

nese Tartary; 6 leagues N. of Geho.

CHIBI, in Zoology, the name of the domestic cat in Paraguay, according to Mr. d'Azara, in his history of the quadrupeds of that country. It is also called by others

CHIBIGOUAZON, or MBARACAYA-GOUAZOU, the great cat, the name by which the people of Paraguay distin-

guish the ocelot, according to M. d'Azara.

CHICA, or CHICHA, liquor used by the Indians of South America, in the provinces of Quito, Peru, &c. in the times of the Incas, and still very common. The method of making it is this: they steep the maize in water till it begins to sprout, and then spread it in the sun, where it is thoroughly dried; after which they roast and grind it, and of the flour they make a decoction of any flrength at pleasure. It is then put into jars or easks, with a proportional quantity of water. On the fecond or third day it begins to ferment, and when that fermentation is completed, about two or three days more, they deem it fit for drinking. It is reckoned very cooling; and it is also inebriating Among other medical properties that are ascribed to it, they fay it is diuretic; and to the use of this liquor the Indians are supposed to be indebted for their being strangers to the strangury or gravel.

CHICABEE, in Geography, a mountain of N. America,

in the state of New England.

CHICAL, in Zoology. According to Haffelquist this is

the name of the common jackal in Turkey.

CHICALY, or CHICALY-CHICALY, in Ornithology, 2 bird very common in the woods of the illhmus of Panama. It is described by Wafer, (Dampier's Voyage) as a bird of great beauty. Bachelier also speaks of it (Voy.-aux Indes Occidentales). The note of this bird, according to these writers, approaches that of the cuckow; but sharper,

a variety of lively colours, as red, blue, &c. : the tail is long, and the bird carries it in a straight direction like the cock. It lives on wild fruits, inhabits trees, and is rarely feen on the ground. Some ornithologists have imagined this to be a species of Ara, but the true genus does not appear to

be correctly ascertained.

CHICAMA, in Geography, a river of South America in the kingdom of Peru, and jurisdiction or intendancy of Truxillo; the water of which is distributed to the adjacent country by canals, and ferves to render them productive, in great plenty of fugar-canes, grapes, and fruits of different kinds, both European and Creole, and particularly maize. From the banks of the river Lambayeque to Choco, fugarcanes flourish near all the other rivers; but none of them equal in goodness or quantity those near the river Chi-

CHICANE, or CHICANERY, in Law, an abuse of judiciary proceeding, tending to delay the cause, and deceive

or impole on the judge, or the parties.

Some derive the word from ciccum, the skin of a pomegranate: whence the Spaniards formed their chico, little, flender; chicane being converfant about trifles.

The French call folicitors, attorneys, &c. gens de chi-

CHICANE is also applied in the schools, to vain sophisms, distinctions, and subtilties, which immortalize disputes, and obscure the truth: as, the chicane of courts does jus-

CHICANES de fossee, chicanery of the ditch or fossée, in Military Language, very ferious and sometimes very bloody contrivances, itratagems, and attempts between the beliegers and the befieged, when the former endeavour to make themselves masters of the covert-way and the ditches. Befides intrepidity and refolution on the part of both, a good deal of coolness, intelligence, and invention is required in those who conduct, on such occasions, either the attack or defence. The night is generally chosen for such enterprifes.

CHICANGA, or CHACANGA, in Geography, a kingdom of Africa, which was formerly a part of the country of Monomotapa, rich in gold mines. It is called "Manica" from the principal town, which is fituated on the river Sofala, in

S. lat. 20° 15'. E. long. 28°.

CHICAPEE, or CHICKABEE, a small river of North America, in the state of Massachusetts, which rises from several ponds in Worcester county, and running S.W. unites with Ware river, and 6 miles farther it discharges itself into

the Connecticut at Springfield.

CHICAS, CHICHAS, or TARIJA, a jurisdiction of South America, in the audience of Charcas, and belonging to the archbishopric of Plata, about 30 leagues S. of Plata; the greatest extent of which is about 35 leagues. This is now a province of the new viceroyalty of Buenos Ayres. The temperature of this district is various, some parts of it being hot and others cold; and hence it has the advantage of producing corn, fruits, and cattle. This country every where abounds in mines of gold and filver; and especially that part called Chocayas. Between this province and the country inhabited by wild Indians, runs the large river Tipuanys, the fands of which, being mixed with gold, are washed like those of the river Caravaga. The gold mines in Chicas and Tarija, by the statement of Helms, are 4; the silver mines 5; and it has I lead mine.

CHICCAMOGGA, a large creek of North America, which runs north-westerly into Tennessee river. Its mouth is 6 miles above the Whirl, and about 27 S.W. from the

and more rapid. The plumage is elegantly diversified with mouth of the Hiwassee. N. lat. 35° 18'. The Chiccamoz ga Indian towns lie on this creek and on the bank of the Tennessee. See Chickamages.

CHICHA. See JESSO. CHICHACOTTA, a post on the frontier of Bootan, in the track from Bengal to Tibet; which was rendered famous by being an object of contest between the British troops, and the people of Bootan, in the war carried on upon their frontier in the year 1772. As a fortification, it was then, as it is at this day, a large oblong fquare encompassed by a high bank, and thick stockade. The Bootans defended it with oblinacy, and a battle was fought in its vicinity, in which they displayed much personal courage; though it was impossible they could long contend against the superior advantage of firelocks and cannon over matchlocks, the fabre, and the bow. But though they were compelled to give way, they made Chichacotta, for a confiderable time after, a post of danger and alarm, which the British troops were obliged alternately to possess and relinquish, till they were finally driven back, and purfued beyond Buxadewar or Passaka. It was restored at the close of the war, and now constitutes the Bootan frontier. The house in the fort, to which captain Turner was conducted in his embaffy to Tibet, was of a totally different construction from any in Bengal. The first apartment, to which the afcent was by a wooden ladder, was elevated about 8 feet from the ground, and supported on forked props: bamboos, resting on the forks, served as beams: the floor of one room was formed by mats of split bamboo, that of the other by pieces of plank from 3 to 6 feet long, and 1, or 11 broad, hewn by the axe, and laid on beams of fir. A prop rose from the center of the groundfloor to the roof, which was of thatch; and the fides of the room were encompassed by split bamboos, interwoven latticewife, fo as to leave interflices for the admission of light and air. The apartments were divided by reeds placed upright, confined at top between two flat pieces of bamboo, and refting at bottom in a groove. In the whole fabric there was no iron; the thatch was very low, projecting confiderably beyond the walls; fo that the rooms were equally defended from the rain and fun. N. lat. 26° 35'. E. long. 89° 35'. Turner's Embally, &c. p. 19.

CHICH'E, a town of France, in the department of the Two Sevres, and the district of Thouars; 6 miles S.E. of

Breffuire.

CHICHEROBE, a town of America in the state of

Georgia; 20 miles N. of Tugeloo.

CHICHESTER, a city of Suffex in England, is raifed on the fite of a Roman station, on ground a little elevated in the midst of a very level tract of country. The four principal freets, which are tolerably wide, and paved, branch off at right angles from the center of the city, in lines bearing direct towards the four cardinal points of the compass. At the end of each of these streets was formerly a fortified gateway: but thefe have been destroyed, and of the ancient embattled wall which formerly environed the city, only some portions remain. The principal of them is on the north fide, where a spacious terrace was raised about the year 1725. This being covered with fine gravel and shaded by a row of lofty elm trees, affords an ornament to the city, and a pleasant promenade to the inhabitants. The whole circumference of this place within the walls is about 422 perches, or 6963 feet, embracing an area of between 100 and for acres of land.

That Chichetter was a Roman flation appears evident from the termination of its present name, and from several relics peculiar to the Romans that have been found here at different times. In the year 1727 a tessellated pavement was discovered near the episcopal palace; and Mr. Hay, in his recent History of Chichester, says it was the residence of the Roman proprætor, and that a heathen temple was crected here. On a place called the Revile, near the city, are the vestiges of a large encampment, the earth-works of which, according to Mr. Hay, extend about three miles in length, by one in breadth; but the Chichester guide states with more probability that it is an oblong square, of about half a mile in length, and half as much in breadth. The Roman

name of this station was Regni or Regnum. During the Saxon dynasty the name was changed to Cissa-cester, from Cissa, a king of the South Saxons, who, arter a long reign of 74 years, died A.D. 577. From this period Cilfa-cetter continued the feat of the monarchs of this diltrid for above 300 years, and was attacked at different times, by the kings of Wessex, and by the piratical Dancs. At the Roman conquest, there were, according to the domesday book, one church and above 100 dwelling houses within the walls; and foon after that event, Hugh de Montgomery was created by the conqueror, earl of Chichester and Arundel. To fecure himfelf in these possessions he raised castles, and augmented the fortifications of the former place. Camden states that Chichester was taxed at this time with 15 l. per annum for the king, and 10 l. for the earl. The latter having obtained leave of his monarch to establish a fee in his newly acquired town, granted the whole fouth well quarter of it to Stigandus, who was the twenty-second abbot or bishop of Selsea, and the first of Chichester. It appears that two or three churches were erected here, and fucceffively destroyed, before the present cathedral was founded. This is stated by Mr. Hay to have taken place during the prelacy of Bishop Seffrid, who, "affisted by six other prelates, confecrated the church on the second of the ides (i. e. the 12th day) of September A. D. 1189." (History of Chichefter, 8vo. p. 417). Judging from the styles of architecture which prevail in this building, and from fome auxiliary circumstances, we should rather coincide with dean Littleton, in attributing to bishop Ralph the " greatest part of the infide walls of the nave, choir, and transept." This bishop was installed in 1091; he began the church in 1115, and died in 1123. He fignalized himself not so much for his buildings, as for his energy and spirit in resisting the papal encroachments which were then attempted to be made under the legation of Cardinal de Cresna, whose shameful exit from this kingdom is noticed, and justly reprobated by Hume, Henry, &c. in their histories of England. Bishop Ralph appears to have been liberally affilted in the progress of his eathedral by Henry I. In the year 1187, a devastating fire deltroyed nearly the whole city of Chichester; and the wood work with some other parts of the cathedral was confumed, or confiderably injured. This damage was, however, repaired by Bishop Seffrid and his immediate succeffors; one of whom was the famous bishop Poore, who was translated from this fee to that of Sarum in 1217, where he exerted and displayed his knowledge of, and taste for, architectural science in deligning the present magnificent fabric at the latter city. It is extremely probable that the principal additions of Chichester cathedral, which are easily distinguithable by pointed arches and their corresponding decorations, were completed about this time. The spires of this, and that at Salisbury are traditionally said to have been built by the fame person, and their general resemblance seems to justify the conclusion. Both of these are, however, of a date much later than any other parts of the fabrics, but are both trifling variations of that ftyle which prevailed during the long and pious reign of Henry III. when the artificers and ecclefialtics were animated by the fame enthufialtic ardour

of emulation. The ornaments of the interior of this cathedral, the stalls of the choir, and the tasteless paintings on the ceilings, appear to have been executed in the time of bishop Sherburn, who was translated to this see in 1508. This pre-late was employed many years by Henry VII. in a diplomatic capacity, and he is faid to have brought into England an Italian artist of the name of Bernardo, who was commitfioned to produce an historical painting on large panuels of oak, and which were to occupy both fides of the fouth transept of Chichester cathedral. It was intended to repre-sent the founders and benefactors of the church. This picture, or these pictures, though extremely bad as works of art, are very curious specimens of early portrait painting, and may perhaps be considered among the earliest examples of the kind in this country. The east end of this cathedral has totally loft its original character: as the chapel of the virgin is converted into a library beneath which are large vaults for the Richmond family, and for that of Waddington; also a cemetery for that of Millar. A large number of monuments is affixed to different parts of the cathedral, many of which are not only ugly in themselves, but are highly injurious to the stability and beauty of the building. One monument among these deserves particular notice, as a memorial to genius, and a specimen of English talent. This was erected by a subscription raised among the citizens, to commemorate the name and character of Collins the poet, who was a native of this place. The monument is by Mr. Flaxman, who has displayed his usual taste and talent in its defign and execution. Here are some other marble monuments by the same artist. The fize, &c. of Chichester cathedral may be estimated by the following measurements. From east to west, 410 feet; cross ailles, or transept from north to fouth, 131 feet; breadth of body and aifles at the west end or feet; height of the central tower and steeple 270 feet, which is 134 feet less than that of Salisbury; height of towers at well end 95 feet, and of another tower, which stands on the N.W. side of the church, 107 feet; height of the roof, or vaulting 61 feet. The four fides of the cloifters are respectively 120, 100, and 108

The walls of the city inclose fix parishes: and without the walls are two other parishes. Belides the churches here is a fine ancient market cross, a guildhall; a market-house, and council chamber, a work-house, a theatre, a custom-house, the bishop's palace, a free school-house, and some chapels: The crofs, an elegant octangular structure, highly ornamented, was built by bishop Story, who was advanced to this see in 1475. "There is a degree of grandeur in the defign, and elegance of execution in this crofs, superior to any other structure of the same class in England." A Plan with details, &c. of it is given in the Architectural Antiquities of Great Britain, vol. i. 4to. The guildhall is a spacious ancient building, fituated in a retired part of the city: here was a nunnery, founded by William dean of Chichester, in the reign of Henry II. It is now converted into an hofpital under the patronage of the dean and chapter, and is supported by revenues from several valuable estates. Withsupported by revenues from several valuable estates. in its walls is a neat chapel. The bishop's palace is a large pile of building, and the gardens are spacious. The river Havant nearly encircles the city, and is navigable for small veffels: but the quay or harbour is about two miles from the city walls. In the reign of king James I. an act was obtained to widen and deepen the river up to the city; but this has not yet been effected.

Chichester fent members to parliament in the twentythird year of Edward I.; and by charter granted, in the reign of James II. A.D. 1685, it is governed by a mayor,

recorder,

recorder, and 33 common councilmen. It fends two members to parliament, who are elected by the inhabitants paying foot and lot, and certain freemen, in all amounting to about 620 voters. Befides the mayor, who is elected from the aldermen, here are four justices of the peace, before whom and the mayor most of the petty causes and litigations are tried.

Here are two weekly markets, on Wednefday and Saturday: and every Wednefday fortnight the market is very large. Here are also five annual fairs. This city is 62 miles S.W. from London: and contains 831 houses, and 4744 inhabitants. Hay's History of Chichester, 8vo. 1804.

About two miles and half N. of Chichefter is the village of Lawant, near which is a feat belonging to the duke of Richmond, who has another at Rawmere, and another at Goodwood, about 4 miles from the city. Four miles N.E. of Chichefter is Wefl Stoke, the cheerful refidence of lord George Lenox. A short distance hence is Wefl Dean the feat of Lord Selfea.

CHICHESTER, Upper and Lower, two townships of America, in the state of Pennsylvania, and county of Dela-

ware

CHICHESTER, a fmall township of Rockingham county in New Hampshire, about 35 miles N.W. of Exeter, and 45 from Portsmouth. It lies on Suncook river; was incorpo-

rated in 1727, and contains 491 inhabitants.

CHICHICHOCO, a mountain of South America, in the province of Quito, being a branch of the fnowy mountain of Carguairalo, and one of the flations in the Cordilleras of the Andes, where the Spanish astronomers fixed a fignal in measuring the degree of a meridian. Whilst they were in this station, an earthquake occurred, which reached 4 leagues round the country.

CHICHICTLI, in Ornithology. See STRIX chichiali.

Lam

CHICHILTOTOTL, the Mexican name of the filver-

beaked tanager, tanagra bee d'argent of Sonnini.

CHI-CHOW, in Geography, an island of the China fea, not far from Formosa, which in reality consists of two small islands close to each other. The south coast of this island, on Dalrymple's chart, is in N. lat. 22° 13', but by the observations of captain Marchand, who anchored in the Solide under this island, its S. coast is in N. lat. 22° 4' or 5'.

CHICHLEY, HENRY, in Biography, an English bishop, born of obscure parents at Higham Ferrers, in Northamptonshire. He was educated at Winchester school, from whence he was admitted at New college, Oxford, where he took the degree of doctor in civil and canon law. He was afterwards chaplain to Robert Medford, bishop of Salisbury, by whom, in the year 1402, he was promoted first to the archdeaconry of Salifbury, and in two years afterwards to the chancellorship of that diocese. His various talents brought him into notice, and he was employed by Henry IV. and V. in various important negociations. He was fent embaffador to pope Gregory XII. to congratulate him on his advancement to the papacy; the bishopric of St. David's becoming vacant during his absence, he was promoted to that fee by the pope, who confecrated him with his own hands. In 1414, he was translated to the see of Canter-bury. The commons having addressed the king to seize upon the revenues of the church, archbithop Chichley employed his talents to divert the storm. He advised the clergy to grant the king a large fubfidy, and then enflamed the ambition of the monarch to lay claim to the provinces of France which had belonged to his predecessor. He went over to France with the king, and on his return before his fovereign,

he caused abundance of processions to be made for obtaining the favour of heaven upon his arms, and, at the many fynods which he held, exhorted his brethren to open their purfes freely in support of so just and necessary a war. He was frequently with the king in his camp, and was prefent with him at Paris after the furrender of that capital. In 1421, he crowned queen Catherine in London, and during that year he baptized prince Henry, who, when he came to the crown, ever treated him with a fort of filial respect. During the minority of that prince he was nominated first privycounsellor, but never exhibited any inclination to engage in matters of state, confining himself to his ecclesiastical functions. He founded a noble college and large hospital at his birth-place, and endowed them with ample revenues, which were confiderably augmented by his two brothers, who were aldermen of London. In 1426, pope Martin V. exhibited fome tokens of displeasure against the archbishop for having vigorously opposed certain encroachments made by the see of Rome. The prelate was obliged to make his concessions before he could be restored to favour. He was a liberal benefactor to the university of Oxford, and was the founder of the college of All-Souls, one of the noblest foundations in the university. He likewife displayed much munificence by contributing large fums in adorning and improving the cathedral at Canterbury, and for building Croydon church, and the bridge at Rochester. This prelate, who was greatly respected, died in 1443, and was buried in a monument which he had himfelf erected in Canterbury

CHICINCE, in Geography, a town of Lithuania; 8

miles N. of Rohaezow

CHICK Pea, in Botany. See CICER.

CHICKAHOMINY, in Geography, a small navigable river of America, in Virginia. At its mouth in James river, 37 miles from Point Comfort, in Chefapeak bay, is a bar, which has only 12 feet water at common flood-time. Vessels of fix tons burden may go 32 miles up the river.

CHICKAMACOMICO, a creek of America, in the flate of Maryland, and county of Dorchefter, which runs fourtherly between the towns of Middle town and Vienna,

and discharges itself into Fishing bay.

CHICKAMAGES, a denomination given to part of the Cherokee nation of Indians in America, which occupies five villages on the Tenneffee river. See CHICKAMOGGA.

CHICKASAW, an American creek, which falls from the East into the Wabash, a little below fort St. Vincent.

—Also, a river which discharges itself into the Missispip, on the east lide, 104 miles N. from the mouth of Margot and 67 S.W. of Mine-au-fer. The lands here are excellent, and covered with a variety of useful timber, canes, &c. This river may be ascended, during high shoods, upwards of 30 miles, with boats of several tons burden.

CHICKASAW Bluff lies on the eastern bank of the Missinghpi, within the territories of the United Stares, in N. lat. 35°. In 1795, the Spaniards suddenly built a strong fort in this place; but it was given up by a treaty of 1796.

CHICKASAWS, a famous nation of Indians, who inhabit the country on the east fide of the Miffifippi, on the head branches of the Tombigbee, Mobile, and Yazoo rivers, in the N.W. corner of the state of Georgia, and N. of the country of the Chactaws. This territory is an extensive plain, tolerably well watered from springs, and of a pretty good foil. They have seven towns, the central one of which is in N. lat. 34° 23′. W. long. 89° 30′. The number of persons, formerly occupying this district, was reckoned to be 1725; and of these 575 are said to have been watriors.

CHICKEN,

CHICKEN, in Ornithology, the young of the gallinaceous order of birds, and efpecially of the common hen. Chickens require no meat for two days after they are hatched: and they are first fed with small oat meal, dry or steeped in milk, and the crumbs of white bread: and as they acquire strength, with curds, cheese-parings, &c. Green chives chopped with their food will preserve them from the rye, and other diseases of the head: and care should be taken to furnish them with a proper supply of clean water. In order to have fat crammed chickens, they should be cooped up when the hen forsakes them, and fed with wheat-meal mixed with milk, and made into a passe: this diet will fatten them in about a fortnight. See Cock, Fowl, and Hatching.

CHICKEN-POX, in Medicine. See VARICELLA.

CHICKWEED, in Botany. See Alsine and Arenaria. Chickweed, Ballard. See Bufonia.

CHICKWEED, Bastard. See BUFONIA. CHICKWEED, Water. See Callitriche.

CHICLANA, in Geography, a town of Spain, in the province of La Mancha; 22 miles N. of Ubeda.

CHICOCKA, in Mythology, an idol of the African negroes, supposed to be the guardian of the dead. His

negroes, fupposed to be the guardian of the dead. His statue, composed of wood, is erected near their burial-

places.

CHICOMUZELO, in Geography, a town of Mexico, in the province of Chiupa; remarkable for a cave which has a narrow entrance, but is fpacious within, having a stagnant lake, of clear water, two fathoms deep towards the banks.

CHICOMXEN, a town of America, in the state of

Maryland; 38 miles S.S.W. of Annapolis.

CHICORACEOUS, in Botany. M. Vaillant divides plants with composite flowers into three classes or families; the cynarocephalous, the corymbiferous, and the chicoraceous.

CHICOREE, in Conchology, the name given by the French collectors to a variety of shells which are surnished with foliated processes, as in the Murex ramofus of Linnæus. The collectors in this country distinguish the same kind of shells by the general appellation of endives, which literally have the same meaning as the French chicorée. With scientific collectors such indefinite terms are not however adopted, as shells of very different genera are comprehended under this title, although the greater number of them are murices.

CHICOVA, in Geography, a kingdom or diffrict of Africa, having on the north, Butua; on the well, Bororos; and on the fouth Mocaranga, called Monomotapa. This kingdom is reported by travellers to abound with filver mines. The capital of the fame name is feated on the river Zambezi, which inundates the country like the Nile, except in the month of April. Solar test of F. Plang account.

in the month of April. S. lat. 15° 40'. E. long. 29° 30'. CHICOYNEAU, MICHEL, in Biography, a native of Blois, studied medicine at Montpellier, and was admitted doctor in that faculty on the 6th of October, 1652. In 1659, on the death of James Durant, he succeeded to the professorship of medicine; to this post was soon afterwards added, those of anatomy and botany, with the superintendance of the royal botanical garden, much to the regret of his brethren, who were sufficiently mortified, Astruc relates, to find a young man occupying such important polls, which had hitherto been bestowed as rewards for age and merit. Their opposition however did not prevent his being foon after made chancellor and counsellor of state. Knowing the enmity of his opponents he was careful, by diligence in the discharge of his duties, to render their efforts to get him dispossessed of his offices, inessectual. Chicoyneau became blind towards the latter part of his life, which was extended to the year 1702. He had three fons, one of whom only, his fecond fon, furvived him.

CHICOYNEAU, FRANCIS, was born at Montpellier, in

1672. In March, 1693, he was made doctor in medicine. and his father had interest sufficient to a rocure have the reversion of the several offices he held on his death, and get appointed his substitute, to perform the outies of the when from lofs of fight he was rendered incapable of exer a ing them. The diligence he used in performing the duties posed on him, and the suavity of his manners, gained him the esteem both of his colleagues and pupils. As he had diffinguished himself equally as a practitioner and teacher in medicine, he was appointed one of the physicians who were fent to Marseilles, in the year 1720, to assist in putting a stop to the dreadful ravages of the plague, which in the end almost depopulated that city; M. Chirac, his fatherin-law, who was first physician to the regent, having re-commended him as qualified for that office. The attention and zeal he shewed in this situation, gave complete satisfaction to the inhabitants, and was rewarded on his return to Montpellier, by a pention; and in 1731, on the death of M. Chirac, he was chosen to succeed him as first physician to the king; he was also made counsellor of state, and honorary member of the Academy of Sciences. He died in 1752, being 80 years of age. In 1721 he published "Observations et Réslections touchant la Nature, les Evénements, et le Traitement de la Peste de Marfeilles," 12mo. It was the joint work of himfelf, and Meffrs. Verny and Deidier, who had been joined with him in the commission. Its principal trait is the opinion contained in it, that the plague is not contagious. Influenced by that opinion they had boldly entered the apartments of the difeafed, and fortunately escaped infection; but the confidence thence inspired, probably contributed in spreading the disease, and making it more general, by inducing the inhabitants to neglect separating the fick from the healthy. Having received orders from the king to collect the opinions of different physicians on the plague, and particularly all the facts and observations that had been published on the subject of the plague at Marfeilles, he published his collection under the title of "Traite des Causes, des Accidens, et de la Cure de la Peste, avec un recueil d'observations, et un détail circonstancie des précautions qu'on a prifes pour le fouvenir aux befoins des peuples affliges de cette maladie, ou pour le prévénir dans les lieux qui en sont ménaces." Paris, 1744, 4to. This work is drawn up with candour, and is valuable from the number of ufeful facts contained. His fon,

CHICOVNEAU, AIME FRANÇOIS, born in 1699, was made doctor in medicine at Montpellier in 1722. After receiving the rudiments of his education under his father, he went to Paris, and was farther instructed by his grand-father, Chirac, Du Verney, Winslow, and Vaillant. Returning to Montpellier, he was first made demonstrator in botany, an office he filled with fuch credit, that he obtained the reversion of the places occupied by his father, and supplied his place when he was at Marfeilles, and afterwards, on his being appointed physician to the king. As he was particularly attached to botany, which he cultivated with zeal, he fet himself with diligence to repair and almost renew the botanical garden, which had been founded by Henry IV. His father having procured him the of-fice of counfellor in the court of aids, he applied himfelf to the study of the law, and with such success that he was foon enabled to discourse on the subjects which came before him in that department as readily as on those in medicine. He was an elegant Latin scholar, and his orations were admired for the purity of the language, as well as for their neatness and perspicuity. But all these good qualities were foon loft to the world, as he died in 1740, aged only 38 years. Haller's Bib. Eloy. Dict . Hift. Gen. Biog CHICQUERA,

CHICQUERA, in Ornithology. See FALCO Chiquera.

CHICUALTI, the name of a kind of snipe found in the mountainous parts of India; the exact species is not diffinctly known: perhaps the fame with the Noëlua canora of Nieremberg, the Indian name of which according to that author is Chicuatli. Its beak, he fays, is long, black, and slender; its head is marked with undulated streaks of yellow near the eyes; the breast and belly of a whitish colour, and the throat with fome black feathers intermixed with white ones; the back variegated with black, yellow, and grey. This bird is found principally among the mountains, where it generally runs on the ground. It is eafily bred in cages, and feeds indifcriminately on various kinds of ford.

CHIDNEI, in Ancient Geography, the name of an an-

cient people who inhabited the vicinity of the Euxine fea. CHIDRIA, a place in the Thracian Cherfonefus, whither some of the Athenians, after the defeat at Ægos-Potamos, made their escape.

CHIEF, a term denoting head, or a principal thing or person. The word is formed of the French, ckef, head. We fay the chief of a party; the chief of a family, &c.

Agamemnon was the chief of the Greeks who belieged Troy. The Romans fometimes refused triumphs to their victorious general, because the conduct of the chief was not answerable to his success. The abbeys that are chiefs of their order are all regular; and it is there the general chapters are held.

CHIEF baron. See BARONS and COURT of exchequer. CHIEF, in Heraldry, is the upper part of the escutcheon,

reaching quite across, from side to side. The aims of France are three golden fleurs de lys, in a

field azure; two in chief and one in point.

CHIEF is more particularly used for one of the honourable ordinaries, drawn horizontally across the face of the shield, and containing the uppermost third part of the escutcheon. Plate, Heraldry. When the escutcheon is cut in stone, or in relievo, the chief stands out prominent beyond the rest; and is supposed to represent the diadem of the ancient kings and prelates; or the eafque of the knights.

It is frequenly without any ornament; fometimes it is charged with other bearings; fometimes it is of a colour of

metal different from that of the coat.

The line that bounds it at the bottom is fometimes Araight, fometimes indented, engrailed, embattled, lozenged, &c. Thus, fay they, the field is gules, a chief argent, &c. Again, he bears, gules, a chief crenelle, or embattled, argent.

Sometimes one chief is borne on another; expressed by a line drawn along the upper part of the chief; when the line is along the under part, it is called a fillet.

is an addition of honour, the second a diminution.

The chief is faid to be abased, when it is detached from the upper edge of the coat, by the colour of the field which is over it; and which retrenches from it one-third of its height. We also say a chief is chevroned, paled, or bended, when it has a chevron, pale, or bend, contiguous to it, and of the same colour with itself. A chief is said to be supported, when the two thirds at top are of the colour of the field, and that at bottom of a different colour.

CHIEF, in: By this is understood any thing borne in the

elief part, or top of the eleutcheon.

CHIEF juflice, in Law. See Justice.

CHIEF jufficiary of England. See JUSTICIARY.

CHIEF lord, denotes the feudal lord, or lord of an honour, on whom others depend.

CHIEF, holding in, or tenants in. See CAPITE and TENURE.

CHIEF pledge, is the fame as headborough, which fee.

CHIEF point. See Point.

CHIET ren's, Reditus capitales, in Law, denote the rents of freeholders of manors; called also quit-rents, quieti reditus, because by them the tenant gets quit and free of all other services. See Quit-rents and RENTS.

CHIEFTAIN, the chief leader, or general of an army; or the like.

CHIELEFA, in Geography, a town of European Turkey, in the Morea, near the gult of Coron. It was taken by the Venetians in the year 1685.

CHIELSEVISCH, in Ichthyology, one of the names under which Renard describes the chatodon dux, which see.

CHIEM-SEE, in Geography, a lake of Germany, in upper Bavaria, about 14 miles long and 5 broad; sometimes ityled the fea of Bavaria. It contains feveral islands, particularly Herrenward and Frawenward; the former being the fee of a bishop, fuffragan of Saltzburg, founded in the 17th

CHIEN DE MOUSQUET. See the article SERPENTIN. CHIEN-VOLANT, in Zoology, the name under which Daubenton describes the great ternate bat, vespertilio vam-

pyrus, which fee.

CHIENGTUENDEN, the Persian name of the rhi-

noceros, according to Pietro della Valle.

CHIENTO, in Geography, a river of Italy, in the Ecclesiastical State, which runs into the Adriatic, between Fermo and Recanati.

CHIERI, a town of Piedmont, feated on the declivity of a hill, in a pleasant country, where the air is soft and falubrious: the hills on the north and east are covered with vines, and those on the west and fouth present to view fruittrees of various kinds: the land is fertile, and the inhabitants are indultrious, and employed in manufactures of cloth and filk. The ancient name of this town was " Cherium," or "Carium;" and by the French it is called "Quiers." Frederic Barbaroffa destroyed it by fire in 1154, but it was foon after rebuilt. It is encompassed by an ancient wall, defended by towers, with a fosse; and formerly had a fortress, called "Rochetta," which was demolished in the 16th century. It has fix gates, and four grand squares or palaces, many churches, and religious houses, though it has only two parishes within the walls, and one without: 6 miles E. of Turin. N. lat. 44° 45'. E. long. 7° 39'.

CHIERS, LA, a river of France, which runs into the

Meufe, between Mouzon and Sedan.

CHIESA, La, a river of Italy, which runs into the

Oglio at Caneto, in the Mantuan territory

CHIETI, a city of Naples, and capital of the province of Abruzzo Citra, the see of an archbishop, erected by pope Clement VII.; 75 miles E.N.E. of Rome. N. lat. 420 22'. E. long. 14°.

CHIETTA, LA, a town of France, in the department of the Jura and district of Orgelat; 11 miles N.E. of it.

CHIEVRES, a town of France, in the department of Jemappe, and chief place of a canton, in the diltrict of Mons. The place contains 2083, and the canton 12,520 inhabitants: the territory includes 130 kiliometres and 21

CHIEUTI, a town of Naples, in the province of Capi-

tanata: 13 miles S.S.E. of Termola.

CHIFFIR, or CHIFIR, according to Libavius, in the preparation of the philosopher's itone, is called lapis animalis, as the mineral is called chaos minerale. Johnson fays, that the chifir minerale is by some interpreted gold, but that he rather takes it to be any fulphur of the metalline kind. CHIFFLET,

CHIFFLET, JOHN JAMES, in Biography, equally celebrated for his political and for his medical lucubrations, was born at Belancon, the 12th of January, 1588. Having received fuch education as his native city could afford him, and been introduced to the study of medicine by his father, who was in high reputation there, he went to Paris, and, in foccession, to Montpellier, Padua, and other of the principal schools, diligently attending the lectures of the professors in the different branches of medicine. In 1614 he returned to Befançon, and was appointed physician and counsellor to the city, in the place of his father, now far advanced in years. His reputation increaling, he was fent on an important mission to the arch-duchess Isabella-Clara-Eugenia, governess of the Low Countries, and performed his commission with so much skill, as to attach that princess to him, who retained him as her physician in ordinary. Some time after, he was fent by his millrefs to Philip IV. of Spain, who made him his physician, and engaged him to write the History of the Order of the Golden Fleece. He also wrote the History and Antiquities of Befançon, which was published at Lyons in 1618, 4to.; but the work which has been most noticed, was his Vindiciæ Hispanicæ, in which he attempts to prove that the race of Hugh Capet does not descend in the male line from Charlemagne, and that the female branch of the house of Austria precedes it. This work gave great offence; the rather, that Chifflet, being a Frenchman, should fet up the house of Austria before that of his native fovereign. He was answered by Blondel, Le Tanneur, and other writers, who treated him with great afperity, which he was not backward in returning. Quitting Spain, he was appointed physician to Cardinal Ferdinand, who had fucceeded Isabella as governor of the Low Countries in 1633. He enjoyed the same post under the arch-duke Leopold, and his successor, and died there in 1660, aged 72 years. He wrote also de Ampulla Remeuri, laughing at the fable of the holy vafe of oil, used in the coronation of the kings of France, and published a collection of treaties of peace between France and Spain. His writings, in this way, were collected and published at Antwerp, in folio, in 1650. His principal works in medicine were, "Singulares ex curationibus et cadaverum sectionibus observationes. Paris, 8vo. 1611." He supposes many difeases to be produced by the influence of the stars. There are nevertheless some useful and valuable observations in this volume. "Pulvis febrifugus orbis Americani ventilatus. Lorain, 1653, 4to." Intermittents that had been flopped by taking the Peruvian bark, frequently, he fays, return, and with increased violence: he therefore diffuades from using it. He had three fons, an uncle, and three brothers, who were all writers, and distinguished for learning and abilities. Haller, Bib. Med. General Biog.

CHIFFRER, French, in Music, to figure a base, to indicate the chords in thorough base, and point out the harmony of a composition to an accompaniment on a harp,

lute, or keyed instrument.

CHIFUNG, among the Chinese, the name of an herb found about Canton, by which the failors pretend to know how many storms will happen every year. This they compute from the number of knots or joints; and from the distances of the knots from the root, they determine what nonth the storms will fall in.

CHIGGARON, in Geography, a river of Asia, which sees in Persia, and runs into the Caspian sea, a little to the

worth of Amol.

CHIGGRE, a fmall narrow valley of Africa, in the deert of Nubia, closely covered up and furrounded with baren and pointed rocks. The wells in this valley are ten in Vot. VII.

number; and the narrow gorge which opens to them is not ten yards broad. The fprings, however, are very abundant, and furnish a grateful supply to those who travel in this dreary and fandy defert, where they are found. Whenever a pit is dug five or fix feet, it is immediately filled with water. The principal pool is about forty yards square, and five feet deep; but the best tasted water issues from the cleft of a rock, about thirty yards higher, on the west side of the narrow outlet. This valley is the haunt of the wandering Arabs; particularly of the Bishareen of the tribe of Abou Bertran, who, though they do not make it a flation, because there is no pasture in the neighbourhood, yet find it one of the most valuable places of refreshment, on account of its great quantity of water; being also nearly half way, when they drive their cattle from the borders of the Red fea to the banks of the Nile; as well as in their expeditions from fouth to north, when they leave their encampments in Barbary to rob the Ababdé Arabs on the frontiers of Egypt. N. lat. 20° 58' 30". E. long. 34° 30'.

CHIGNAC, Saint-Pierre de, a town of France, in the department of the Dordogne, and chief place of a canton, in the diffrict of Perigueux. The place contains 536, and the canton 8547 inhabitants: the territory includes 2424

kiliometres and 16 communes.

CHIGNECTO, a town of Nova Scotia, on the coant

of the bay of Fundy.

CHIGNECTO Channel, the north-western arm of the bay of Fundy, into which Petiteodiac river falls. The spring tides rise here 60 feet.

CHIGY-fur-Vame, a town of France, in the department of the Yonac; 2½ leagues E.S.E. of Sens.

CHIHEMECOMET, or CHICK-MINOCK-CUMINOCK, an island on the coast of North Carolina, between Roanoke island and the northern entrance into Pamlico sound.

CHI-HING, a town of China of the third rank, in the province of Quang-tong; 6 leagues S.W. of Nan-

vong

CHIHOHOEKI, an Indian nation confederate with the Lenopi or Delawares, who inhabited the western banks of Delaware river, anciently called by their name. Their southern boundary was Duck creck, in Newcassle county.

CHIKAGO, a river that discharges itself into the S.W. end of lake Michigan, where a fort formerly stood. Here the Indians have ceded to the United States, by the treaty

of Greenville, a tract of land fix miles fquare.

CHILACOTHAC, a town of America, in the territory N.W. of the Ohio, beautifully feated on the Sciotorivec, about 40 miles from its junction with the Ohio. This town, though it began to be established about the year 1797, is already become a considerable place. Scioto used to be the most dangerous part of the western country for Indians, and travellers passed it with terror. The settlements are now wonderfully extended and scattered over the whole country.

CHILAN, or CHILAN, a jurifdiction of South America in the kingdom of Chili. The capital, of the fame name, is a fmali place, though it has the title of city; the number of families not exceeding two or three hundred, confilting moilly of Indians, as there are few Spaniards amor g them. Chilan is 75 miles N. of Conception

them. Chilan is 75 miles N. of Conception
CHILAPAN, a town of New Spain, in the country of
the Cobnixeas. Between this and Teoiltylan is an entire

mountain of loadstone.

CHILARA, a river of Naples, which runs into the

CHILBLAIN, in Surgery, is a local diforder arifing from cold. When the body is exposed to cold, it acts in a more

L

immediate manner upon its furface, where it first excites a the part is not supported by a bone, for example, the tip of kind of eryfipelatous inflammation of the fkin, which becomes red and painful. When the operation of the cold is violent and long continued, the skin becomes pale and insensible, an uncommon degree of anxiety and languor is produced, and at last an unconquerable inclination to fall asleep; which, if the patient does not relift it with all his powers, brings on a complete afphyxia and infenfibility, that finally terminates in death. Perfons, who are obliged to expose themselves to extreme cold, ought, therefore, in order to avoid the impending danger, particularly to shun the immoderate use of spirituous liquors, to keep themselves constantly in motion, never stand or sit still, or rest themselves in any manner whatever; and as foon as they perceive languor and inclination to fleep come on, they should exert their strength to the utmost, in order to accelerate their motions, and preserve the circulation of blood in the extreme arteries.

As a frozen limb may be recovered and revived by warming it, the fame may also be done with the whole body, when it has been apparently deprived of life by the operation of cold. In the latter case, however, it is not sufficient to warm the body, but the vital motions must also be restored. When, therefore, any of these actions still subfist in the heart and larger veffels of a body that has been frozen, they communicate themselves, as soon as the body is warmed, to the other parts of the fystem, and the patient is restored to life. But when all the vital actions have entirely ceafed, and the blood in the heart itself is congealed, the body may indeed be thawed, but scarcely restored to life. And as this circumstance can never be foreseen, by the surgeon, he ought never to omit trying every possible means for restoring the patient's life; nor should he be induced to relinquish the attempt by the long duration of the afphyxia (or state of infentibility) as frozen bodies, that have remained for four and even fix days apparently lifelefs, have in fome inflances been restored to life. See article ASPHYXIA.

It is necessary however, that the warming of a frozen body or limb should be performed in a very gradual manner. For when a limb that has only been exposed to a violent degree of cold, (without being actually frozen,) is fuddenly warmed, it becomes affected with the most violent inflammation, fwells to a great degree, becomes red and blue; and intolerable pungent and thobbing pains are produced in it. The consequences, when in a slighter degree, are chilblains : in a more violent degree, real inflammation, effusion of the fluids into the cellular fubstance, and suppuration: suppose it be in the lungs, for example, a cough and catarrh will enfue; in the fingers, paronychia or whitloe, &c. But when a limb that is actually frozen is fuddenly warmed, the same symptoms appear in a more violent degree, and mortification speedily and inevitably ensues. Of a similar kind and origin are the changes that take place in the whole body of a perion who fuddenly goes into a very warm place after having been previously exposed to extreme cold. The skin swells and becomes red; a burning and pricking fensation is felt; red fpots appear, which proceed from small extravalations of blood; languor, vertigo, fyncope, hæmoptyfis, anxiety, inflammation of the lungs, &c. are produced, all in confequence of the fudden relaxation of the furface of the body and lungs, and the violent influx of the fluids into the vessels of those parts. When a person frozen to death is suddenly warmed, all hopes of reftoring him to life are annihilated, and putrefaction speedily ensues.

The best method of warming a frozen limb gradually is to rub it with fnow, till it recovers its powers of fenfation and motion; but this must be done with caution, for fear of destroying its continuity, which may easily happen when

the nose and ears. Or it may be sufficient to plunge the frozen part into ice-cold-water; and in order to keep the water fufficiently cold, lumps of ice should now and then be thrown into it. When the powers of fensation and motion have been completely reftored, we may wash the part with cold brandy, or oil of turpentine, camphorated spirits, hartshorn drops, and such like stimulating sluids; or we may apply electrical sparks, upon which it generally soon recovers its natural warmth. When this has been done, it is very ferviceable to administer some gentle diaphoretic remedy, fuch as warm tea or wine-whey; to lay the patient in bed in a chamber without a fire, and to let him remain there for two or three hours, till a gentle perspiration takes

When a frozen limb has been too fuddenly warmed, and is very much swelled, painful, red, blue, nay even black, and to all appearance already gangrenous in feveral places; it may nevertheless sometimes still be completely restored, and all the above mentioned symptoms removed, by plunging it immediately into ice-cold water. But it must be suffered to remain in the water, till after all the symptoms have disappeared; upon which we may rub it, as above-mentioned, with brandy, &c. and gradually warm it. This treatment now and then fucceeds in cases where it could scarcely have been hoped for. No benefit, however, can be expected from it, when it has been fo long deferred, that mortification has already actually taken place, which must then be treated in

the usual manner. See GANGRENE.

The body of a person who has been frozen must be treated in the fame manner as a fingle member. He must be brought into a cold chamber, laid in fnow, or in a veffel filled with ice-cold water, with his nofe and mouth above the furface : the necessary caution should be also used, lest any frozen part might break; and in this fituation he is fuffered to remain till he begins to exhibit figns of life. As foon as thefe are observed, strong stimulants and sternutatories are to be applied to his note; air must be blown into his mouth; tobacco-smoke should be injected into the rectum; the fauces are to be irritated with a feather, a cloth dipped in cold vinegar and camphorated spirits is to be laid over the pit of the ftomach, &c. If the jaws are firmly closed, they must be rubbed with the above mentioned spirituous and stimulating remedies. When the body has thawed, and more figns of life appear, the patient must be taken out of the water, rubbed with water or brandy, less cold than the former, and brought gradually into a warmer atmosphere; gentle sudorifics are also to be administered, for example, an infusion of lemon and orange-peel with a little vinegar; and after he has been carefully wiped dry, he must be laid in bed, where he should remain till a gentle perspiration comes on. If, after he has been revived, a violent inflammatory fever comes on, it is necessary to draw blood from the arm. When the patient still remains insensible; when his face and the veins of the neck are fwelled, fo that an apoplexy is to be apprehended, the jugular vein must be opened. If after he has been revived, any part of the body exhibits appearances of being still frozen, continuing rigid, hard, in-flexible and without fensation; we must cover or rub such part with fnow, or with cloths dipped in cold water, till its powers of fensation and motion are reflored; but on no account, use hot applications to it.

Chilblains are topical inflammations, which produce fymptoms more or less troublesome in proportion to the violence of the inflammation. In its slighter degree, a chilblain is a fwelling attended with a moderate reducls of the skin, which produces a fenfation of heat and itching, and after

fome

fome time spontaneously disappears. In a more violent degree, the swelling is larger, redder, and sometimes of a dark blue colour; and the heat, itching, and pain are so violent, that the patient cannot use the part. In the third degree, small vessels arise upon the tumour, which burst and produce an excoration; soon becoming an ill-conditioned ulcer that sometimes penetrates as deep as the bone, discharges a thin acrid sluid, and generally proves very obstinate. In the most violent degree, the inflammation goes on to mortification, which is frequently distinguished by resisels filled with blood that appear upon the tamour.

Chilblains feem most frequently to arise from the sudden application of heat to a part that has been exposed to cold; and, vice verfa, from the fudden exposure of a part, that has previously been heated, to the cold. Hence they frequently appear upon those parts which are most exposed to sudden transitions from one degree of temperature to another; for example, the nofe, ears, lips, hands, and feet. They are more certainly produced, when the part which is fuddenly exposed to cold is not only warm, but at the same time moist and sweating. Sometimes appearances much refembling chilblains, are left behind in limbs that, after having been frozen, have been restored to sensation and motion; especially if they have not been treated with proper caution. Chilblains are more apt to be produced, the more fenfible and tender the fkin is, and the less it is used to the cold: hence the people most frequently afflicted with them are children, young persons, women, those who have been bred up in a delicate manner, and are used to keep themselves unnaturally warm; or those who avoid exposure to the free air, and fweat much on the feet. But even when none of these causes are present, some weakly persons are extremely subject to chilblains, and in them their production feems to be favoured by some peculiar morbid predisposition.

Chilblains almost always make their appearance in the winter. During the summer they disappear, but return the succeding winter. Some persons are attacked with them in the autumn, and some not till the spring. With some they continue only a few weeks, with others during the whole winter. When they are violent, they frequently deprive the patient of the use of the affected limb; and even excite a fever, by which the patient is confined to his bed. Suppurating chilblains frequently penetrate to the bone, and produce carries, and sometimes death. Suppurating chilblains are (from long habit) converted into a kind of issues; nature thus accultoms herself to the discharge and irritation, which at length are supposed to be necessary to health.

The most certain means of guarding against chilblains, consists in using the skin to a moderate degree of friction, and hardening it; in not exposing oneself to heated rooms, or keeping the body too warm; in adapting the quantity and kind of cloathing to the state of constitution, so as to avoid extremes, either in summer or winter; in washing the body frequently with cold water; in using oneself to regular exercise in the open air, even in all weathers; and in taking especial care not to go suddenly into a warm chamber, or very near the sire, out of the cold atmosphere.

A chilblain, in the first and second degrees, is a pure topical inflammation; which, however, cannot be removed by the general antiphlogistic remedies, but requires means adapted to its peculiar nature. Amongst the various remedies of this kind, there is none which always proves succetsful: one remedy cures one patient, another remedy succeeds with atother. In relaxed and feeble habits, spirituous applications are generally serviceable; and in rigid constitutions oily and emollient substances. All these remedies, indeed, only re-

move the chilblains for the time, and do not prevent their return the enfuing winter. When the inflammation is fo violent as to excite feveriff fymptoms, the application of leeches and internal antiphlogistic medicines are often necessary; but leeches applied to the affected part are particularly serviceable in such cases.

One of the most effectual remedies against chilblains in the milder degrees, is water reduced to the freezing point of temperature. The affected part should be dipped in it several times in the day, and kept there till the heat and itching abate, or the chilblain entirely disappears. After the part has been bathed in this manner, it should be well dried by rubbing it with a coarfe cloth; then covered with leather or flannel, or a diachylon platter, and carefully guarded against the external air. Instead of water, we may also use snow, with which the affected limb should likewife be rubbed for some minutes feveral times in the day, till the chilblain disappears. With some persons, who are not used to exposure to the cold, who have very irritable fkins, or who are much inclined to cough and colic pains, the application of cold water and fnow does not agree, and with some it even increases the inflammation; fo that we must be guided in a certain measure by its effects. Exposing the part affected to an extreme heat and actually scorching it, has now and then proved efficacious; but it is too painful to be prudently adopted, as a general practice.

In one case, in which the pains were not relieved by the application of cold water, (see Richter's Chirurg. Bibliotheck.) Mr. Schneider used a bath of quick-lime, in which the patient was directed to hold his hands for the space of half an hour every morning and evening; after which the ulcerated hands and singers were dressed with an ointment, confisting of sev. cervin. ol. laur. & ol. terebinth. Spread upon linen. As soon as the mortisted part had separated, and the remaining ulcer was clean and sensible, he dressed it with Goulard's cerate, till the cure was completely accomplished. The bath was prepared by plunging a piece of quick-lime, about the size of a man's fist, into sour quarts of boiling water, and stirring it till the water was reduced to a lukewarm temperature.

warm temperature

In some cases, ol. petræ. ol. terebinth, butter of cacao, sev. cervin, ball. Peruvian, ball. capaiva, either alone or mixed with the yolk of eggs; a cataplasm of rotten apples, or bruised house-leck, or fresh tumpa bruised with eggs and myrh; or an ointment of hog's lard, olive oil, yellow wax, and pitch melted together; or frozen turnips, scraped and fried with linsed oil; or squills applied with hot oil or soft turpentine, &c. have been found very serviceable. These remedies are partly applied fresh twice a day, and partly rubbed into the affected limb, if it be not ulcerated.

In other cases, strengthening and astringent remedies prove more ferviceable; and in Germany it is common to employ Theden's vulnerary wash, which is particularly furviceable when the chilblains swell as the frost fets in. This remedy is applied cold to the part, which is kept for some days constantly moistened with it. Persons who are subject to annual attacks of chilblains, may guard themselves against them by washing their feet and hands every morning and evening, during the autumn, with this mixture; only it is faid to be inadmissible with those who have arthritic tumours upon their limbs, as these might thereby be repelled. It has also been recommended to wash the chilblains with water boiled with flour and multard-feed; also with marine acid, diluted in water; with hot falt water; spirits of wine, or foap liniment; the fumes of hot vinegar, a decoction of turnip peel in water with a fixth part vinegar: the lower orders of people employ hot urine, either alone or with lime-water,

&c. These remedies are to be applied to the affected part feveral times in the day: after they have been used, the part mult always be well dried, and guarded against the external air, by means of gloves, or focks of thin leather, worked, or flannel. Sometimes all these remedies are of no service, unless the patient abstains from using the affected limb.

For the cure of suppurating chilblains, an appropriate strengthening regimen, and a course of medicines, will be ge-

nerally required. See ULCER and GANGRENE.

CHILBY, in Ichthyology, fometimes fehilby, the Arabian name of a fish found in the Nile, which is figured and deferibed by Sonnini in his Travels in Upper Egypt. This is a fish of the filure genus, Silurus mytus of Forskal; Silurus mystus, pinna dorsali unica, radiis sex, cirrbis ollo, Artedi and Linn. Haffelquist also describes it. Sonnini observes, that it is not fuch bad cating as fome other fishes of the Nile. This writer has nothing to add to the Linnaan description above quoted, and for which Linnaus was indebted to Haffelquist, except that the upper jaw of the chilby has two rows of little sharp-hooked teeth; that the lower jaw has but one row of those recurved teeth; and that it is all over of a pretty uniform blackish grey colour, deeper above the lateral line than below, with a few tinges of red on the nose, and at the base of the pectoral, anal, and caudal fins; and lastly, that the iris of the eye is of a golden colour. See Silveus mystus.

CHILCA, in Geography, a town of South America, in the vice-royalty of Peru, archbishopric of Lima, and jurisdiction of Canete, is fituated about 10 leagues from Lima, and celebrated for its faltpetre, of which gunpowder is made in that city. It has also a good fishery, together with plenty of fruits, pulse, and poultry, which supply a large

trade between the jurisdiction of Canete and the capital. S. lat. 12° 31'. W. long. 76' 5'. CHILCANAUTHLI, in Ornithology, the Mexican name of the St. Domingo teal, ands dominica: called also

CHILD, a word of Saxon origin, meaning the young offspring of the human species, and expressing relation to

We fay NATURAL child, LEGITIMATE child, PUTATIVE child, BASTARD child, ADOPTIVE child, POSTHUMOUS

Dr. Derham computes, that marriages, one with another, produce four children, not only in England, but in other

parts alfo. See Marriage.

It is well known that children, for some time after they are born, fee but very imperfectly; and M. Petit, (Ac. Paris, 1727. H. p. 14.) after taking a great deal of pains to invelligate the cause of it, found it to be owing in part to the thickness of their cornea, and the small quantity of their aqueous humour. Not that the mere thickness of the cornea could have this effect; but because the thickness is owing to its not being well firetched, and confequently, having wrinkles and inequalities on its furface, which occasion an irregular refraction of the light. On the same account also the cornea has not a sufficient degree of convexity to bring the pencils of rays to a focus foon enough. All these defects, he shews, are remedied by the increase of the aqueous humour. M. Petit ascribes this imperfection of fight in infants to their eyes being compressed by the fluid in which they are immerfed in the womb. He also gratified his curiofity by inquiring into this circumstance respecting various new-born animals, as dogs, cats, rabbits, calves, and hogs; and he found in all of them that the cornea was thick and flaccid, and the aqueous humour not fufficiently copious. It is possible, that, besides the small quantity,

and want of transparency, which some writers also mention in the aqueous humour, vision in new-born infants may be obstructed by the remains of the membrana pupillaris, which is a production of the uvea, and closes the pupil in the

Dr. Jurin observes, (see Essay upon Distinct and Indistinct Vision), that in children the pupil is usually more dilated than in grown persons. This is easily seen; for in grown persons the pupil seldom appears equal to the breadth of the ring of the uvea on either fide of it; that is, is feldom equal to one-third of the breadth of the cornea, and is often much less, especially in a good light. But in children the diameter of the pupil scarcely ever appears so little as one-third of the breadth of the cornea, and often exceeds half that breadth. The reason of this, Dr. Jurin apprehends to be, that in children the cornea is extremely flexible, fo as to be very eafily bent by its mulcular ring into any curvature that is necessary for seeing distinctly in reading, and consequently, their pupil has less occasion to contract for distinct vision. Children can read at a much nearer distance than grown persons; for which two reasons are assigned; viz. that their eyes are fmaller, and the least distance at which any eye can fee diffinctly is proportional to the length of the eye; and also their cornea, being very slexible, is easily accommodated to a less distance; and at a less distance the print appears larger, and is more easily read than at a

greater. Bartholine, Paré, Licetus, and many other writers, give an account of a petrified child, which has feemed wholly incredible to some people. The child, however, which they describe, is still in being, and is kept as a great rarity in the king of Denmark's museum at Copenhagen. The woman who went big with this, lived at Sens in Champagne in the year 1582; it was cut out of her belly, and was univerfally fupposed to have lain there about twenty years. That it is a real human fatus, and not artificial, is evident to the eye of any observer; and the upper part of it, when examined, is found to be of a substance resembling the gypsum or stone of which they make the platter of Paris; the lower part is much harder; the thighs and buttocks being perfect stone, of a reddish colour, and as hard as common quarryflone: the grain and furface of this part appear exactly like that of the calculi, or stones taken out of human bladders: and the whole substance examined ever so nearly, and felt ever fo carefully, appears to be absolute stone. It was carried from Sens to Paris, and there purchased by a gold-fmith of Venice; and Frederick III., king of Denmark, purchased it at Venice of this man for a very large sum, and added it to his collection of rarities. See Dr. Priestley's Hift. of Vision, &c. 4to. p. 187. Phil. Trans. Nº 285. p. 1400. See INFANTS.

Child, as we have already observed, is a term that denotes relation to a parent; and this relation devolves on children corresponding duties. There is an interval of eight or nine years, between the dawning and maturity of reason, in which it is necessary to subject the inclination of children to many restraints, and direct their application to many employments, of the tendency and use of which they cannot judge: for which cause, the submission of children during this period must be ready and implicit, with an exception, however, of any manifelt crime which may be commanded them. After they have attained to manhood, if they continue in their father's family, they are bound, befide the general duty of gratitude to their parents, to observe such regulations of the family as the father shall appoint; contribute their labour to its support, if required; and confine themselves

to fuch expences as he shall allow.

After

After children have attained to manhood, and have left their father's family, their duty to parents is simply that of gratitude; in kind not different from that which we owe to any other benefactor, but in degree fo much exceeding other obligations, as a parent has been a greater benefactor than any other friend. The fervices and attentions, by which filial gratitude may be testified, cannot be distinctly enumerated. It will shew itself in compliances with the will of parents, however contrary to the child's own talke or judgment, provided it be neither criminal nor totally inconfiftent with his happiness: in a constant endeavour to promote their enjoyments, prevent their wishes, and soften their anxieties, in fmall matters, as well as in great; in affifting them in their business; in contributing to their support, ease, or better accommodation, when their circumstances require it; in affording them our company, in preference to more amufing engagements; in waiting upon their fickness or decrepitude; in bearing with the infirmities of their health or temper, with the previlhness and complaints, the unfashionable, negligent, austere manner, and offensive habits, which often attend upon advanced years: for where must old age find indulgences, if it do not meet with it in the piety and partiality of children? In all contests between parents and children, and more especially those that occur in relation to marriage, or the choice of a profession or business, it is the parent's duty to represent to the child the consequences of his choice and conduct; and this should be done with fidelity, moderation, and candour. Parents, however, are forbidden to interfere, where a trust is reposed personally in the son; and where, confequently, the fon was expected, and by virtue of that expectation is obliged, to pursue his own judgment, and not that of any other; as is the case with judicial magistrates in the execution of their office; with members of the legislature in their votes; and with electors, where preference is to be given to certain prescribed qualifications. In these and similar cases the son may affift his own judgment by the opinion and advice of his father; but his own judgment ought finally to determine his conduct.

The duties of children to their parents arises from a principle of natural justice and retribution. For to those, who gave us exiltence, we naturally owe subjection and obedience during our minority, and honour and reverence ever after: they, who protected the weakness of our infancy, are entitled to our protection in the infirmity of their age; they who by fustenance and education have enabled their offfpring to prosper, ought in return to be supported by that offspring, in case they need affistance. The Athenian laws carried this principle into practice with a fcrupulous kind of nicety; obliging all children to provide for their father, when fallen into poverty: with an exception to spurious children, to those whose chastity had been prostituted by confent of the father, and to those whom he had not put in any way of gaining a livelihood. Our laws agree with those of Athens with regard to the first only of these particulars, the case of spurious issue. In other cases the law does not hold the tie of nature to be dissolved by any misbehaviour of the parent; and, therefore, the child is equally justifiable in defending the person, or maintaining the cause or suit of a bad parent as a good one; and is equally compellable, (flat. 43 Eliz. c. 2.) if of fufficient ability, to maintain and provide for a wicked and unnatural progenitor, as for one who has shewn the greatest tenderness and parental piety.

The duty of children to their parents was thought worthy to be made the subject of one of the ten commandments; and, as such, is recognized by Chril, together with the rest of the moral precepts of the decalogue, in various places of the gospel. The same divine teacher's fentiments concern-

ing the relief of indigent parents appear fufficiently from that manly and deferved indignation, with which he reprehended the wretched calnifty of the Jewish expositors, who, under the name of a tradition, had contrived a method of evading this duty, by converting, or pretending to convert, to the treasury of the temple, so much of their property, as their diffressed parent might be entitled by their law to demand.

Obedience to parents is enjoined by St. Paul to the Ephelians (ch. ii. 1.), and alfo to the Coloffians (ch. iii. 20.) upon two principles, the diffinct flatement of which flows that moral rectitude and conformity to the divine will were, in his apprehension, the same. By the Jewish law, disobedience to parents was, in some extreme cases, capital. Deut. xxi. 18. Paley's Principles of Moral, &c. Philosophy, vol. i. ch. 11. Blackst. Comm. vol. i. p. 453, &c. See Parent.

See also EDUCATION.

CHILD, DR. WILLIAM, in Biography, according to Ant. Wood, was a native of Brittol, and disciple of Elway Bevin. In 1631, being then of Christ-church College, Oxford, he took his degree of bachelor in music; and, in 1636, was appointed one of the organists of St. George's Chapel at Windsor, in the room of Dr. John Munday, and soon after one of the organists of the Royal Chapel at Whitehall. After the restoration he was appointed chanter of the King's Chapel, and one of the chamber muficians to Charles In 1663, the university of Oxford conferred on him the degree of doctor in music, at an act celebrated in St. Mary's church. Dr. Child, after having been organist of Windsor chapel 65 years, died in that town, 1697, at 90 years of age. In the inscription on his grave-stone, in the same chapel, it is recorded that he paved the body of that choir at his own expence; he likewife gave 201. towards building the town-hail at Windsor, and 50% to the corporation to be disposed of in charitable uses, at their discretion.

The following epitaph is also on his grave-stone in St.

George's chapel :

Go happy foul, and in thy feat above Sing endless hymns of thy great Maker's love. How fit in heavenly fongs to bear a part! Before well practis'd in the facred art; Whilft hearing us, fometimes the choir divine, Will fure defeend, and in our confort join; So much the musick thou to us hast given, Has made our earth to represent their heaven.

Has made our earth to represent their heaven. His works are " Pfalms for Three Voices," &c. with a continued base either for the organ or theorbo, composed after the Italian way, London, 1639. "Catches. Rounds, and Canons," published in Hilton's "Catch that Catch can," 1652. "Divine Anthems and Compositions to several Pieces of Poetry," fome of which were written by Dr. Thomas Pierce of Oxford. Some of his fecular compositions likewise appeared in a book entitled " Court Ayres," printed 1655, which will be mentioned hereafter. But his principal productions are his fervices and full anthems, printed in Dr. Boyce's collection. His service in E minor has fomething more varied and interelling, in the modulation, than there is in most of his other works; and in his celebrated fervice in D major, there is a glow of rich harmony, which, without any great compass of genius or science, is extremely pleafing, the more fo, perhaps, from being composed in a key which is more perfectly in tune than most others on the organ. His full anthems are not without imagination and fire, p. 97, (Boyce. vol. ii.) "and upon our folemn featl-day, &c." the modulation and contrivance are admirable to the end of the anthem. His style was so remarkably easy and natural, compared with that to which choirmen has been accustomed, that it was frequently treated by them with derifion. Indeed, his modulation, at prefent, is so nearly modern, as not to produce that solemn, and, seemingly, new effect on our ears, which we now experience from the productions of the fixtee th century.

There are feveral incidited and valuable compositions by Dr. Child preserved in Dr. Tudway's manuscript "Collection of English Church Music," Brit. Museum.

CHILD-birth, the act of bearing a child. See BIRTH and LABOUR.

CHILD-wit, a power to take a fine of a bond-woman unlawfully gotten with child; that is, without confent of her lord. Every reputed father of a base child, got within the manor of Writtel in Eslex, pays to the lord, for a fine, 3s. 4d. where it seems, child-wit extends to free, as well as bond-women.— Quieunque secerit child-wit, archiepscopus aut totam, aut dimidiam emendationis partem habebit, quietum esse de child-wit. Du-Cange.

CHIDERMASS Day, called also Innocents' Day, an anniversary feath of the church, held on the 28th of December, in memory of the children of Bethlehem, massacred by the order of Herod.

CHILDREN, Charity. See CHARITY-fchool and Hos-

Cur prev exterior of See Exposi

CHILDREN, exposing of. See Exposing. Children, naming of. See Name.

CHILDREN, overlaying of. This is a mistortune which frequently happens; to prevent which, the Florentines have contrived an inftrument called arcutio.

CHILHOWEE, in Geography, a town of America, in the Tennessee government; 25 miles S. of Knoxville.

CHILI, an extensive, rich, and fertile country of South America, reaching from the frontiers of Peru to the fraits of Magellan, terminating towards the east partly on the frontiers of Paraguay, from which it is separated by uninhabited defarts, and partly on the government of Buenos Ayres with the intervening pampas, or extensive and level plains, and bounded on the west by the Pacific ocean. On the north its boundary is the defart of Atacama, or Attacama (which fee), extending 80 leagues between the province of the same name, being the last of Peru, and the valley of Copoyapo, or Copiapo, the first in Chili: on the east it is separated by the eastern branch of the Andes from Cuyo, in the vice-royalty of La Plata, and the favage tribes; on the fouth, by barren mountains and regions covered with fand and fnow; and on the west, as we have already faid, by the South Sea, extending from 27° nearly, the latitude of Copiapo, to 53° 30'. Its length is computed at 1260 geographical miles, and its breadth, which depends on the distance of the Andes from the ocean, is from 24° to 32° about 210 miles, from 32° to 37° 120 miles, and thence to the island or islands of Chiloe, about 300 miles. If we comprehend within its extent the Andes, Chili may be supposed to contain about 378,000 square miles. Of this extensive and interesting country little or nothing was known till about the middle of the 15th century. At that period the native Chilese were divided into 15 tribes, each of which was governed by its own chief. About the year 1450, the Inca Yupanqui, the 10th emperor, altured by the enchanting account given of this country, undertook the conquest of it, and profecuted the enterprize with fuch fuccefs, that he fubdued the feveral nations inhabiting the vallies of Copiapo, Coquimbo, and Chili; but having established his dominion in some of the northern districts, his progress farther fouthward was vigorously opposed by a confederacy on the part of the gallant and high-spirited inhabitants, who were determined to maintain their independence; and the Peruvian army was defeated. 'The Chilefe, however, who were fubdued, and those who remained free and independent,

purfued the same mode of life. They cultivated their lands with maize, potatoes, yucas, and other native plants; they encouraged the breed of the camel and sheep, which fupplied them with flesh for food, and with wool for cloathing; and they are faid to have had at this time hogs and hens, besides other beasts and birds, which belonged to their country. But though they seemed to have advanced from a patloral to an agricultural state, their instruments of hufbandry were mean and unwieldy. Their villages confifted of scattered huts; and their chiefs, who were probably raised to this dignity on account of their wealth, possessed merely a power of direction, and not of coercion. The right of property was acknowledged; the field that was cultivated belonged to him who bestowed labour on it, and descended to his children. Their looms resembled those of the Europeans, though of ruder fabric, and they were acquainted with the process of manufacturing earthen ware. From their mountains they extracted gold, filver, copper, tin, and lead; and of a mixture, like bell-metal, they formed axes and other inftruments; although those in more general use were made of basalt. It has been suggested that they were acquainted with the use of iron; but this fact feems to be doubtful. They were not ftrangers to falt, both fossil and that produced from water by evaporation: they fixed their dyes by means of an aluminous Itone. called "polauva;" they prepared thread for cords and neta from one of their plants; and they possessed canoes of different forts. In numbers, it is faid, they could express one thousand, and they had prons or the Peruvian quipos, a bundle of threads of various colours, with different knots to express contracts or events. The native Chilese, being generally of a mild character, as Molina cited by Mr. Pinkerton fuggelts, may probably have proceeded from the illes of Polynelia; though their colour is brown, tinged with red or copper, whereas that of the Polynefians is generally olive. The language of the Chilese, which is said radically to differ from the Quechua, or Peruvian, is remarkably rich and harmonious, and from the vocabulary, formed by Molina, it is capable of expressing most natural objects, and even abstract terms. It effentially differs, however, from the other American languages, not less in its words than in its structure. The Araucans, the present possessors of nearly one half of Chili, and celebrated for their valour in refilling the progress of the Spaniards, may be considered as the genuine reprefentatives of the ancient Chilefe. The beautiful tract of country which they inhabit extends from the river Biobio north to that of Valdivia fouth, and is bounded on the east by the Andes, and on the west by the ocean. These people derive their name from the province Arauca, which is the smallest of their state; and they are also distinguished by the appellation of "Aucas," or freemen. Without surpassing the usual fize, they are generally robust, well-formed, and of a warlike aspect. The face is nearly round; the eyes small, but lively and expressive; the nose somewhat flat; the mouth well made, with white and uniform teeth; the legs mufcular and elegant, and the feet fmall and flat. They have naturally little beard, and take pains to extract it: and they also eradicate the hair from other parts of the body. The hair of the head, which they preferve, is black and abundant, and they bind it up in a knot. Many of their women are handsome; particularly those of Boroa. They live to the advanced age of 70, 80, and even 100 years, without any perceptible decay of mind or body. Their mental qualities correspond to their bodily vigour; and they are characterifed as intrepid, patient of the fatigues of war, prodigal of their lives in defence of their country, ardent lovers of liberty, in defence of which they are ready to make any facrifice, jealous of honour, courtcous,

curteous; hospitable, Taithful to their engagements, grateful for benefits, generous, and humane towards the vanquished. These excellent qualities, however, are tarnished with the vices incident to favage life; fuch as drunkenness, floth, felf-confidence, and a pride which leads them to treat other nations with contempt. The drefs of the Araucans, who are a military people, is short, wholly made of wool, and generally of a blue colour. The cloathing of the women is modest and simple; though sometimes set off with artificial ornaments. Their hair is parted into flowing treffes, and the head adorned with false emeralds, or with the green stone called "gliauca," which they highly value. They also use necklaces and bracelets of glass beads, earrings of filver in a square form, and numerous filver rings on the fingers. Polygamy is almost universal; and their houses are constructed so as to admit the number of wives which the owner can entertain: but their furniture is plain, and fuch as is merely adapted for use. Their habitations are generally dispersed over the country, and situated near the rivers; but cities are regarded by them as prisons.

Their political arrangements are fuited to their discriminating character. The whole territory of Araucana, from north to fouth, is divided into four parallel tetrarchies; almost equal in fize, and denominated the maritime, the plain, the upland, and the mountainous. Each of these is fubdivided into five provinces, and each province contains nine districts. The mountainous tetrarchy is possessed by the Puelches, formerly allies to the Araucans, but now united with them. The government is aristocratical; and they have three orders of chiefs, viz. " Toquis," from toqui, a judge, who presides over each tetrarchy, and are independent of each other, except that they confederate for the general good; "Apo-ulmens," or grand chiefs, who govern the provinces; and "Ulmens," who prefide over the diftricts, and acknowledge no superior, except on occasions of war. The diffinction of a toqui is an axe of porphyry or basalt. Those of the other two orders have staffs headed with filver; the apo-ulmens being diftinguished by a ring of the same metal round the middle of the staff. All these dignities are hereditary, in the male line, and fole order of primogeniture. The absolute power is vested with the barons, who decide important bufiness in a general diet, called the " Aucacoyag," or assembly of freemen. This congress is commonly held in a spacious meadow. Their laws, defeending to them by tradition, are called "Admapu," or customs of the country. No two dignities are allowed to concentrate in the same head; and if a family fail, the vaffals exercise the right of electing another: nor are they attached to the glebe, as in the fendal fystem, or constrained to any personal service, except in time of war. Tributes and taxes are unknown, as each chief lives on his own effate; nor are they respected as superiors, but merely as the first among equals. Although many crimes are punished with death, yet a composition may be entered into with the re-The ulmens are the legitimate judges of their vaffals. Whenever war is resolved on by the great council, the commander in chief is felected from the toquis; who instantly assumes the axe of stone, as the symbol of his authority: all the other chiefs take oaths of obedience; and the people, though at other times unruly, become submisfive to their military fovereign. Heralds are fent to the confederate tribes, and to the Indians in the adjacent diftricts of the Spaniards; and the badges of these heralds are bundles of small arrows bound with a red thread, and their fecrecy is equal to their dispatch. The general fignifies to the tetrarchs the number of troops that are requifite, and it is divided among the apo-ulmens, who demand the contin-

gent from each ulmen. As every Araucan is a foldier, the levy is easily raised: and the army generally amounts to 5 or 6000, exclusive of a body of referve. It consists both of cavalry and infantry: the former are armed with lances and fabres, the latter with pikes, or clubs having iron spikes. Each regiment of infantry is composed of 1000, and each company confifts of 100: and they have all their particular banners, besides the common badge of the nation, which is a star. Under their usual dress they wear a cuirass of leather; and of this leather, which they have a peculiar mode of hardening, they make helmets and shields. They have not discovered the art of making gun-powder. On the march the infantry is mounted, but they dismount before a battle. Each foldier carries his provision of parched maize, which is steeped in water. Their camp is well formed and guarded. In battle, the cavalry forms two wings, and the infantry occupy the centre, in distinct battalions or divisions: a clubman and a pikeman placed alternately composing the files. The toqui addresses a pathetic discourse to the army, exhorting them not to permit the facred flame of freedom, bequeathed by their ancellors, to expire. They then advance with loud shouts, generally attacking the Spanish centre, and, with their clubs, notwithstanding the enemy's artillery, they often make terrible havock. The booty is equally divided among the captors, without any preference of the officers, or even of the general. The prisoners remain flaves, till exchanged or ranfomed; and fometimes, though very feldom, one is facrificed, to pacify the manes of the flain. Treaties are formed in a kind of council, held in a meadow near the river Biobio. The fymbol of peace is a branch of the cinnamon tree; and an Araucan orator discusses, in the Chilese language, the motives of the war, and the means of future harmony. As foon as this speech is interpreted, the Spanish governor or president replies; and the articles being revised, are ratified with a facrifice of Chilese camels. The prefident then dines in company with the toqui and chief ulmens, to whom he makes the usual prefents, in the name of his fovereign; and these are repeated on the arrival of every new prefident.

The Araucans acknowledge a fupreme being, the author of all things, who is called "Pillan," or the Spirit; and they express, by various epithets, his residence in heaven; his being the foul of all creation; dreadful from his thunder: the architect of the universe; omnipotent, eternal, and infinite. They also hold, that the affairs of worlds are administered by inferior spirits, of various rank and power. The Mars of the Araucans is Epunameen; and Meulen is a beneficent god, and lover of the human race. They admit an evil principle, Guecubu, the author of calamity and death; and subordinate to Meulen are many genii, who attempt to counteract the machinations of Guecubu. These genii are male and female; and the latter are supposed to serve the men. Conceiving that the spiritual lords resemble the ulmens, and would despile any attempts of mortals to praise and honour them, they have neither temples, idols, nor priefts: and they offer no facrifices, except during endemial maladies, or on a treaty of peace. However, they often address prayers to Pillan and Meulen. Christianity is tolerated in the country of the Araucans, and the missionaries are well received; but the number of profelytes is fmall. These people are very attentive to omens and dreams; and the bravelt Araucan warrior will tremble at the fight of an owl. They consult their magicians in all affairs of moment; and are firm believers in apparitions. They admit the immortality of the foul, and suppose that, after death, the foul passes to the west, to a place or country called "Galceman," where, according to some, delights abound

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for the good, and the bid are putified by privation: but, trade confifs chiefly in cloaks and cattle, which are examents, like or mes, being thort at d transitory. They watch the dead all night, and, on the third day, carry the body to the cemetery of the family, which is commonly fituated in a wood, or upon a hil. The bier is furrounded by women, who affect to weep; and another spreads ashes behind, in order to prevent the return of the foul to the house. When the body is fet down, wa like weapons are placed round it; and if it be that of a female, her ornaments; tegether with plenty of food, and vales of liquor, often cyder or wine, that there may be no want on the journey into the other world. After toking leave of the dead, with many lamentations, and wishing a happy journey, the body is covered with earth, or with flonce, in the form of a pyramid, over which they pour copious streams of cyder. They farther believe, that an old woman foon arrives, in the form of a whale, to carry the foul across the ocean, where another old woman guards the Elyfian fields, and fometimes exacts an eye, when the paffenger cannot fatisfy her demands. The occupation and pleafures of the future life remain the fame; and the hufband, if he chooses, may have his wife again; but there are no children, because it is the abode of the dead. There are also wars and battles; and armies, meeting in the air, caufe thunder and lightning. The Araucans have an idea of a great deluge; during which many were faved on the mountain "Thegtheg," which can float in water. This idea, Molina fuggells, has arisen from the earthquakes and volcanos, fo common in their country; for, during the terrors excited by a fevere earthquake, they still run to the mountains, with provisions, in hope of escaping, if the sea should overwhelm their coun-

The year of the Araucaus is folar, and commences on the 22d of December, immediately after their fummer folltice: and it is divided by the foldlice in June into two parts. They have 12 months of 30 days, and 5 intercalary days. They have 4 feafons, each of 3 months; and they divide the day into 12 parts, 6 of light and 6 of darkness. The hours of the day are diftinguished by the height of the fun; and those of the night by the position of the stars. Constella-tions are also marked; the Pleiades being styled that of fix from the molt apparent stars, and the Antarctic that of four. The milky way is called the fireet of the fable, because the altrocomers of the country reject certain popular tales concerning it. They diffinguish the planets, and believe them to be inhabited. The Araucans, though they have little or no idea of the speculative sciences, cultivate rhetoric, poetry, and medicine; to the purity of their language and to the elequence of their public sp-akers they pay great attention. They accustom themselves much to a figurative and allegorical thyle, and their discourses abound with apologues and parables. Strong and lively images, bold figures, frequent allutions and fimiles, novelty and force of expression, and pathetic fentiments, concur to form their poetry, which is chiefly employed in celebrating the actions of their heroes. Their lines confift of 8 or 11 fyllables; and their poems are all in blank verfe, with an occasional, though very rare, admission of rhyme. Of physicians there are 3 classes; the empirical, who are best, have some knowledge of the pulse, and use of herbs; those who believe that all diseases proceed from infects; and others who afcribe them to witchcraft, and thus occasion the death of innocent persons; they have also persons who can set broken bones and cure wounds. With regard to their mode of carrying on trade, we shall observe, that as the use of money is not known, exchange is the only mode of commerce. Their foreign

changed with the Spaniards for wine and European articles. In their intercourse with Europeans they are proud and alfuming; and they themselves expect to be treated with great ceremony and respect; whilft they are duly sensible of benefits, they are eager for vengeance on their enemies. In their discrimination of different families, they use names and furnames. Polygamy, as we have already faid, is univerfal, and a man may buy as many wives as he can maintain; but an old batchelor is regarded with contempt as an enemy of the flate. Marriage is a very simple rite; being a kind of amicable rape, as the husband feizes the bride unexpectedly, while the affects to cry out for afficience. Her friends then pass to his house, and after a festival, receive the nuptial prefent; to the first wife, however, particular honour is rendered, while the rest are regarded as mere concubines. The husband indicates his preference by ordering one, during supper, to prepare the bed; the others sleep in the same chamber, which no stranger is permitted to enter; strangers being lodged in tents at a distance. All the wives pay great respect to their husbands. The Arancan women are diltinguished by neatness and cleanliness in their houses and in their own persons. The bath is universally used both by men and women; but the latter refort to separate places protected by shade and solitude. On the day of parturition, they take the new born infant to the river, walh both it and themfelves, and return to their business without inconvenience; no bandages are used for their infants, they are placed in hanging cradles upon thin skins, and covered with a cloth, and they are rocked by means of a cord which hangs from the cradle, fo that the mothers are not interrupted in their business; the infant is soon able to take care of itself. The education of children is reflricted to horsemanship, the use of arms, and the practice of speaking their language with elegance. Faults are seldom noticed; nor do the Araucans ever chaftife, because, in their opinion, punishments can only produce falsehood or cowardice. The food of the Araucans confilts moltly of grain or pot-herbs variously dressed; but maize and potatoes are the most esteemed; they use little meat or fish, and instead of bread they have a kind of light cake or potatoes. Their drink confifts of various kinds of beer and cyder; and they are fond of wine, which they procure from the Spaniards. The matter and his family eat at the fame table, which is covered with earthen-ware and goblets of horn or wood. They light their fire by turning one tlick rapidly on another. Although in private they are frugal, yet on folemn occasions they spare no expence in their repasts; and then fermented liquors are freely taken. Music, dancing, and gaming, constitute their principal amusements. Their mulic is bad, and their fongs harsh and hidrous; but their dances are more cheerful and harmonious. The women, however, dance apart from the men. Their games are both fedentary and gymnastic. From time immemorial, it is faid, they have known the game of chefs, which they call "comican;" the young are fond of wreftling, the race, and a kind of tennis. But their favourite games of the gymnastic kind are the " peuco," and the "palican; " the first representing the siege of a fortiels, when 12 or more persons form a circle and place a boy in the middle of it whom the affailants endeavour to feize, but feldom succeed; the latter resembles a battle, 30 or more players attempting to drive the ball within their bounds, and this game will forretimes last half a day.

Having enlarged on the disposition and manners of tie Araucans, because they are a people hitherto so litter known, although Dr. Robertson in his "America," and Perouse in his voyages, and some others havevery transiently mentio

mentioned them, we shall close this part of the article Chili with observing, that the Pulches of the mountains, now united with the state of Araucana, are more rude and savage than the other inhabitants. Their name signifies eastern ment their stature is tall, and they are fond of the chace, so that they often change their habitations, and dechach colonies to the eastern sides of the Andes, as far as the lake Naguesgapi, and the shores of the Atlantic, in the plains of Patagonia. By the Araucans the mountaineers are highly effected on account of their bold fervices in war, and their invisible sidelity in adhering to the confederacy.

and their inviolable fidelity in adhering to the confederacy. The valour of the Araucans, and their love of liberty and independence, have been figurally manifested on a variety of occations; not only in their early contests with the Peruvian Iucas, but in their refillance to the hoffile attacks of the Spanish invaders of their territory. Soon after their subjugation of Peru, the Spaniards, allured by the fame of the opulence of Chili, commissioned Diego de Almagro to attempt the conquest of it. Accordingly, in 1735, he marched from Cuzco, and, after lofing many Indians and a confiderable number of Spaniards, who perifhed with cold in paffing over the Cordillera Nevada, as well as with fatigue and famine, he arrived at Copiapo, where the Indians immediately submitted. Thus encouraged, he proceeded to the conquelt of other nations, which had never acknowledged the Peruvian Incas. In his progress he met with a vigorous opposition; as the Chilese foon recovered from their first serprize, and not only defended themselves with obstinacy, but attacked their new enemies with more determined valour and fiercenels than any American nation had hitherto discovered. The Spaniards however continued, amidit increasing difficulties and conflicts, to penetrate into the country, and collected confiderable quantities of gold; but they were fo far from thinking to make any fettlement amidst such formidable neighbours, that, in spite of all the experience and valour of their leader, the final iffue of the expedition still remained extremely dubious, when they were recalled from it by an unexpected revolution in Peru. (See the biographical article Almagro.) In the year 1541 the feheme of invading Chili was again refumed, and the command of the expedition for this purpose was conferred by Pizarro on Pedro de Valdivia; and, notwithstanding the fortitude of the natives in defending their possessions, he made such progress in the conquest of the country, that he founded the city of St. Jago or Santiago, which still remains the capital of the country, and thus commenced the establishment of the Spanish dominion in that province. In 1548 he was promoted to the government of it by the prefident of Peru. Valdivia, after having exhibited many difplays both of courage and military skill, was cut off in 1553, together with a confiderable body of troops under his command. Francisco de Villagra, Valdivia's lieutenant, by his fpirited conduct, checked the natives in their career, and faved the remainder of the Spaniards from destruction. By degrees, all the champaign country along the coast was subjected to the Spanish dominion. Several colonial towns were established by the Spaniards, which the Araucans have repeatedly taken and destroyed. The frontier banks of the river Biobio are lined with fortreffes. At the peace of 1773, after a war which had cost the Spanish treasury 1,700,000 dollars, the Toqui of the Araucans inlifted on having a relident minister at the city of Santiago, and the Spaniards reluctantly complied. The mountainous country, however, is still possessed by the Puelches, Araucans, and other tribes of its original inhabitants, who are formidable neighbours to the Spaniards, and with whom, during the course of about three VOL. VII.

centuries, they have been obliged to maintain almost perpetual hostility, suspended only by a few intervals of infecure peace.

That part of Chili, to which the Spaniards are reflricted, and which may properly be deemed a Spanish province, is a narrow diffrict, extending along the coast from the defart of Atacama and the river Biobio, and divided into 13 provinces, viz. Copiapo, Coquimbo, Quillota, Aconcagua, Meliphla, Santiago, Rancagua, Colchagua, Mauli, Itata, Chillan, Puciacay, and Huilquilema. The Spaniards also possess port Valdivia, in the country of the Cunchi; the archipelago of Chiloe; and the island of Juan Fernandez. Don George Juan and don Antonio de Ulloa, in their voyage to South America, inform us, that the captain-generalthip of Chili comprehends four particular governments, viz. the major-generalthip of the kingdom of Chili, to which belongs the military government of the frontier towns and fortreffes, along the banks of Biobio, which are Arauco, the stated refidence of the general, Santajuana, Puren, Los Angelos, Tucapel, and Yumbel; Valparaifo; Valdivia; and Chiloé, which fee respectively: and the following 11 jurisdictions, viz. Santiago, Rancagua, Colchagua, Chillan, Aconcagua, Melipilla, Quillota, Coquimbo, Copiapo and Guafco, Mendoza, and La Conception; which fee. The prefident, governor, or captain-general of Chili, to whole government Spanish Chili is subject, resides in the city of Santiago, exerciling, except in time of war, independent authority, and directing all military affairs; the three great officers of the kingdom, viz. the camp-marshal, serjeant-major, and commiffary, and also the four governors of Chiloe, Valdivia, Valparaiso, and Juan Fernandez, being subject to his orders; as prefident and governor-general, he administers juftice, or prefides in the court of audience in Santiago, which is divided into two halls, the civil and the criminal, with a regent, judges, fifcal or royal procurator, and a protector of the Indians. In cases where the property exceeds 10,000 dollars, an appeal lies to the supreme council of the Indies. There are also tribunals of finances, of the papal buil, and of vacant lands; and the confulate, or tribunal of commerce, which is a new institution in the Spanish colonies, is independent of all others. The provinces are governed by prefects or corregidors, commonly named by the captain-general. The inhabitants are formed into regiments of militia; belides which there is also a body of regular troops. In the town of Conception, there is a regiment of cavalry, and another of infantry, to watch the Araucaus; and the city of Santiago maintains some troops of dragoons for its police

Spanish Chili is divided into two extensive archbishoprics, those of Santiago and Conception, both fuffragans of the archbishop of Lima. The cathedrals are ferved by canons; and at Santiago the holy, or rather infamous, office of the inquisition, has a commissary and various subalterns. There are no convents, except at Santiago and Conception.

This province has derived confiderable advantage from the liberty of commerce obtained in 1778; and its population has fince that event been 'augmented. Before that period, the cultivation of the country, though fingularly fertile and productive, had been finamefully neglected by the Spaniards. A great part of it remained unoccupied; and in its whole extent, there were not above \$0,000 white inhabitants, and about three times that number of negroes and people of a mixed race. The Spanish inhabitants have, for the moft part, migrated from the northern provinces; and they are intermixed with a few English, French, and Italians. They are deferibed by Molina, cited by Pinkerton, as 'weel made, intrepid, incapable of treason or meanness, vain, libe-

ral, ardent, fond of pleafure, fagacious, observant, ingenious, docile," and only wanting instructive books and scientific instruments. The noble arts, however, are neglected by them, and mechanics are imperfectly understood. The dress of the men is generally French, and that of the dress of the men is generally French, and that of the dries after the fashion of Peru; but the Chiefe ladies wear longer gowns, and have a more modest air. The common people have adopted the Araucan dress as being most convenient. Dispersed through a wide country, and unrestrained by village magistrates, they enjoy their liberty, and lead a happy and tranquil life, amidit the pleasures of the delicious climate. They are fond of gaiety, music, and poetry. The language generally spoken in Chili is Spanish; but the country people, who reside near the Araucan frontier, use the Araucan or Chilese language. As they are almost always on herse-back, and enjoy the benefit of a

falubrious air, they are healthy and robuft. The midland country is plain, but the maritime part of Chili prefents three chains of hills parallel to the Andes, which is here about 120 miles in breadth, abounding with Tupendous breaks and precipices, but interspersed with vales and excellent paltures that are watered by ftreams and cafrades descending from the rocks. The highest mountains of the Chilese Andes are Manfla, at 28° 45'; Tupungato, at 33° 24'; Descabesado, at 35°; Blanquillo, at 5° 4'; Longavi, at 35° 30'; Chillan, at 36°; and Corcobado, at 43°. Molina did not measure their height; but the Spaniards and Chilese suppose them to be more than 20,000 feet above the sea. The four seasons are as regular in this country as they are in Europe; but as it lies in the fouthern hemisphere, their order is inverted. Spring begins on the 21st of September, fummer in December, autumn in March, and winter in June. From the beginning of fpring to the middle of autumn, the fley is always ferene, chiefly between 24° and 35° lat.; showers feldom falling during that period. The rains begin in the middle of April, and last till the end of August; varying in quantity and continuance in the northern and fouthern diffricts. Thunder is fearcely known, except on the Andes; fnow does not fall in the maritime provinces; but on the mountains from April to November it is perpetual, and prevents the passage over them, except at Midsummer. In Chili, in general, no river is frozen, and the cold feldom exceeds the freezing mark of Reaumur's thermometer. Through the whole kingdom the dews are copious in fpring, fummer, and autumn. On the other fide the Andes, the N.W. wind, called "Sonda," is more fuffocating than the Scirocco of Italy; but in the countries of Peru and Chili no fuch effect is perceived.

About the middle of the day a breeze often rifes from the fea, and lasts two hours, so that it is called the clock of the pealants. Fiery meteors are frequent; but the aurora borealis feldom appears. In Chili volcanoes abound. One that was terrible by the convultions and devastation it occafioned, occurred at Petorea on December 3d, 1762. There are only two other volcanoes in this province, which do not belong to the chain of the Andes; a small one near the river Rapel, which ejects only fmoke, and the great volcano of Villarica, near a lake of that name in Araucana. This flaming mountain is feen at the diffance of more than 150 miles, and appears isolated; but it is thought to be joined with the Andes, which is at a fmall distance. The fummit, burning day and night, is covered with fnow; but the fides, to the extent of 14 miles, are shaded with enchanting forests, watered by innumerable crystalline streams. Earthquakes ate little known even in Copiapo and Coquimbo, where sub-terranean noises are often heard, as in Tucuman. Slight earthquakes are felt three or four times in the year; but only five of any confequence have occurred fince the entrance of the Spaniarda; of which the most remarkable were that of 1730, which in July buried the city of Conception, and that of 1751, which utterly destroyed the fame city, and was accompanied with a globe of fire, which darted from the Andes to the ocean; however, on this occasion, only seven persons perished; there being in Chili always a warning noife, or vibration of the air, and the shocks are horizontal, not explosive.

The rivers of this country, though fometimes confiderable, have but a fhort course from the Andes to the ocean. There are several lakes, both fresh and salt; the two largest being in Aracauna, viz. the Lauquen or Villarica, about 72 miles in circuit, with a beautiful conic hill in the centre; and the Nahuelgapi, about 80 miles in circumserence, having an island in the centre, crowned with beautiful trees, and giving rise to a river of the same name, which runs towards the Atlantic, while from the first springs the river Tolten, which joins the Pacific. The country abounds with mineral waters and salt rivers, ascribed by the Araucaus to the beneficence

of their god Meulen

The climate of Chili is the most delicious in the New World, and is hardly equalled by that of any region on the face of the earth. Though bordering on the torrid zone, it never feels extreme heat, being foreened on the east by the Andes, and refreshed on the west by cooling sea-breezes. The temperature of the air is fo mild and equable, that the Spaniards give it the preference to that of the fouthern provinces in their native country. Inflances occur in this country of furprifing longevity. A Spanish knight attained the age of 106 years, without knowing fickness; and he had by two wives 28 fons. Some of the creoles have arrived at the age of 104, 107, and 115. It is also said that the women are fruitful in an extraordinary degree, and that twins are common. A Frenchman who died in 1764, left by one wife 163 descendants. The fertility of the foil corresponds with the benignity of the climate, and is wonderfully accommodated to European productions. The most valuable of these, corn, wine, and oil, abound in Chili, as if they had been native to the country. The feil, even that part of it which has been long in tillage, is so little degenerated by producing successive crops, that no manure is necessary. The grain, as some say, yields from 100 to 150; but by a more moderate and just estimate, as it is stated both by Molina and in Perouse's voyage, from 60 to 70 in the midland country, and in the maritime 40 or 50. Many of the plants of Chili are the same with those of Europe, and almost all the pot-herbs and fruits of that continent flourish there. The northern provinces produce the fugar-cane, the fweetpetatoe, and other tropical plants. Maize is common and abundant; the magu is a kind of rice, and the tuca a species of barley, both of which were cultivated before the arrival of the Spaniards. Peas and potatoes were also well known to the Chilefe. Of the latter they have 30 different kinds: and it is even conjectured that this valuable root was first brought into Europe from this country. The large white strawberry of Chili is now known in English garden. Many of its plants are valuable as dyes, and others as medicinal. The gentian is peculiar to Chili. The vira-vira expels the ague; the payco is excellent for indigeflion. Wild tobacco abounds in Chili. The beautiful flowers and shrubs are infinite. Incense, not inserior to that of Arabia, is produced by a shrub, distilling tears of a whitill yellow, and of a bitter aromatic taste. The trunk of the part supplies excellent cork; the falfola kali is plentiful on the shores; and Chili produces feven kinds of beautiful myrtles, one ce which yields an excellent stomachic wine preferred by files jess

Arangers to any mufcatel. The culon furnishes a tea, which is known as a vermifuge. An acacia of the province of Quillota yields a balfam, that is used in the cure of wounds; and the palqui is esteemed, as a febrifuge, superior to the Peruvian bark. The caffia fena grows on the banks of the rivers Maypo and Salvia. Of 97 kinds of trees, that diversify the beautiful forests of Chili, only 13 lose their leaves in winter. Cypresses, pines, and red and white cedars grow in the vallies of the Andes; the red cedars, particularly in the iffe of Chiloé, are of an enormous fize, fo that from 700 to 800 planks, 20 feet long, may be en from one tree. The cinnamon tree, that yields what is called winter's bark, is regarded as facred by the Araucans, who prefent it as a token of peace. Beautiful woods of various colours are supplied by the Chilcfe foreds. Vines, though none appear to be native, flourish admirably well: they are found in the forests, arising from feeds deposited by the birds : on the confines of the river Mauli, they are three or four feet high, and fupported by flakes; but further to the fouth they are left loofe on the fides of the hills. The best wine is that which is obtained from the banks of the river Itata, and is commonly called wine of Conception; it is red, generous, of an excellent flavour, and equal to the best in Europe. Muscatel wines are also excellent. The vintage is April and May, All the other European fruits attain the greatest perfec-

Of the zoology of Chili, Molina has given an ample account. Ovfters of an excellent kind are found near Coquimbo; and the rocks of Chiloe furnish the pholas. There are also many kinds of lobiters and crabs. Among the insects is the locust of Africa. Bees abound in the fouthern provinces. Reptiles are rare; but the fea supplies 76 kinds of fish, all excellent and falutary. The feals, called fea-cows, appear on the shores of Araucana. Of land and aquatic birds the different species amount to 135; and the sea-fowl are innumerable. Of these several retire in spring to the forests of the Andes for propagation, and on return of winter they re-vilit the plains. The American offriches appear in great numbers in the vallies of the Andes, and especially near the grand lake Nahuelgapi. The eggs, of which the female lays from 40 to 60 in the fand, yield, each of them, about two pounds of good food; and the feathers are used for plumes, parasols, sans, &c. The condor is also found in this country. Molina reckons 36 species of quadrupeds in Chili; and it is observed, that most of the European animals have improved in this delicious climate and fertile country. The celebrated Spanish sheep have not lost any of their diltinguishing qualities: the horned cattle are larger than those of Spain; and the breed of horses surpasses both in beauty and spirit the famous Andalusian race, from which they fprung.

Nor has nature exhausted her bounty on the surface of the earth: she has thored its bowels with riches. All the angillaceous earths mentioned by Wallerins are found here, exclusive of the bole of Lemnos; and Molina adds sive forts to those already described. Of metallic earths, according to his arrangement, there are mountain-blue and green, native ceruse, ore of zinc, with brown, yellow, and red others. Among the rocks are slate, hone, green tale, steatite, albestos, amiauthus, gold and silver mica; and the tale called Museovy glass is found in large plates, and used for windows. Limeltone, marble, and gypsum, are plentiful. Belides statuary marble, Chili affords the black, greenish, and yellow; and two mountains of Copiapo and Mauli are altogether composed of marble of different colours, and disposed in regular strata from the bottom to the top. Molina also mentions a great variety of fluors, yellow,

green, and blue, called false topazes, emeralds, and sapphires. The Andes also afford fine alabaster, and large plates of felenite, used by the inhabitants of San Juan in the windows of their churches. Of filiceous flones, there are quartz, flint, and rock crystal. Here are also free-stone and grindstone, some common agates, and jasper red, green, grey, white, and variegated. Rock crystal occurs of different colours, called false ruby, topaz, jacinth, emerald, &c. One real emerald, fays this author, was found in Coquimbo, and a topaz in the province of Santiago. A little hill, N.E. of Talea, is almost wholly composed of beautiful amethysts, in a kind of grey quartz. Turquoises are found in Copiapo; and beautiful breecias, perphysics, and granites occur in the Andes. Rock-falt is abundant; and is often crystallized in cubes of various colours. Sal ammoniac is common near the volcanoes; and nitre abounds in Coquimbo. The country is supplied with different kinds of alum or bitumen, and all the vitricls. Aracuana furnishes jet; and coal is fupplied by various parts of the kingdom. The province of Copiapo comprehends two mountains of crystallized fulphur; and the same substance abounds in all the Andes. Pyrites of several kinds and under various forms are found in feveral places. Of the femi-metals, this country yields arfenic, cobalt, bifmuth, zinc, antimony, and mercury, both virgin and cinnabar. Chili contains mines, many of them very rich and productive, of lead, tin, iron, filver, and gold. The chief filver-mines are those of the provinces of Santingo, Aconcagua, Coquimbo, and Copiapo; but the molt cele-brated is that of Uspallata, fituated on the eastern mourtains of the Andes, in the province of Aconcagua; supposed to extend to Potoli, through a space of 840 geographical miles; discovered in 1638, neglected till 1762, but since wrought to great advantage. However, of all the metals, gold is the most abundant in Chili; fo that there is not a mountain or a hill, which does not more or less produce it, and accordingly, it is found in the foil of the plains and the fand of the tivers. The gold is reckoned the purelt in the world, being generally found of 22 carats, and often of 23% carats. The most considerable mines of gold now wrought in Spanish Chili are those of Copiapo, Guasco, Coquimbo, Petorea, Ligua, Tiltil, Putaendo, Caren, Alhue, Chibato, and Huillipatagua; all which, except the three last, which have been recently discovered, have, ever fince the conquest of the country, yielded a constant and considerable produce. The gold of the mines of Chili, paying the royal fifth, amounts to about four millions of dollars annually; of which a million and a half are coined at the mint of Sant-

The commerce of Chili employs 23 or 24 ships from 5 to 600 tons each, and in return for the grain, wine, fruits, provisions, tallow, leather, wood, copper, &c. fent to Peru, it receives iron, cloth, and linen made at Quito, hats, bays, of which there are manufactures in Chili, fugar, cacao, fweetmeats, tobacco, oil, earthen ware, and all kinds of European goods. A small commerce is also carried on between Chili, Paraguay, and Buenos Ayres, of which the latter is the staple. The products of Paraguay, which confift only in its herb and wax, are carried thither, then forwarded to Chili, whence the herb is exported to Peru. Large quantities of tallow are also fewt to Mendoza for the manufacture of foap. In exchange for these commodities Chili fends to Buenos Ayres linen and woollen stuffs, some of which are imported from Peru, and others manufactured in the country; also sugar, snuff, wine, and brandy, which two last the traders chiefly buy at San Juan, as most convenient for transportation. Ships from Spain, in return for European goods, receive gold, filver, copper, Vicuna wool. 4 M 2

The domestic commerce of Chili and drefted leather. chiefly confifts in the provisions fent to Valdivia, which supplies other places with cedar. Chiloé purchases from the other parts brandy, wine, honey, fugar, the Paraguay herb, falt, and Guinea pepper; and returns to Valparaifo and Conception feveral kinds of fine wood, with which the island abounds; also woollen stuffs of the country, made into Coquimbo fends copper to Valparaifo, which in exchange returns Cordovan leather, and foap, made at Mendoza, from whence it is carried to Santiago, and thence fold to different parts of the country. The trade with the wild Indians carried on by barter, confifts in hardware, as bits, fours, and edge tools; also toys, and some wine. They return horned cattle, horses of their own breeding, &c.

Before we close this article, we shall mention as a matter of annual observation, that the sea gradually retreats from the coast of Chili; and therefore, the shore consists mostly of a plain, 5 or 6 miles broad, between the fea and the maritime mountains; their fides bearing evident marks of the finking of the ocean, which has fometimes formed curious grottos, with different chambers, hung with shells or stalactites, where bealts take refuge in the winter. Voyage to South America, by Juan and de Ulloa, vol. ii. Robertson's America, vol. iii. Pinkerton's Geography, Ed. 2.

CHILIAD, formed of xixias, mille, a thousand, an affemblage of feveral things ranged by thousands. The term was particularly applied to tables of logarithms, which were at first divided into thousands. Thus it was used by Mr.

Briggs. See the article BRIGGS.

CHILIAGON, in Geometry, a regular plane figure of 1000 fides and angles. We can eafily demonstrate, that the fum of all its angles is equal to 1996 right ones; for the internal angles of every plane figure are equal to twice as many right angles as the figure hath fides, except those four which are about the centre of the figure, from whence it may be resolved into as many triangles as it has sides. The author of L'Art de Penser, p. 44, 45, brings this instance to shew the distinction between imagining and conceiving. See NOTION.

CHILIARCHA, or CHILIARCHUS, from xilias, a thousand, and agan, command, an officer in the armies of the ancients, who had the command of a thousand men.

CHILIARTÆ, in Church-Hiftory, the same with MIL-

CHILIASTS. See MILLENARII.

CHILIOCOMUS, in Ancient Geography, a canton of Afia, in Media; placed by Ammianus Marcellinus in the vicinity of Corduene

CHILISQUAQUE, in Geography, a township of Suf-

quehannah river in Pennsylvania.

CHILKA, a lake of Hindooftan, on the fea-coaft of the province of Cattack on the N.W. fide of the bay of Bengal. This lake bounds the Northern Circars on the north. It feems to be produced by a breach of the fea over 'a flat, fandy shore, whose elevation was somewhat above the interior country. Both this, and the Palicat lake of fimilar origin, communicate with the fea by a very narrow, but deep, opening; and are shallow within. The Chilka lake is about 40 miles in length from N.E. to S.W.; and in most places 12 or 15 wide; with a narrow slip of fandy ground between it and the fea. On this lake are many inhabited islands. On the N.W. it is bounded by a ridge of mountains; being a continuation of that which extends from the Mahanuddy to the Godavery river; and shuts up the Circurs towards the continent. It forms a pass on each fide of it towards the Cattack province, and affords an agreeable diversity of objects; mountains, islands, and foreits; and an extended furface of water, with boats and fmall veffels, failing on it. To those who navigate at some distance from the coast, it has the appearance of a deep bay; the flip of land not being visible.

CHILLAKOTHE, an Indian town of America, feated on the Great Miami, which was destroyed in 1782, by a body of militia from Kentucky. This name is applied to many different places in honour of an eminent chief who for-

merly headed the Shawanoes. See TawixTwi.

CHILLAKOTHE, old, an Indian town, lying about three miles S. of Little Miami river, but deflroyed by the forces of the United States in 1780. The part of the adjacent country, which is beautifully chequered with meadows, is

CHILLAN, or CHILAN, a town of South America and capital of a diffrict of the fame name, being one of the jurildictions of the kingdom of Chili. The place is fmall, but has the title of city; the number of families not exceeding 2 or 300, and having among them but few Spaniards. It is 75 miles N.E. of Conception.

CHILLEIROS, a town of Portugal, in the province

of Estramadura; 4½ leagues N.W. of Lisbon. CHILLEURS, a town of France, in the department of the Loiret and district of Orleans; 14 miles N.E. from it.

CHILLIKOTHE, a town of America, in the flate of Ohio and county of Ross; fituated on the Scioto river, about 60 miles from the Ohio. Such has been the increase of this fettlement, that though it began in 1796, and became an incorporate town in 1782, it is now the feat of government and capital of the fiate. The adjacent country is fertile, and the town is rapidly increasing. At present it is faid to contain 150 houses. Its public buildings are a g20l, built with wood, and a court or state-house of hewn

CHILLINGWORTH, WILLIAM, in Biography, diftinguished as a theologian, was born at Oxford in October 1602. He was admitted a scholar of Trinity college in the year 1618, and after taking the usual degrees, was elected fellow of his college in 1628. He was, in very early life, characterised by a fondness for disputation; to this temper Lord Clarendon refers in his own life. "He was," fays the Noble Lord, " a man of fo great a fubtilty of understanding, and so rare a temper in debate, that as it was impossible to provoke him into any passion, so it was very disficult to keep a man's felf from being a little discomposed by his tharpness and quickness of argument; and inflances in which he had a rare felicity, and a great advantage over all the men 1 ever knew." This turn of mind was attended with its difadvantages, for we are told he had contracted fuch an irrefolution and habit of doubting, that by degrees he felt confident of nothing. It was probably the cause also of his convertion to popery, through the subtilty of John Fisher, a jesuit, at whose instance he went to the college of Douay. Here he made but a fhort stay, having, by means of a correspondence with his god-father, Laud, bishop fon to change his fentiments again. Upon his return to England he retired to Oxford, where he purfued his studies with great care and diligence. In 1634 he wrote a paper in confutation of the arguments by which he had been feduced; fuch, however, was the ingenuousnels of his mind, and his regard for truth, that after his return to Protetlantifm, he made no fcruple to re-examine the grounds of it, which occasioned a report that he had gone back again to the church of Rome, and he continued through life to be reviled by one party and fuspected by the other; yet he it to

fhame on account of the candour and impartial inquiry which caused these fluctuations in his creed. Speaking of himself he says, " I know a man, that of a moderate Protestant turned a Papist, and the day he did so, was convicted in conscience, that his yesterday's opinion was an error. The fame man afterwards, upon better confideration, became a doubting Papilt and of a doubting Papilt a confirmed Protestant. And yet this man thinks himself no more to blame for all these changes, than a traveller, who using all diligence to find the right way to some remore city, did yet milake it, and afterwards find his error and amend it." Few persons, it is presumed, will, upon reading this, dispute Chilling worth's title to self-approbation. In the year 1637, he published a work entitled, "The Religion of Protestants a safe way to Salvation," which is one of the ablest defences of the Protestant cause. Its fundamental principle is, that the feripture is the only rule by which we can judge of controversies, and that no church of any one denomination, is, or ought to be, accounted infallible. "It is fufficient," fays he, "for any man's falvation, to believe that the scripture is true, and contains all things necessary to salvation, and to do his best endeavours to find and believe the true fenfe of it."

Chillingworth's orthodoxy was now fuspected, and he was immediately branded with the epithets of Arian and Socinian; he had previously to the publication of this work refuled preferment, which was offered him by Sir Thomas Coventry, keeper of the great feal, because he could not, at that time, subscribe to the thirty-nine articles: he declares that he is ready to endure any extremity of indigence and the difpleafure of his friends, rather than to make a declaration which his conscience could not thoroughly approve. These fcruples were not of long continuance, for in 1638 he complied with the usual forms of subscription, on being promoted to the chancellorship of Salisbury, with the prebend of Brixworth in Northamptonshire, annexed to it. From a passage in the preface to his Religion of Protestants, it appears, that he now confidered fubscription as an offering to peace and union, not a declaration of faith, to which opinion he was probably led, by the arguments of his friend, Dr. Sheldon, afterwards archbishop of Canterbury. In addition to his other preferments he obtained the mastership of Wigstan's hospital in Leicester, and in 1640, he was deputed as proctor by the chapter of Salisbury to the convocation. At the breaking out of the civil war he adopted inflantly the royal cause, and was present in the king's army at the siege of Gloucester, where he even acted as engineer, and contrived some machines for assaulting the city. Very soon after this, on account of ill health, he retired to Arundel castle in Sussex, where he was taken prisoner by Sir William Waller. His illrefs increasing, and not being able to go to London, he obtained leave to be conveyed to Chichester, where he was lodged in the bishop's palace, and after a short illness died in the month of January 1643-4, and was buried, according to his own defire, in the cathedral church of Chi-Chillingworth was the author of feveral works befides his " Religion of Protestants a safe way to Salvation." He wrote nine fermons on special occasions, and a defence of episcopacy. His writings have always been highly eftremed by forne of the most eminent persons of the nation, among whom were the great Locke, and arshbishop Tillot-Ion. His private character was marked by fincerity, candour, and benevolence: and according to Lord Clarendon " he was a man of excellent parts and of a cheerful disposition, void of all kind of vice, and endued with many notable virtues; of a public heart, and an indefatigable defire to do good; his only unhappiness proceeded from his sleeping too

little; and thinking too much, which fometimes threw him into violent fevers." "This laft circumftance," fays Dr. Aikin, "denotes that warmth of brain which may account for the mutability and the diffutatious turn that feem to have fuperabounded in his nature." Biog. Brit. Gen. Biog. Blackburne's Works.

CHILLOAS, or CHILOAS, a jurifdiction of South America in the diocefe of Truxillo, belonging to the vice-royalty of Peru, and the audience of Lima. See LLALLA.

CHILLON, a castle or casteliated house, in the canton of Bern, 5 miles E.S.E. of Vevay. This is a large pile with round and square towers, standing on a rock in the lake of Geneva, and connected with the land by a drawbridge. The vaults are very fine; the arched roofs, and the supporting pillars, are in a neat Gothic style. This ealtle in 1536 was wrested from Charles III. of Savoy by the canton of Bern affifted by the Genevans, who furnished a frigate to befiege it by water. In a deep dungeon, below the level of the lake, the conqueror found Bonivard, prior of St. Victor, the intrepid antagonith of the dukes of Savoy, and the great afferter of Genevan independence. He had been imprisoned by the Savoyards for 6 years, and by conftant walking within his short limits, had worn a hollow in the rock. This castle was for a short time the refidence of a bailiff from Bern, until a more convenient house was purchased in Vevay. It was seized by the infurgents in January 1798; and this act of rebellion, not being punished, was followed by the separation of the Pays de Vand from the canton of Bern.

CHILLY, a town of France, in the department of the Jura, and diffrict of Lons-le-Saulnier; one league S. W. of

11.

CHILMA, or CHILMANENSE oppidum, now called Giima, an ancient town in the interior of Africa. Ptolemy and Pliny place it under the dominion of Carthage, and fay that it was fituated between the rivers Bagradas and Tri.on. It is now in ruins, with fearcely any remaining veflige.

CHILMARK, a township of America on Martha's Vineyard island, in Duke's county and state of Massachussetts, containing 771 inhabitants. It lies 99 miles S.E. of

Bolton.

CHILMARY, a town of Hindooftan, in the country of

Bengal; 110 miles N.E. of Moorshedabad.

CHILMINAR, CHELMINAR, or TCHELMINAR, the noblelt and most beautiful piece of architecture remaining of all antiquity; being the ruins of the famous palace of Perlepolis, to which Alexander the Great, being drunk, set sine, at the persuasion of the courtesan Thais.

Authors and travellers are exceedingly minute in their deferiptions of the Chilminar; particularly Gracias de Silva Figueroa, Pietro de la Valle, Chardin, and Le Brun. A general idea thereof may be conceived as foilows:

There appear the remains of near fourfcore columns; the fragments whereof are at least fix feet high; but there are only nineteen that can be called entire; with a twentieth all

alone, 153 paces from the rest.

A rock of black hard marble ferves for the foundation of the edifice. The aftent to the first plan of the building is by fourfcore and fifteen steps, cut in the rock. The gate of the palace is twenty feet wide; on one fide is the figure of an elephant, and on the other of a rhimoceros, each thirty feet high, and of a shining marble; near these animals are two columns; and not far off the figure of a Pegalus.

After this gate is passed, there are found a great number of columns of white marble; the remains whereof shew the magnificence of the work: the smallest of these columns is sisten cubits high, the largest eighteen; each has forty.

llutings,

flutings, three inches broad : whence the height of the whole may be gueffed at, with the other proportions. Near the gate is an infeription on a square piece of marble, fmooth as glafs, containing about twelve lines: the characters are of a very extraordinary figure, refembling triangles and pyramids.

of prey. Belides the infcription above mentioned, there are others in Arabic, Perfian, and Greck. Dr. Hyde observes, that the infcriptions are very rude and unartful; and that fome, if not all of them, are in praise of Alexander the Great; and therefore are later than that conqueror.

M. Le Brun took his voyage to the East Indies, merely for the fake of viewing the Chilminar. See PERSEPOLIS.

CHILO, in Biography, one of the wife men of Greece, who flourithed about the first year of the 56th olympiad or 556 B. C. But Diogenes Laertius fays, that he was an old man in the 52d Olympiad. He was one of the Lacedæmonian Ephori, and celebrated for both his fagacity and probity. In the exercise of his office as a magistrate he acted with fo much integrity that in his old age, he faid, that he recollected nothing in his public conduct which gave him regret, except that, in one inflance, he had endeavoured to foreen a friend from punishment. The highest attainment of wildom, in his opinion, was, that fagacity which enables a person from the view of present circumstances and events to predict future occurrences. Æfop is faid to have once asked him, how Jupiter employed himself? He replied, "in humbling those that exalt themselves, and exalting those that abase themselves."

He is faid to have lived to a very advanced age, and to have expired through excess of joy, in the arms of his fon, when he returned victorious from the Olympic games. Some of his maxims of the greatest value are the following: -Three things are difficult: to keep a fecret, to bear an injury patiently, and to fpend leifure well .- Vifit your friend in misfortune rather than in prosperity .- Never ridicule the unfortunate.-Think before you speak .- Do not defire impossibilities .- Gold is tried by the touchstone, and men are tried by gold .- Honest loss is preferable to shameful gain; for by the one, a man is a fufferer but once; by the other, always .- In converfation use no violent motion of the hands; in walking, do not appear to be always upon businels of life or death; for rapid movements indicate a kind of phrenzy.- If you are great, be condescending; for it is better to be loved then feared .- Speak no evil of the dead .-Reverence the aged.—Know thylelf. Diogenes Laertius, T.i.l. 1, § 68-74. Plin, H. N. T. i l. vii, § 32. Brucker's Hitt. of Philos. by Enfield. vol. i. p. 133. Rollin's Ancient Hist. vol. ii. p. 354.

CHILOE, in Geography, a confiderable island, or rather group of illands, being one of the governments of Chili, leated on its coast in the fouthern Pacific ocean, in the gulf of Chonos, or the archipelago of Guayteeas, and separated in its fouthern part from the continent by a narrow fea, which forms a bay. It is about 140 miles in length by 30 in breadth; but almost divided, in the middle, by bays or creeks. It lies between 41° 40' and 43° 50' S. lat. The principal harbour of the island on the north coast is Chacao, which is faid to be well fortified and capable of a good denominated by the prefident of Chili, and also regidores and alcaldes chosen annually. Besides the parish church, this place has two convents, and a college of Jefuits. The island is well peopled with Spaniards, Mulattoes, and Indian profelytes. We learn from Lequanda, cited by Pinkerton, that from the middle of the 18th century many

thips from Peru have vifited the ifle of Chiloe. The port of St. Carlos, (S. lat. 41° 50', and long, 303° 57' from the meridian of Teneriffe,) is capable of receiving confiderable vellels, and the articles of commerce supplied by the shand have given rife to a trade somewhat beneficial. The natives are robust and well disposed; but are desicient in industry. These noble ruins are now the shelter of beasts, and birds. Chiloé has forests of excellent timber, particularly cedar: it abounds in wine, and its pigs, feeding on shell-fish, supply excellent hams. It has an ample fiftery; its wheat is fearty, though the foil is good; but the deficiency is supplied with a kind of potatoes, called papas, and with barley and beans, of which they make flour. Cattle and fleep, introduced from Spain, are abundant, and afford good meat: the tame and wild birds are numerous; and the kind of feal, called fea-wolf, is plentiful. The flesh of the feal is falted by the Indians of the fmall adjacent iflands called Chonos, and used as common food. The fea-otter, which is common from Chileé to Valdivia, furnishes fur not inferior to that of the Canadian beaver, which might become a lucrative arused as a delicate fur. The females of the island manufacture ponchos or Indian mantles, and other coarfe woollen articles. Some few linen articles are also woven: but both these manufactures are infufficient for cloathing the inhabitants, who are estimated at 25,000, exclusively of the Chonos. They begin to import woollens and cottons from Peru; but the confumption is small. During five years, it is faid, the imports from Childé at Lima in boards, ponchos, hams, and falt-fish, amounted to more than 280,000 dollars. The exports from Lima to Chiloé exceeded 334,000.

CHILOK, a river of Siberia, which runs into the Se-

CHILON, among the Greek Physiologers, one who has great lips, called by the Latins labeo. Thus also among the species of fishes, under the class of capitones, some are called chilones, that is, labeones.

CHILONGO, CHYLONGO, or CYLONGO, in Geography,

a maritime province of Africa, and the largest in the kingdom of Loango. It is fituated between the rivers of Quila on the S. and Combi on the N., which last separates it from Majumba, once a small kingdom of itself, but now a province of this. Its plains are spacious and fertile, and sheltered at a diffance by ridges of high mountains. Its inhabitants carry on a very confiderable commerce, especially of elephants' teeth, though in other respects they are extremely rude and unpolished. On the coast stands the "Cabo Negro,"

dark appearance; the whole promontory being covered with

CHILOU, a village of Ceylon, S. of Putallom, where the Dutch have erected houses for the entertainment of strangers. It is fituated on the banks of a broad river; and the adjacent country is wild, and dangerous for patiengers, on account of the multitude of wild beatls with which it merous, and are nunted with confiderable fuccels.

CHILQUES, a jurifdiction of South America, in the kingdom of Peru and diocese of Cuzco; commencing at the diffance of about 7 or 8 leagues S.E. of Cuzco, and extending above 30 leagues in length. The temperature of the air corresponds to the fituation of its several parts; some of which are very fertile in producing grain, and others feed a great number of cows and theep. Befides thefe, its commerce is much augmented by the woollen manufactures of

CHILTERN, a ridge of hills, traverfing the county of

Bucks a little to the fouth of its centre, and reaching from Tring in Hertfordshire, to Henly, in the county of Oxford. To these hills, called the Chiltern Hundreds, is annexed the nominal office of fleward under the crown, the acceptance of which enables a member of the British parliament to vacate his feat.

CHILTOTOTL of Hernandez and Ray, in Ornithology, the cardinalis of Briffon, the Brafilian tanager of Latham,

and the tanagra Brafilia of Linnaus; which fee.

CHIMÆRA, in Ichthyology, a genus of fishes in the chondropterigious order, the head of which is pointed on the upper part; foiracle fingle, quadripartite, and under the neck; mouth placed beneath; upper lip five-cleft; cutting teeth two in front both above and below; body elongated; dorfal fpine fingle. Gmelin adds, the tail ending in a flender thread, and longer than the body; but we rather agree with Bloch, who confiders the filiform tail of the chimæra monttrofa as a specific than a generical dilline-

Two species only of this fingular tribe of fishes have been hitherto discovered; the first, monstrofa, or sea montler, was fufficiently well known to the older writers as an inhabitant of the European feas, under the names of centrina prima, fimia marina, galeas acanthias, &c.; the other callorhynchus, the elephant fith of Cook's voyages, is a native of the fouthern hemisphere, and ranks among the

more recent discoveries in Ichthyology.

CHIMERA monfirofa has the lower part of the front porous and plaited, and the tail terminating in a long and flender filament. Chimara monflroso rostro subtus plicis pertufis, Linn. Fn. Succ. Chimera cauda filiformi, Bloch.

A fish of more remarkable appearance can scarcely be conceived. The body is of a lengthened form, compressed, and gradually tapering towards the tail, which terminates in a long and flender filament; the head is large, thick, and afcending in front into a conic or pyramidal form; the mouth is pleed beneath, and is of moderate fize; each jaw is furnished with a pair of broad bony laminæ, which are crenulated at the tip; the upper lip is divided into five parts, and the front, from the mouth to the eyes, is marked by transverse undulations and pores; a line of this kind runs across the forehead beneath the point or tip, and is continued in a ferpentine courfe into the lateral line, and another line paffes from this beyond the eyes, which returns again towards the nostrils. The whole body is of a dark brown above, varied with vellowish brown, and filvery, and the lower parts of a bright filver colour. The eyes are large, of a greenish colour with silvery irides, and very brilliant, or thining with photphoric fplendour. The pectoral fins are of confiderable magnitude. The male is diffinguished by having a small fringed crest on the top of the head, and by the rough lengthened processes at the anal fin, which correspond with those observed in the males of the ray and shark tribe. This fish inhabits the northern feas of Europe, and is very rarely feen fo far fouthward as the British isles. (Vide Donov, Brit. Fishes). It grows to the length of three or four feet, and fublifts on marine worms and fish of the smaller kinds. The Norwegian fishermen call it the king of herrings, from the circumstance of its being often lurking among the shoals of that fish, the flesh of which appears to be its principal food. The slesh of the Chimara is hard, coarse, and uneatable; the inhabitants of Norway employ however the roes of this fish in their pattry, and in making cakes, and extract an oil from the liver, which they confider of fingular efficacy in diforders of the eyes, and as an embrocation for wounds and bruifes. vince of Quito, fituate on the well fide of the jurifdiction

Some call it the fea ape, and others the fea-lion; it is the Chimère arctique of modern French writers.

CHEMERA callerbynebus. Snout produced beneath into an inflected lip. Collorbynebus, Gronov. Muf. - Elephant Fifb, Ellis, It. Cook, It. Prjegallo, Frézier. Chimera auf-

tralis, Southern Chimæra. Shaw.

This nearly corresponds in fize with Chimæra monstrofa, but has the front rather floping downwards, and the upper lip extending into a lengthened cartilaginous flap, or appendage, bending down in a reverfed direction beneath, from which peculiarity it has acquired the name of the clephant fish. The mouth resembles that of the former fish. The eyes are large; the front marked by undulated lines, and pores, the last of which are less numerous than in C. mon-The first dorfal fin, as in that fish, large, fomewhat triangular, and armed anteriorly with a strong spine; second dorfal fin refembling the first, but without a spine; the third very shallow, and continued into a thread at the termination of the tail, but which is very short. The pectoral fins are large; ventral moderate; anal small; lateral line commencing from the upper fides of the head, and thence continued in a straight direction, to the beginning of the caudal fin, at which place it terminates. General colour of the whole fifth filvery, with a yellowish brown cast on the upper parts; fins pale brown. Inhabits the South Seas.

CHIMERA, in Fabrious Hiftory. See CHIMERA. CHIMARRHUS, in Borany, (fo named by Jacquin,

and you xumaffor, because it usually grows by torrents), Schreb. 309. Willd. 350. Jacq. Amer. 61. Class and

order, pentandria monogynia.

Gen. Ch. Cal. perianth entire, crowning the germ, permanent. Cor. one-petalled, funnel-shaped; tube very fhort; border five-cleft; fegments lanceolate, concave, blunt, hairy below, with a longitudinal line running along the middle, spreading. Stam. filaments five, awl-shaped, the length of the corolla, hairy at the bafe, helow the divifions of the border; anthers oval. erect. Pifl. germ round. ish, inferior; flyle filiform, the length of the stamens; stigma bilid, obtule. Peric. capfule fomewhat egg-shaped, obtule, crowned, two-celled, two-valved; valves bifid at the tip. Seeds folitary

Eff. Ch. Corolla funnel-shaped, with a very short tube. Capfule inferior, obtufe, two-celled, two-valved; valves

bifid at the tip. Seeds one in each cell.

Sp. C. Symofa. A lofty tree, with branches spreading out horizontally, wood white, used for beams, rafters, &c. Leaves egg-shaped, acuminate at both ends, quite entire, thining, petioled, opposite; a foot long, commonly eight or ten at the end of each twig. Floruers white, numerous, fmall, scentless, in cyme-like racemes half a foot in diameter: those in the axils opposite and folitary, those at the end usually four together. Capfules small. A native of Martinico, where it is called Bois de Riviere.

CHIMARRUS, in Ancient Geography, a river of Peloponnesus; placed by Paulanias between the Erasinus and

the maritime burgh of Lerna.

CHIMAY, in Geography, a town of France, in the department of Jemmappe, and chief place of a canton, in the diffrict of Charleroy. The place contains 1892, and the canton 8935 inhabitants: the territory includes 300 kiliometres and 17 communes. In the vicinity of Chimay, are mines, with founderies and forges, of iron. It is 101 polls E.N.E. of Cambrav, and 151 S.E. of Lillo.

CHIMBADORES. See SANTA.

CHIMBO, a jurisdiction of South America, in the pro-

of Riobamba, and confilling of an afficinto and feven vil- feated on a rock near the fea-coaft, opposite to the island lages: the former, being the capital, is called Chimbo, and was the relidence of the corregidor; till it was thought proper, for the convenience of commerce, to remove it to Guaranda, the principal of the above villages. Guaranda is inhabited generally by Mestizos, with some Indiana, and very few Spaniards. The jurisdiction of Chimbo being the fir!t of the Serrania, or ridge of mountains bordering on that of Guayaquil, carries on, by means of innumerable droves of mules, the whole trade of Quito and the other provinces, by the way of Guayaquil, carrying the bales of cloth and stuffs, together with the meal, corn, and other products of the country, from the former to the latter; and returning with wine, brandy, falt, cotton, fish, oil, and other goods, for the supply of the provinces of the mountains. This traffic is very advantageous to the inhabitants; but, as the roads, in winter, are impassable to beasts of any kind, it can only be carried on during the fummer. This intermission of trade they call " carrarse la montana," i. e. the shutting up of the mountains. The temperature of the air at Guaranda, and of the greatest part of the jurisdiction of Chimbo, from the proximity of Chimborazo, is very cold. The country is extensive and fertile; but the haciendas, or farms, are generally appropriated to the breeding of mules;

CHIMBORAZO, a mountain of South America, fituate in the province of Quito, about 100 miles to the fouth of the city of that name, and about 10 miles to the north of Riobamba, and reckoned the highest point of the Andes. The French mathematicians, who were employed from 1735 to 17+3 in measuring a degree of the meridian, computed the height of this mountain to be 3217 French toifes above the level of the fea, or 19.302 French feet, which, reduced to English feet, are 20,571. Others state the height of this mountain above the ocean to be 19,595 feet. Con-fequently, if we admit the height of Mont Bianc to be 15,662 feet, Chimborazo, according to the French meafure, is nearly 5000 feet, or a quarter higher. That part of Chimborazo which is covered with perpetual fnow, is about 2,000 feet from the fummit. It should be recollected, however, that this mountain is elevated above the high plain of Quito, which conflitutes nearly one-half of the computed height, allowing it to be 9377 feet above the ocean; and, therefore, confidered as mere excrefcences from the land, they still yield to Mont Blanc. This mountain, though it lies in S. lat. 1° 41' 40", and confequently near the equator in the middle of the torrid zone, is covered on its fides with ice and fnow; and the country adjacent to it is often pierced with intolerable cold, on account of the winds which blow from the mountain. See MOUNTAIN.

CHIMEPANIPESTICK, a river of Canada, which runs into the river St. Lawrence. N. lat. 50° 5'. W.

long. 61° 25'. CHIMER, in Ornithology, the Chiming-Thrush and Turdus Campanella of Latham, La Carilloneur of Busson, and Turdus tintinnabullatus of Gmelin; which fee.

CHIMERA, or HIMERA, in Ancient Geography, a town

of Sicily. Steph. Byz.

CHIMERA, a mountain of Afia Minor, in a district of Lycia, according to Pliny, who fays that it had many volcanoes, and refembled Ætna. The Lycians built near this mountain the town of Hephesliz, which they consecrated to Vulcan. Virgil mentions this mountain in his Æneid. .Sec CHIMERA infra.

CHIMERA, in Geography, a town and fortress of European Turkey, capital of a diltrict in the province of Albania,

of Corfu. N. lat. 40°. E. long. 19° 2'.

CHIMERA, or CHIMERA, in Fabulous History, a montler, the daughter of Typhon and Echidna, that breathed a fierce and inextinguishable fire, and which the poets feign to have the head and breatt of a lion, the belly of a goat, and the tail of a dragon; and to have been killed by Bellerophon, mounted on the horse Pegasus. This female monther was born in Lycia, and Bellerophon received his orders from a people called the Solymi. Minerva, as forme fay, or, according to others, Neptune, commilerating his fituation, exposed to such dangurs, fent him the fiving horse Pegalus, by whose atalance he overcame the Solymi and flew the

The foundation of the fable is this: that anciently, in Lycia, there was a volcano, or burning mountain, of this by lions; the middle, having good pattures, was frequented by goats; and the foot, being marfhy, by ferpents: Thus

" -- mediis in partibus hircum, Pectus et ora lem, caudam serpentis habebit."

Bellerophon being the first who caused this mountain to be inhabited, it was hence feigned that he flew Chimæra. Pliny fays, the fire thereof would burn in water, and could other explanations that have been given of this fable, fome have supposed that the Chimara was a pirate ship, whose row bore the figure of a lion, her middle that of a goat, and her itern a serpent. Among the Bronzes in the collection of the Grand Duke at Florence, is a curious reprefentation of the Chimæra, composed of a lion and goat, in their respective proportions, with an inscription in Etruscan characters. Among philosophers, and in common language, Chimera denotes a mere creature of the imagination.

CHIMERA is used, in Writers of the Middle Age, for a kind of veffel or fhip. It feems to have been lefs than the

chelandium.

CHIMERIUM promontorium, in Ancient Geography, a promontory of Afia Minor, on the coast of Lycia, according to Strabo. It was formed by the mountain called Chimera or Chimæra.

CHIMES, in Horology, is a species of music mechanically produced by the strokes of hammers against a feries of bells, tuned agreeably to a given scale in music; the hammers are lifted by levers acted upon by metallic pins or wooden pegs stuck into a large barrel which is made to revolve by clock-work, and is so connected with the flriking part of the clock mechanism, that it is set in motion by it at certam intervals of time, most usually either at every hour, or at every quarter of an hour. The mulic thus produced may contrit of a direct succession of the notes constituting an octave frequently repeated, or otherwise may be a psalm tune, or short popular air in the key to which the bells are tuned. This species of mechanical music is by no means calculated to improve the talle, and had its origin most probably, like clockwork itself, in some of the monastic institutions of Germany, where, according to Dr. Burney, it preva greatly, and where the ringing of changes on bells, as " England, is but little, if at all practifed. The chime mechanism may be adapted either to act with the large beits of a church iteeple, by means of wheel-work proportionably ftrong to raife heavy hammers, or a fet of bells of different diameters may be arranged concentrically, within one s

other

other on one common axis, fufficiently small to be introduced into the frame of a clock, or even of a watch, which we have seen performed by Margetts, who lately died in a state of infanity. The manner in which the hammers are moved by the pins of the chime-barrel must necessarily vary according to circumstances, as the wires of different rooms are differently placed to produce the sound of a honse bell, but an ingenious workman will vary the length and shape of his levers of communication agreeably to the situation and distance of his bells from the clockwork, so that if we give a description of the chime mechanism of a church clock, and also of a portable piece, he will not be at a loss to know how to devise and adapt the necessary parts for any other construction.—But before we proceed to our descriptions, it will be proper to give an account of the chime-barrel, and the method of inferting the lifting pegs, or of what is called pricknish.

CHI

CHIME-Barrel is that cylinder of brafs in fmall clocks, or of wood in church-clocks, which gives motion to the hamers, that firike on the bells, and produce a change or tune thereon, by means of pegs inferted into certain points of its circumference at measured intervals, the pegs ferving to lift the hammers in regulated succession both of order and

In making a chime barrel for any given tune there are certain necessary conditions to be attended to: First, the barrel must be well turned in a lathe upon its own arbor, fo as to have the whole furface of its circumference concentrical, when revolving on its pivots. Secondly, the train of wheel-work, belonging to the chime-work, mult make the barrel revolve in a space of time exactly equal to what is required for playing the requifite tune on any other inftrument, which time may be exactly limited by proportioning the fly on the last wheel to the power of the weight or foring that urges the first wheel of the train. Thirdly, there must be as many bells as the compass of the proposed tune contains mufical notes, and also as many rows of pegs inferted into parallel circular lines on the circumference of the barrel as there are hammers to be lifted by them; and, laftly, the whole circumference of the barrel must be divided into as many longitudinal parallelograms of equal breadth, as there are mufical bars in the proposed tune, each of which must be again subdivided into as many parts as there are notes of the lowest denomination, whether crotchets, quavers, or femi-quavers, in each bar; then the parallel dividing lines will correspond to the bars, and the subdivisions within will be the guides for placing the pegs in those bars respectively: for instance, suppose that Pleyel's German hymn be required to be played by a chime clock of any description, and that the points on the barrel where the pegs or pins are to be inferted be required to be afcertained

In fig. 1. of Plate VII. (Horology), it will be feen that this popular hymn is marked 2, which implies, that the bar is measured by four, or crotchets, of which there are two in each bar; it is also observable that the quickest note in the tune is a femi-quaver, of which denomination eight conflitute two crotchets, or one bar; confequently the bar must be fub-divided into eight. Now suppose the length of the barrel to be represented by the line, DD, or dd, because the compass of the hymn is just one octave beginning and ending with D inclusively, the line, DD, or dd, must be divided into feven equal parts, which will require eight points in each to include them, viz. D, E, F, G, A, B, C, D, and d, e, f, g, a, b, c, d; then, because the whole hymn contains 16 bars, the whole line, D d, which we assume as equal to the circumference of the barrel, must be divided into 16 equal parts, which we have made to fall opposite their re-Vol. VII.

spective bars, the better to elucidate our example; then each of these parts may easily be conceived to be sub-divided into eight smaller divisions, as from 1 to 2 in the lower line, D.d. From the dividing points let straight lines be drawn to complete the square, or parallelogram as the case may be, and there will be a figure, D.D.d.d, with 8×16 = 128 small squares or parallelograms, which we will suppose to be on paper that will exactly cover the barrel when patted round it, in order to convey a more distinct idea of the method of ascertaining the true places of the pins on the barrel, which may be thus done:

CHI

The first note, B, is a crotchet, and therefore the pin, reprefented by a dot, that moves its hammer must be in the beginning of the line Bb, and the next following pin mult be at the space of half a bar forwards to limit its continuance; accordingly the next note, D, is placed on the line, Dd, at half a bar forwards; again this fecond note, D, being also a crotchet, requires the next succeeding note of A to be removed another half bar, namely to the interfection of the lines, Aa, with 22; but the third note, A, which we have just mentioned, is equal in length to three quavers, or fix femi-quavers; the fucceeding pin to reprefent B must consequently be removed of or 3 of the bar, leaving 2 or 1 for the remaining quaver from B to C, the latter of which, being the first note of the third bar, falls on the interfection of the bar line, 33, with the hammer-tail line, Co: by the fame rule the crotchet, C, once struck continues half of a bar, and requires the following A to be half of a bar advanced, but A is here 3 of a crotchet, and the following B only i of the same or i of the bar; the pin of B must therefore be at 7 of the bar, and the succeeding one on the bar line to limit its duration to 1. In the fourth bar there is a crotchet rest, which is the reason why there is no dot or pin between its bar lines, as though the B of this bar had been a minim .- We might thus have analyfed the whole furface of the barrel, so far as relates to this hymn, but it is prefumed the preceding detail, clearly underflood, will render the rest perfectly intelligible without further explication.

When the hammers are very heavy, as in church clocks, those bells which have quavers or semiquavers to be struck immediately in succession require to have each two hammers and each a pair of parallel circles pricked to perform within the limit of time; and when either the barrel is made adjustable, or the pins moveable, a number of tunes may be put on the same barrel, and where the bells are sufficiently numerous, the tune may be played in two or even three parts.

This method of pricking a chime barrel for playing on bells differs from that of an organ-barrel in this respect, that in the former the length of the note is measured by the space between the contiguous pins, whereas in the latter the limit of the note is produced by crank pieces, instead of pins, which pieces keep the pipes open, and therefore must cover the very spaces which lie between the pins of the other, the projecting parts of one barrel mutually corresponding to the vacant parts of the other.

CHIMES of a church clock. Plates V. and VI. of Horelogy explain the chime mechanism in the clock-room of St. Margaret's church, Westminister: A (fgs. 1 and 3) is a barrel on which the rope B is wound; this rope, after passing over a fixed friction roller, has a heavy leaden weight faltened to it, by the descent of which the mechanism is actuated: D is a large wheel at the end, and on the arbor of this barrel, which is worked by a pinion E, not seen, the arbor of which is square at the projecting end for the key of 4N

the handle by which the weight is wound up; the barrel A weight is going down, it turns the large cylinder or chime barrel C attached to the arbor along with it; this chime of the inner ends d of the horizontal and parallel levers F, dealy; this motion at the same time depresses the outer ends II (figs. 1 and 3) which takes into a small pinion on the of the long arbor K, (fig. 1) on the other end of which the air, as they turn, and regulate the velocity of the machine. This fly is shewn separate in fig. 2. A is a portion of the arbor, on which is loofely fitted an iron bar B B, having a vane D at each end to prevent the bar from flipping round the arbor in a retrograde direction; a ratchet wheel b is attached to the outer end of the arbor, and a click c is fastened on the fly, which is kept to the teeth of the wheel by a fpring, of the wheel, and turns the fly with it, but when the arbor the click c in the mean time flipping round the ratchet b; by this contrivance all strain upon the mechanism, by a sudden check of the momentum of the fly, is avoided. On one of the diagonal or cross bars of the wheel I (figs. 1 and 3), is a projecting piece of metal f, which piece, when the machine is to be flayed, is caught by a detent g, which detent may be moved towards the centre of the wheel (fo as to clear the piece f) when the machine is to be put in motion; the upper end of the detent g is fastened to an arbor M, so as to have a circular motion with it; to which arbor is also fixed another detent h (fig. 3) bent to avoid the bar of the frame. On the middle of this detent b, a piece of upright iron i is riveted, on the end of which a hammer N (figs. 1 and 3) flrikes; this hammer is raifed at the proper hour by the church clock, and by its fall strikes the piece i, (fig. 3) depreffes the bent detent b, and confequently moves the detent g from the stop of the piece f. O is a circular plate, having a notch in one part of its circumference; at the back of it are faltened four arms k, l, m, (fig* 3) and another not feen. On the face of the wheel H there is a projecting tooth n (fig* 1) which takes hold of one of the arms on O, and at every turn of the wheel H, moves the wheel O round the space of one quarter. Behind the arms k, l, m, are four knobs p, q, r, s, in a detached flate (shewn in fig. 4) against which a lever R (figs. 3 and 4) is pressed, by a spring S; the use of this additional mechanism is to make the wheel O always describe a complete quarter of a revolution whenever it moves at all, for suppose the arms m, l, k, (fig. 4) to have the position of the dotted lines m', l', k', the pin n on the wheel H (figs. 1 and 3) takes the arm m and pushes it downwards, during which course the knob p (fig. 4) raises the lever R into the position of the figure; the spring and lever then act upon the knob p, and quickly bring the arms to the dotted polition, in which fituation the letters of reference are advanced each to the next arm. This clock has moreover the striking work, in which there is, as usual, a wheel

called the count wheel, which turns round once in 12 hours; an intermediate rod Q, (figs. 1 and 3) with the tail P of the hammer N, fo as to elevate it; as the count wheel turns round, one of its pins lets go the lever, and the hammer N time moves the detent g on the fame arbor M inward; as again by the tail spring t (fig. 3) acting against the bar of the frame; but the end of the bent detent h is prevented mer rifes, by the lever R, which at the inflant the lever b (fig. 4) is pushed down, moves the wheel O a little round, by means of the spring S, into the position of the figure. When the bammer has thus thruck and removed the detent g, (fig. 3) the leaden weight pulls the barrel A, and the chime barrel E strike the lever, F, and move the bell hammers in the due fuccession of time, the fly (fig. 2) in the mean time regulating the velocity of the barrel. At each revolution of the chime barrel E, the peg n in wheel H turns the wheel O round one quarter of a revolution, and into it, the knobs p, q, r, s, on the back of this plate, are in the position shown in fig. 4, so that this plate O moves, the instant it is permitted to do fo, by the detent h being removed by means of the fpring S, independently of the great wheel H. This machinery plays four different tunes, which are changed by turning the index W (fig. 1) by plate T; this handle has a pinion on its arbor, behind the dial plate, which works in a rack upon the crooked iron bar v r, fo as to move it up or down when the handle is turned: with parallel fides at each end, fliding against both fides of corresponding steady pins screwed into the frame; and the friction of a spring, 7, pressing against it, prevents its being moved by accident: in the middle of the bar vy is a bend y, which acts like an inclined plane between the rollers 3, 4, fixed in a fmall frame at the end of the bar W, so as to move that bar horizontally, while the crooked bar oy is moved vertically; to the horizontal bar W are fixed the centres of the keys, or fhort levers, F, and a long iron plate, 5, with 16 notches pins gg, moving in a cock with two perforations attached to the frame, confine the bar W to a horizontal motion. In fetting out the pegs on the barrel, 64 parallel circles, four to each lever, are drawn round it, at equal diltances; every four of these coincide successively, by the rack-work adjustment, with one of the levers, fo that the respective pegs upon the barrel in the first of each four circles may work it. own lever, and play one tune; then by moving the levers, along with the bar W, the diffance that two contiguous circles are apart, a second set of pegs is presented to the said ... vers, which now play a fecond tune; and in the fame manner a third and fourth, fucceffively. The 16 rods G have each a forew adjustment at their lower ends, and their upper ends are connected with revolving rods fixed to the ce ing, by which the motion is conveyed, under each bell, to

the hammers, which are placed each in a line perpendicularly under the axis of its bell, fo as to firike near its lower extremity; (Plate vii. fig. 4); the weight of each hammer H is fupported by a fixing S, in fuch a manner that it rift.s from the bell the inflant it has flruck. There is moreover a long horizontal iron bar that goes acrofs the levers F (Plate V. fig. 1) not feen, the ends of which are connected with another lever allo not feen, which, when it is pulled down, takes up all the hammers at once, fo as to clear the bells in the act of ringing. There are ten bells in this fleeple, fix of which have each two hammers, and the other four but one appears to be flruck twice in fucceffion fo quickly, that the fame hammer could not be lifted up and be made to return twice in the requiite time.

In the mechanism we have here described, the chime baris so constructed as to be capable of playing only sour tunes; but in some steeples which we have visited, the barrels have parallel longitudinal apertures, which admit the lifting pegs to slide into any fituation, and which consequently render them disposable for any tune within the compass of the two extreme notes, the sliding pieces being fixed by thumb

forews within the barrel.

CHIMES of a common clock. After the ample account which we have just given of the chime mechanism of a large church clock, we will fatisfy ourfelves with giving fo much only of the chime work of a common clock, as may fuffice to give the reader an idea how a communication is made from the barrel to the bells, which portion could not easily be reprefented where the bells are at a distance from the barrel, as is the case in a church steeple. We beg leave, however, to refer our readers to our article CLOCK with chimes, for a more particular description of the mechanism which connects the chime part with the going part of the clock, and which alternately locks and unlocks the train of wheel-work that regulates the chime-barrel, it being impossible to describe in a complete manner the contrivance for making the chimes go, and repeat at every quarter of an hour, without describing at the fame time the striking mechanism, which does not properly belong to this article. Figures 2 and 3 of Plate VII. (Horology) represent as much of the chime mechanism of an ordinary clock as will ferve our prefent purpofe: A B C D constitute a portion of the clock frame, of which one connecting pillar only is shewn; E is the chime barrel of brafs, nearly equal in length to the pillar, and of a diameter sufficient to admit of diagonal rows of brass or steel pins to lift the hammer tails F, in the successive order of a descending octave, while the barrel is revolving, there being eight hammers G usually thriking successively against as many bells H, which are mounted, concentrically within one another, on a common axis held fall by the bearing piece of fleel, I, fcrewed to the face of one of the plates at its lower extremity. The mechanism connected with the striking part of the clock is fo ingeniously contrived and arranged, as may be feen under the article to which we have already referred, that at and after the first quarter from any hour, it will repeat the octave once; at and after the second quarter, it will repeat the same twice; at and after the third, three times; and at and after the hour itself, four times; also whenever the octave is repeated four times, the chime part unlocks the striking part, and allows the clock to strike the last hour as foon as the chimes have ceased, but not before. K is a brass frame screwed at the lower end across the side of the superior part of the clock frame, which holds the works, and has a brafs plate N, of hammered metal attached to it by screws; this plate, N, is divided nearly to the top by eight parallel vertical flits, made by a faw, which form fo many fprings; the hammers

all turn upon a common fixed arbor near P (figs. 2 and 3) by means of a perforation made in each folid part P above the tails, which folid part has a ftraight edge in each, against the central point of which the respective spring hears a little above its inferior extremity (f_S, z) ; this mode of applying a fpring gives it the advantage of performing two offices, for it will not only keep the hammer tail in its proper fituation, to be taken by a pin of the barrel, but will give a financies to its blow, and then reflore it to its original position, by acting alternately, partly above and partly below the central hole; which kind of action will readily be understood, by examining the opening joint of a pen-knife, and attending to the manner in which its fpring is applied. L is a cock forewed to the face of one of the plates of the frame, and holds the projecting pivot of the fly wheel, to which the fly M is attached with a fpring O preffing against it, in such a manner as to hold it to the arbor of the wheel when the latter revolves, and yet to allow it to turn in a detached state, when the motion of the wheel is fuddenly arrefled at the conclufion of the chiming, which is a necessary precaution for preventing the destructive effect which might be produced by an inflantaneous check of the momentum of the fly, and anfwers the same purpose as the ratchet wheel and click, together with a fpring, on the large fly of the church chime work before described.

The chime barrel which we have here described, is pricked for the performance of a repetition of the eight notes of the octave by a descending gradation, but it might as easily have been made to chime the same scale by an ascending gradation, or to play any hymn or other tune within the compass of the eight notes, or even with more notes, by the addition of a few more bells; and that without more than one hammer to each bell; for when the mechanism is light, the hammers may be made to act with as much rapidity, as the hammers

of a grand piano forte.

CHIMIN, or CHEMIN, in Law, a road, or way. See HIGHWAY and ROAD.

CHIMINAGE, a toll for wayfarage or paffage through

a forest. The feudists call it pedagium.

CHIMITAS, the name of a tribe of American Indians, in the province of New Granada, who are feated on one fide of the river Masdabesca, whilst the Guagiros occupy the other; and both concur in intercepting the trade of Carthagena and the coast.

CHIMNEY, in Architecture, a part of a house or cham-

ber, in which the fire is made.

The word chimney comes from the French cheminée, which is derived from the Latin ceminus, and that from the Greek xausos, a chimney, of xaus I burn. The parts of a chimney are, the hearth or fine-place, the jambs or fides, the back, the mantle refting on the jambs, and the tube or flue which conveys away the smoke.

It has been frequently made a question whether or not the ancients were acquainted with the use of chimnies in the common acceptation of the word. On this subject we shall proceed to state those circumstances and arguments that

occur

In favour of the antiquity of chimnies it has been alleged, that Homer (Odyst. 1.1. v. 58.) represents Ulysses, in the grotto of Calypso, as wishing that he might see the smoke alcending from Ithaca: whence Montsaucon (L'Antiquité expisquée) infers, that the honses of Ithaca had chimnies, without which the wish is unintelligible. But in reply, it may be faid, that smoke might have been seen in its ascent, though it proceeded from doors or windows. Herodotus also relates (Lviii. c. 37.) that a king of Libya, when one of his servants asked for his wages, offered him in jeft the fun, 4 N 2 which

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which at that time shone into the house, through the chimney as some have translated the original; but what is here called chimney was merely an opening in the roof, under which, probably, the fire was made in the middle of the edifice. Ariltophanes, in his comedy of the Vespæ (v. 139.), introduces old Philocleon shut up in a chamber whence he endeayours to make his escape by the chimney; which, however, was a mere hole in the roof, as Reiske has determined; and this appears probable, because mention is made of a top or covering, with which the hole was closed. Several passages have been cited from Athenœus (Deipnos.), which feem to refer to chimnies; but these are evidently inconclusive; and fome of them intimate that there was no fuch paffage for the Imoke as a chimney.

Such are the tellimonies of Greek authors, respecting the antiquity of chimnies; but they are rather evidences to the contrary, or that the houses of the ancients were constructed without chimnies; more especially when we consider, that there were no chimnies at Rome at the time when these authors wrote, which would not have been the case if the Romans had ever feen them among the Greeks. Vitruvius makes no mention of them, and it is well known that the Romans were accustomed to use other means for warming their houses, such as stoves and brasiers.

The two words caminus and focus employed by the Latin authors to denote the fire-place are used indiscriminately, so that it is not possible to observe any difference in their signification. Thus, focus, which might be taken for a brafier in which charcoal was burnt, is also used to denote a place proper for the confumption of wood, as the words of Ho-

race prove,

" Diffolve frigus, ligna fuper foco Large reponens." Lib. I. Od. 9, 5.

And when Vitruvius directs in what manner the stables of farm-houses should be placed with respect to the kitchen fire, (Lib. vi. cap. 9) he also uses the word focus, which certainly cannot be supposed in this place to mean a portable brafier.

Cicero, in writing to Atticus, fays in the fame fense as Horace: "Camino luculento utendum censeo." When Vitellius was chosen emperor, the eating-room or triclinium was fet on fire by the caminus. Sueton. cap. 8. This paffage, however, feems to allude to a chaffing dish filled with coal.

Thus thefe two words are used in a manner which gives completely (fay the advocates for the antiquity of chimnies) the idea of a common chimney, for it cannot be supposed that in any dwelling where the conveniences of life were tolerably understood, a fire of wood should be made without a passage for the smoke. The line of Virgil,

" Et jam fumma procul villarum culmina fumant,"

in some measure supports this opinion, which is further confirmed by Appian, who fays " that of those persons proferibed by the triumvirate fome hid themselves in wells and cloace, some in the tops of houses and chimnies;" for so those who maintain this opinion understand xxxvedus; έπωςοφιας, fumaria fub tello posita. It is alleged, however, that the true translation is fumofa canacula: and it is further faid that the principal persons of Rome endeavoured to conceal themselves in the smoky apartments of the upper story under the roof, which, in general, were inhabited only by poor people; and this feems to be confirmed by what Juvenal expressly fays (Sat. x. v. 17) "Rarus venit in conacula

The use of chimnies, it is allowed, if it ever obtained

among the Romans, was superfeded by that of stoves and flues; this practice was probably introduced about the reign of Nero. Seneca relates that in his time there were invented certain tubes which were placed in the walls, by which the heat of the fire was made to circulate and warm equally

the upper and lower apartments.

Against the antiquity of chimnies it has been urged, that if there had been any in the Roman houses, Vitruvius could not have failed to describe the construction of them. But he does not fay a word on this subject; neither does Julius Pollux, who has collected with great care the Greek names of every part of a dwelling-house; and Grapaldus (De partibus ædium libri), who in latter times made a like collection of the Latin terms, has not given a Latin word expressive of a modern chimney. It has been faid, indeed, that the word caminus means a chimney; but this term, though it was used for a chemical or metallurgic furnace, for a smith's forge, and for a hearth, does not feem, among the Romans, to have denoted a chimney.

In the houses discovered at Herculaneum and Pompeii, there are no chimnies, but they appear all to have been warmed by the means of flues and a fubterraneous furnace or bypocaustum. See that article, and also STOVES.

The complaints often made by the ancients respecting fmoke, ferve also to confirm the opinion that they had no chimnies. Upon the whole it may be observed, that, though one or more expressions of ancient authors may appear to allude to a chimney, and though we should infer from such expressions, as Montfaucon has done, that the ancients were acquainted with the art of constructing in mason-work elevated funnels for conveying away the Imoke, it must be allowed, when we confider the many proofs that occur to the contrary, that they were, at any rate, extremely rare. As they are so convenient and useful, and can be easily constructed upon most occasions, it is impossible, if they had been well known, that they should ever have been forgotten.

It is not easy to determine the period when chimuies first came into use. If it be true, as Du-Cange, Vossius, and others assiring, that apartments called "caminata" were apartments with chimnies, they must have been introduced at an early period; for that word occurs in the year 1069, or before that time; but it is always found connected in fuch a manner as entirely to contradict the above fignification. The writers of the 14th century feem either to have been unacquainted with chimnies, or to have confidered them as the newest invention of luxury. That there were no chimnies in the 10th, 12th, and 13th centuries has been prefumed from the terms "ignitegium," or "pyritegium," the curfeu-bell of the English, and couvre-feu of the French, which seem to intimate, that the people made fires in their houses in a hole or pit in the centre of the floor, under an opening formed in the roof; and when the fire was burnt out, or the family went to bed at night, the hole was flut by a cover of wood. See CURFEU. The oldest certain account of chimnies that has occurred to Beckmann in his refearches (fee Hift. of Inventions, vol. ii. p. 103.), is in the year 1347; for an inscription at Venice records that at the above period a great many chimnies (molti camini) were thrown down by an earthquake. He adds, that the first chimney-sweepers in Germany came from Savoy, Piedmont, and the neighbouring territories, and these for a long time were the only countries where the cleaning of chimnies was followed as a trade. Hence, he conjectures, that chimnies were invented in Italy.

In confidering the countries of modern Europe we may observe the use of stoves prevalent throughout the North, while in France and Great-Britain open chimnies are general. On the other hand, in the warm countries of Italy and Spain there are very few chimnies, and the only method

usually practified of tempering the cold, which is fometimes feverely felt, is to burn charcoal in portable brasilers.

the fashes too being worked with truth, shut with exactness, fo that the room is perfectly tight, no passage being left open

A chimney, as it has been before observed, consists of a fire-place in which the such is consumed, and a flue to carry off the smoke and vapour arising from the combustion; thus affording the benesit of the heat of a fire without the inconvenience of its smoke. But these objects were, and still are very imperfectly attained, a very large portion of the such being wastefully consumed without increasing the warmth of the apartment, and, in fact, causing those blasts of cold air fo commonly complained of by the sides of large open chimnies, while the smoke is frequently driven out to the intolerable inconvenience of the inhabitants. The plague of a smoking chimney is proverbial, and has engaged considerable attention from observers of various descriptions.

Dr. Franklin is the first who has treated this subject in a philosophical manner, and in his "Observation on the Causes and Cure of Smoky Chimnies," published in 1785; he has very satisfactorily explained all the usual causes of this defect, and shewn their remedies. To this pamphlet, succeeded the Essay of Count Rumford, in 1796, whose improvements have been very generally followed in the construction of fire-places. From these two works, which together form a very valuable body of information, we shall draw the materials for the following treatise on the cause and cure of smoky chimnies, together with the methods of increasing the heat and diminishing the quantity of such states.

confumed.

The mode and cause of the ascent of smoke in a chimney may be thus explained; the air contained in the flue being heated by the fire immediately below it, becomes rarefied, and therefore lighter than the external air through which it accordingly rifes, and as the heated air escapes from the top of the chimney, its place is supplied by the influx of fresh quantities of air, which, passing over the fire, becomes likewise heated, and thus a constant current is formed in the flue which directs and carries off with it the fmoke and vapour from the burning materials. It may be observed here that smoke is not, as some are apt to imagine, in its own nature specifically lighter than air, but the contrary, as may be shewn by a simple experiment. Having lit a pipe of tobacco, plunge the item to the bottom of a decanter half filled with cold water, then putting a cloth over the bowl blow through it, and make the Imoke descend in the stem of the pipe, from the end of which it will rife in bubbles through the water, and being thus cooled, will not afterwards rife to go out through the neck of the decanter, but remain spreading itself and resting on the surface of the water. In this case, therefore, smoke is heavier than air, and it is only when rarefied by heat that it becomes lighter. As, however, the vapour rifing from a fire must always be highly rarefied, it is easy to perceive that it would be as much a miracle if smoke should not rise in a chimney, (all hindrances to its afcent being removed,) as that water should refuse to run in a syphon, or to descend in a river. What is it then which creates a fmoky chimney, that is, a chimney, which, instead of conveying off all the smoke, dicharges a part of it into the room? The causes of this effect may be reduced to the following general

Smoky chimnies in a new house, are such, frequently, for want of air. The workmanship of the rooms being all good and just out of the workmans's hands, the joints of the flooring and of the pannels of the wainfeoting are all true and tight; the more so as the walls, perhaps not yet thoroughly dry, preserve a dampnels in the air of the room which keeps the wood-work swelled and close; the doors and

fo that the room is perfectly tight, no paffage being left open for the air to enter except the key hole, and even that is frequently closed by a little dropping shutter. In this case it is evident that there can be no regular current through the flue of the chimney, as any air escaping from its aperture would cause an exhaustion in the air of the room similar to that in the receiver of an air-pump, and, therefore an equal quantity of air would rush down the flue to reftore the equilibrium; accordingly the smoke, if it ever ascended to the top, would be beat down again into the room. Those, therefore, who stop every crevice in a room to prevent the admission of fresh air, and yet would have their chimney carry up the smoke, require inconfiftencies and expect impossibilities. The obvious remedy in this case is, to admit more air, and the question will be how and where this necessary quantity of air from without is to be admitted, fo as to produce the least inconvenience; for if the door or window be left fo much open, it causes a cold draft of air to the fire-place, to the great discomfort of those who sit there. Various have been the contrivances to avoid this, fuch as bringing in fresh air through pipes in the jambs of the chimney, which, pointing upwards, should blow the smoke up the funnel; opening passages in the funnel above to let in air for the same purpose; but these produce an effect contrary to that intended, for as it is the constant current of air passing from the room through the opening of the chimney into the flue, which prevents the fmoke coming out into the room, if the funnel is supplied by other means with the air it wants, and especially if that air be cold, the force of that current is diminished, and the smoke in its efforts to enter the room finds less relistance.

The wanted air must then indispensably be admitted into the room to supply what goes off through the opening of the chimney, and it is advisable to make the aperture for this purpose as near the ceiling as possible, because the heated air will naturally ascend and occupy the highest part of the room, thus causing a great difference of climate at different heights, a defect which will be in some measure obviated by the admission of cold air near the ceiling, which descending, will beat down and mingle the air more ef-

fectually.

Another cause of smoky chimnies is too short a funnel, as, in this case, the ascending current will not always have fufficient power to direct the smoke up the flue. This defect is frequently found in low buildings, or the upper stories of high ones, and is unavoidable, for if the flue be raifed high above the roof to threngthen its draft, it is then in danger of being blown down and crushing the roof in its The remedy in this case is to contract the opening of the chimney fo as to oblige all the entering air to pass through or very near the fire, by which means it will be confiderably heated, and by its great rarefaction, cause a powerful draft, and compensate for the shortness of its column. The case of too short a funnel is more general than would be imagined, and often found where one would not expect it; for it is not uncommon in ill-contrived buildings instead of having a separate funnel for each fire-place to bend and turn the funnel of an upper room fo as to make it enter the fide of another flue that comes from below. By this means the funnel of the upper room is made short, of course, since its length can only be reckoned from the place where it enters the lower funnel, and that flue is also fhortened by all the distance between the entrance of the fecond funnel and the top of the stack; for all that part being readily supplied with air through the second flue, adds no strength to the draft, especially as that air is cold when there is no fire in the second chimney. The only easy remeWy here, is to keep the opening flut of that flue in which contained in them begins to rife, cooler air enters to fupply

Another very common cause of the smoking of chimnies is, their overpowering one another. For inflance, if there be two chimnies in one large room, and you make fires in both of them, you will find that the greater and stronger fire thall overpower the weaker, and draw air down its funnel to supply its own demand, which air descending in the weaker funnel will drive down its fmoke, and force it into the room. If, inflead of being in one room, the two chimnies are in two different rooms communicating by a door, the case is the same whenever that door is open. The remedy itfelf from without, with the air its chimney may require, fo that no one of them may be obliged to borrow from another, nor under the necessity of lending.

Another cause of smoking is, when the tops of chimnies are commanded by higher buildings, or by a hill, fo that the wind-blowing over such eminences falls like water over a dam, fometimes almost perpendicularly on the tops of the chimnies that lie in its way, and beats down the fmoke contained in them. The remedy commonly applied in this case is, a turncap, made of tin or plate-iron, covering the chimney above, and on three fides, open on one fide, turning on a spindle, and which being guided or governed by a vane, always prefents its back to the wind. This method will generally be found effectual, but if not, railing the flues, where practicable, fo as their tops may be on a level with or higher than the commanding

eminence, is more to be depended on.

There is another case of command, the reverse of that Iast mentioned; it is where the commanding eminence is farther from the wind than the chimney commanded. For inflance, suppose the chimney of a building to be so situated as that its top is below the level of the ridge of the roof, which, when the wind blows against it, forms a kind of dam against its progress. In this case, the wind being obstructed by this dam, will, like water, prefs and fearch for paffages through it, and finding the top of the chimney below the top of the dam, it will force itself down that funnel in order to get through by some door or window open on the other fide of the building, and if there be a fire in fuch chimney, its smoke is of course beat down and fills the room. The only remedy for this inconvenience is, to raife the funnel higher than the roof, supporting it, if necessary, by iron bars; for a turn-cap in this case has no effect, the dammed up air preffing down through it in whatever polition the wind may have placed its opening.

Chimnies otherwise drawing well are sometimes made to fmoke by the improper and inconvenient fituation of a door. When the door and chimney are placed on the same side of a room, if the door is made to open from the chimney, it follows, that when only partly opened a current of air is admitted and directed across the opening of the chimney, which

is apt to draw out some of the smoke.

A room that has no fire in its chimney may fometimes be filled with smoke, which is received at the top of its funnel and defcends into the room. To understand this effect, it will be necessary to observe, that currents of air are frequently produced in flues, though not exposed to the influence of fire. The air contained in a funnel, being confined on every Ede by brick-work, which is a bad conductor of heat, will not be immediately affected by any fudden variation in the temperature of the atmosphere; and thus, while it differs in weight from the external air, an afcending or defcending current will be formed in the flue. If, after a warm feafon, the outward air fuddenly grows cold, the empty warm funnels begin to draw strongly upwards, that is, the raresied air to warm a room, it is essential to contrive so that this

its place, is rarefied in its turn, and rifes; and this operation continues till the funnel grows cooler, or the outer air warmer, or both, when the motion ceases. On the other hand, if, after a cold feafon, the outward air fuddenly becomes warm, this operation is reverfed. When the temperature of the atmosphere and of the flues is nearly equal, afcend the funnels as the cool of the evening comes on, and this current will continue till, perhaps, nine or ten o'clock the next morning, when it begins to hefitate, and as the heat of the day approaches, it fets downwards, and continues as before mentioned. Now, when smoke, issuing from the tops of the neighbouring chimnies, passes over the tops of funnels which are at the time drawing downwards, as they often are in the middle part of the day, fuch smoke is of recessity drawn into those funnels, and descends with the air into the chamber.

Chimnies which generally draw well do, neverthelefs, fometimes give smoke into the room, it being driven down by firong winds passing over the tops of their flues, though not descending from any commanding eminence. To understand this, it may be considered that the rising light air, to obtain a free iffue from the funnel, must push out of it: way, or oblige the air that is over it to rife. In a time of calm, or of little wind, this is done vifibly; for we fee the fmoke that is brought up by that air rife in a column above the chimney. But when a violent current of wind passes over the top of a chimney, its particles have received fo much force, which keeps them in a horizontal direction, and follow each other fo rapidly, that the rifing light air has not strength sufficient to oblige them to quit that direction, and move upwards to permit its iffue. Add to this, that fome of the air may impinge on that part of the infide of the funnel which is opposed to its progress, and be thence reflected downwards from fide to fide, driving the fmoke before it into the room. The simplest and best remedy in this case is the application of a chimney-pot, which is a hollow truncated cone of earthenware placed upon the top of the flue. The intention of this contrivance is, that the wind and eddies which strike against the oblique surface of these covers may be reslected upwards instead of blowing down the chimney. The remarkable chimnes observed to Venice, in which the top of the flue is enlarged and round ! in the shape of a funnel, feem also intended as a remedy to this inconvenience, that the wind blowing over one of the edges into the funnel may be flanted out again on the other

The bad construction of fire-places is another cause fmoking chimnies; and this case will lead us to the confideration of the fecond part of our subject, namely, the method. of increasing the heat and diminishing the consumption as fuel; for it will be found that the improvements necessar: to produce the last-mentioned end will also have a general tendency to cure smoky chimnies. On this subject the mer. torious labours of Count Rumford are conspicuous, and we shall proceed to give an abridged account of his

method.

In investigating the best form of a fire-place, it will be necessary to consider, first, what are the objects which ought principally to be had in view in the contraction of a fireplace; and, fecondly, to confider how these objects can be" be attained. Now the defign of a chimney-fire being simply

shall be actually attained, and with the least possible expence of fuel, and also that the air of the room be preserved perfeetly pure and fit for respiration, and free from smoke and

all difagreeable fmells.

In order to take measures with certainty for warming a room by means of an open chimney fire, it will be necessary to confider how and in what manner fuch a fire communicates heat to a room. This question may, perhaps, at the first view of it, appear to be superfluous and trifling; but a more careful examination of the matter will shew it to be highly deferving of the most attentive examination.

To determine in what manner a room is heated by an open chimney-fire, it will be necessary, first of all, to find out under what form the heat generated in the combultion of the fuel exists, and then to fee how it is communicated to

those bodies which are heated by it.

In regard to the first of these subjects of inquiry, it is certain that the heat which is generated in the combustion of the fuel exilts under two perfectly diffinet and different forms. One part of it is combined with the smoke, vapour, and heated air which rife from the burning fuel, and goes off with them into the upper regions of the atmosphere, while the other part, which appears to be uncombined, or combined only with light, is fent off from the fire in rays in all directions. With respect to the second subject of inquiry, it is highly probable that the combined heat can only be communicated to other bodies by actual contact with the body with which it is combined; and with regard to the rays which are fent off by the burning fuel, it is certain that they communicate or generate heat only when and where they are stopped or absorbed. In passing through air which is transparent they certainly do not communicate any heat to it; and it feems highly probable that they do not communicate heat to folid bodies by which they are reflected.

A question which naturally presents itself here is, what proportion does the radiant heat bear to the combined heat? Though that point has not been determined with any confiderable precision, it is, however, certain, that the quantity of heat which goes off combined with the smoke, vapour, and heated air is much more confiderable, perhaps three or four times greater, than that which is fent off from the fire in rays: and yet fmall as the quantity is of this radiant heat, it is the only part of the heat generated by the combuiltion of fuel in an open fire-place which ever is, or, indeed, ever can be employed in heating a room. The whole of the combined heat escapes by the chimney, and is totally 1.ft; and no part of it could ever be brought into a room from an open fire-place, without bringing along with it the

Imoke with which it is combined.

It is, therefore, of the highest importance to determine how the greatest quantity of radiant heat may be generated in the combustion of the fuel, and how the largest proportion of that quantity may be brought into the room. Now the quantity of radiant heat depends very much upon the management of the fire, or upon the manner in which the fiel is confumed. When the fire burns bright much radiant Lat will be fent off from it; but when it is fmothered up very little will be generated, and, indeed, very little com-Lined heat that can be employed to any useful purpose; most of the heat produced being immediately expended in giving elasticity to a thick denfe vapour or smoke, which will be feen rifing from the fire; and the combustion being very incomplete, a great part of the inflammable matter of the fuel being merely rarefied and driven up the chimney, without being inflamed, the fuel will be wasted to little p rpofe. During this time no heat is communicated to the room; and what is ftill worfe, the throat of the chimney

being occupied merely by a dense vapour, not possessed of any confiderable degree of heat, and confequently, not having much elasticity, the warm air of the room finds less d fliculty in forcing its way up the chimney and escaping, than when the fire burns bright : and it happens not unfrequently, especially in fire-places ill constructed, that this current of warm air from the room which preffes into the chimney, croffing upon the current of heavy fmoke which rifes flowly from the fire, obstructs it in its ascent, and beats it back into the room: hence it is, that chimnies for often fmoke when too large a quantity of fresh coals is put upon the fire.

To cause as many as possible of the rays, as they are fent off from the fire in straight lines, to come directly into the room, it will be necessary, in the first place, to bring the are as far forward, and to leave the opening of the fire-place as wide and high as can be done without inconvenience; and fecondly, to make the fides and back of the fire-place of fuch form, and of fuch materials, as to cause the direct rays from the fire which strike against them, to be fent into

the room by reflection in the greatest abundance.

Now, it will be found, upon examination, that the best form for the vertical fides of a fire-place, or the covings, as they are called, is that of an upright plane, making an angle with the plane of the back of the fire-place of about 135 degrees. According to the old construction of chimnies, this angle is 90 degrees, or forms a right angle; but, as in this case the two covings are parallel to each other, it is evident that they are very ill contrived for throwing into the room, by reflection, the rays from the fire which fall on them. The next improvement will be to reduce the throat of the chimney, the immoderate fize of which is a most effential fault in their construction; for, however good the formation of a fire-place may be in other respects, if the opening left for the passage of the smoke is larger than is neceffary for that purpose, nothing can prevent the warm air of the room from escaping through it; and whenever this happens, there is not only an unnecessary loss of heat,. but the warm air, which leaves the room to go up the chimney, being replaced by cold air from without, produces those drafts of air so often complained of. But though these evils may be remedied, by reducing the throat of the chimney to a proper fize, yet, in doing this, feveral confiderations will be necessary to determine its proper fituation. As the smoke and hot vapour which rife from a fire naturally tend upwards, it is evident that it will be proper to place the throat of the chimney perpendicularly over the fire; but to afcertain its most advantageous distance, or how far above the burning fuel it ought to be placed, is not fo eafy, and requires feveral advantages and difadvantages to be balanced. As the smoke and vapour rife in confequence of their being rarefied by heat, and made lighter than the air of the furrounding atmosphere, and as the degree of their rarefaction is in proportion to the intensity of their heat, and as this heat is greater near the fire than at a diffance from it, it is clear, that the nearer the throat of a chimney is to the fire, the stronger will be what is commonly called its draught. and the lefs danger there will be of its fmoking, or of dutt coming into the room when the fire is ftirred. But, on the other hand, when a very throng draught is occasioned by the throat of the chimney being very near the fire, it may happen that the influx of air into the fire may become fo firong as to cause the fuel to be consumed too rapidly. This however will very feldom be found to be the cafe, for the throats of chimnies are in general too high.

In regard to the materials which it will be most advantageous to employ in the conflruction of fire-places, little

difficulty

difficulty will attend the determination of that point. As the object in view is to bring radiant heat into the room, it is clear that that material is best for the construction of a fire-place which reflects the most, or which absorbs the least of it, for that heat which is absorbed cannot be reflected. Now, as bodies which abforb radiant heat are necessarily heated in confequence of that abforption; to discover which of the various materials that can be employed for constructing fire-places are belt adapted for that purpose, we have only to find, by an experiment very easy to be made, what bodies acquire least heat, when exposed to the direct rays of a clear fire; for those which are least heated evidently abforb the least, and confequently reflect the most radiant heat. And hence it appears that iron, and in general metals of all kinds, which are well known to grow very hot when exposed to the rays projected by burning fuel, are to be reckoned among the very worlt materials that it is posible to employ in the construction of fire-places. Perhaps the best materials are fire-stone and common bricks and mortar. These substances are fortunately very cheap, and it is not eafy to fay to which of the two the preference ought to be given. When bricks are used, they should be covered with a thin coating of platter, which, when perfectly dry, should be white-washed. The fire-stone should likewise be whitewashed, when that is used; and every part of the fire-place which does not come into actual contact with the burning fuel should be kept as white and clean as possible.

We shall now proceed to describe particularly, with the affiltance of figures, the improvements of Count Rumford. Fig. 1. Plate XLI. of Architedure, is a plan of a fire-place on the old construction; fig. 2. an elevation, and fig. 3. a fec-

tion of the fame. Fig. 4. a plan; fig. 5. an elevation, and fig. 6. a fection of an improved fire-place.

The bringing forward of the fire into the room, or rather bringing it nearer to the front of the opening of the fireplace, and the diminishing of the throat of the chimney, being two objects principally had in view in the alterations of fire-places recommended, it is evident that both these may be attained merely by bringing forward the back of the chimney. It will then remain to be determined how far the back should be brought forward. This point will be limited by the necessity of leaving a proper passage for the fmoke. Now, as this paffage, which in its narrowest part is called the throat of the chimney, ought, for reasons before stated, to be immediately or perpendicularly over the fire, it is evident that the back of the chimney should be built perfectly upright. To determine therefore the place of the new back, nothing more is necessary than to ascertain how wide the throat of the chimney ought to be left. This width is determined by Count Rumford from numerous experiments, and comparing all circumstances, to be four inches. Therefore, supposing the breast of the chimney, or the wall above the mantle, to be 9 inches thick, allowing 4 inches for the width of the throat, this will give 13 inches for the depth of the fire-place. The next confideration will be the width which it will be proper to give to the back. This, in fire-places of the old construction, is the same with the width of the opening in front; but this construction is faulty, on two accounts; first, because the covings being parallel to each other, are ill contrived to throw out into the room the heat they receive from the fire in the form of rays; and, fecondly, the large open corners occasion eddies of wind which frequently diffurb the fire and embarrafs the fmoke in its afcent, in fuch a manner as to bring it into the room. Both these defects may be entirely remedied, by diminishing the width of the back of the fire-place. The

width which in most cases it will be best to give it, is onethird of the width of the opening of the fire-place in front. But it is not absolutely necessary to conform rigorously to this decision, nor will it always be possible. Where a chimncy is defigned for warming a room of moderate fize, the depth of the fire-place being determined by the thickness of the break to 13 inches, the fame dimensions would be a good fize for the width of the back, and three times 13 inches, or 3 feet 3 inches, for the width of the opening in front, and the angles made by the back of the fire-place, and the fides of it, or covings, would be just 135 degrees, which is the best position they can have for throwing heat into the room. In determining the width of this opening in front, the chimney is supposed to be perfectly good, and well fituated. If there is any reason to apprehend its ever fmoking, it will be necessary to reduce the opening in front, placing the covings at a less angle than 135 degrees, and especially to diminish the height of the opening by lowering

If from any confideration, fuch as the wish to accommodate the fire-place to a grate or flove already on hand, it fhould be wished to make the back wider than the dimension recommended, as for instance, 16 inches; it will be advisable not to exceed the width of 3 fect 3 inches for the opening in front, as in a very wide and shallow fire-place, any sudden motion of the air in front would be apt to bring out puffs of fmoke

The throat of the chimney being reduced to four inches. it will be necessary to make a provision for the passage of a chimney sweeper. This is to be done in the following manner. In building up the new back of the fire-place, when this wall is brought up to high that there remains no more than about 10 or 11 inches between what is then the top of it and the underfide of the mantle, an opening or door-way, 11 or 12 inches wide, mult be begun in the middle of the back, and continued quite to the top of it, which according to the height that it will commonly be necessary to carry up the back, will make the opening 12 or 14 inches high, which will be quite fufficient for the purpole. When the fire-place is finished, this door-way is to be closed by a few bricks laid without mortar, or a tile or piece of stone confined in its place by means of a rebate made for that purpose in the brickwork. As often as the chimney is fwept, the is very eafily done, and when he has finished his work, he again puts it in its place.

The new back and covings may be built either of brickwork or of stone, and the space between them and the old back and covings, ought to be filled up to give greater folidity to the structure. This may be done with loose rubbish or pieces of broken bricks or stones, provided the work be threngthened by a few layers or courses of bricks laid in mortar; but it will be indispensably necessary to finish the work where these new walls end, that is to fay, at the top of the throat of the chimney, where it ends abruptly in the open canal or flue, by a horizontal course of bricks well secured with mortar. It is of much importance that they should terminate in this manner; for were they to be flored outward and raifed in fuch a manner as to fwell out the upper extremity of the throat of the chimney in the form of a trumpet, and increase it by degrees to the fize of the flue of the chimney, this construction would tend to affift the winds which may attempt to blow down the chimney, in forcing their way through the throat, and throwing the fmoke backward into the room.

The internal form of the breast of the chimney is also a matter of great importance, and which ought to be particu-

larly attended to. The worst form it can have is that of a vertical plane or upright slat, and next to this the worst form is an inclined plane. Both these forms cause the current of warm air from the room which will, in spite of every precaution, sometimes find its way into the chimney, to cross upon the current of smoke which rises from the fire in a manner most lakely to embarrais it in its ascent and drive it back. The current of air which, passing under the mantle, gets into the chimney, should be made gradually to bend its course upwards, by which means it will unite quietly with the ascending current of smoke, and will be less likely to check and impede its progress. This is to be effected by rounding off the inside of the breast of the chimney, which may be done by a thick coating of platter.

Plate XII. of Architedure, fig. 1. The plan of a fire-place on the old contruction; A B, the opening of the fire-place in front; C D, the back of the fire-place; A C and B D, the covings.

Fig. 2, shews the elevation or front view of the same sire-

place.

Fig. 3. This figure shews how the fire-place, represented in fig 1, is to be altered, in order to its being improved. A B is the opening in front, C D the back, and A C and B D the covings of the fire-place in its original state. a b its opening in front, $i \cdot k$ its back, and $a \cdot i$ and $b \cdot k$ its covings after it has been altered; e is a point upon the hearth upon which a plumb suspended from the middle of the upper part of the breast of the chimney falls. The situation for the new back is ascertained by taking the line $e \cdot f$ equal to 4 inches. The new back and covings are represented as being built of bricks, and the space between these and the old back and covings as being filled up with rubbish.

Fig. 4. This figure reprefents the elevation or front view of the fire-place, fig. 3, after it has been altered. The lower part of the doorway left for the chimney sweeper, is shown

in this figure by dotted lines.

Fig. 5. This figure shows the section of a chimney fireplace and of a part of the slue of the chimney on the old construction. ab is the opening in front, bc the depth of the fire-place at the hearth, d the breast of the chimney, dc the throat of the chimney, and dfgc a part of the flue.

Fig. 6, thews a fection of the time chimney after it has been altered: kI is the new back of the fire-place, I the tile or from which closes the doorway for the chimney fweeper, dI the throat of the chimney narrowed to 4 inches, a the old mantle, and b the new mantle formed under it to diminifh the height of the opening of the fire-place in front, the new mantle being backed with platfer to make the infide of a pro-

per form.

When the breast or wall of the chimney in front is very thin, it may happen, that the depth of the fire-place determined according to the preceding rules may be too fmall. Thus supposing the breast to be only 4 inches thick, which is fometimes the case, particularly in rooms situated near the top of a house, taking 4 inches for the width of the throat, will give only 8 inches for the depth of the fire-place. In this cafe, it would be proper to increase the depth of the fire-place at the hearth to 12 or 13 inches, and to build up the back perpendicularly to the height of the top of the grate, and then floping the back by a gentle inclination forward, bring it to its proper place directly under the back part of the throat of the chimney. This flope, though it ought not to be too abrupt, yet should be quite finished at the height of 8 or 10 inches above the fire, otherwise it may perhaps cause the chimney to smoke; but when it is very near the fire, its heat will enable the current of rifing fmoke to overcome the obstacle which this slope will oppose to its Vol. VII.

aftert, which it could not fo cashly do, were the flepe fituated at a greater distance from the burning fuel.

There is one important circumstance respecting chimney fire-places defigned for burning coa's which remains to be examined, and that is the grate. Although there are few grates that may not be used in chimnies, altered or constructed on the principles recommended by Count Rumford, yet they are not by any means all equally well adapted for that purpofe. Those whose construction is most simple, and which of course are the cheapett, are beyond compariton the best on all accounts. Nothing being wanted but merely a grate to contain the coals, and all additional apparatus being not only useless but pernicious; all complicated and expenfive grates should be laid aside, and such as are more Limple fubflituted in their room. The proper width for grates in rooms of a middling fize, will be from 6 to 8 mehes, and their length may be diminished more or less according to the difficulty of heating the room, or the feverity of the weather. But where the width of a grate is not more than 5 inches, it will be very difficult to prevent the fire from going out. It has been before observed that the use of metals is as much as possible to be avoided in the construction of fire-places, it will therefore be proper always to line the back and fides of a grate with fire ftone, which will cause the fire to burn better and give more heat into the room.

Smoke in its passage through a climney deposits a great part of the soot, with which it is loaded, upon the sides of the slue, which causes danger from sire, and is besides apt to fall back into the room. It is therefore frequently necessary to have the slues cleaned. To effect this, various expedients have been reforted to, but that most commonly adopted is the use of climbing boys, who ascend within the chimney and sweep down the soot. The evils of this disagreeable and unwholesome occupation to those engaged in it, are generally acknowledged, and of late years the public attention has been directed to this subject, and premiums offered for the discovery of methods which larget be sub-

flituted to a practice to offentive to humanity.

In the year 1802 a number of public-spirited and wealthy persons affociated for this purpote, and offered confider premiums to those who might invent and bring into practice, a method of cleaning chimnies by mechanical rice that should superfede the necessity of climbing boys. I'could themselves, perhaps, inadequate to the talk of carrying their laudable intentions into full execution, they applied to to " Society for the encouragement of Arts, Manufactures, &c." in the Adelphi, requesting them to engage in it, and to offer premiums on the subject. In consequence of this application the fociety offered their gold medal to the perfon who should invent the most effectual mechanical or other means for cleanling chimnics from foot, and obviating the necessity of children being employed within the flues. In a few months there were five candidates for this premium, whose several inventions were put to the tell of experiment upon chimnies not less than 70 feet high. One of the inventions confilled of a fet of brushes with pullies and weights, which were to be let down from the top of the chimney; but as the object was to find an apparatus to effect the purpose from the infide of the house, this was deemed unfit to accomplish the views of the fociety. Another gentleman proposed the plan of throwing gravel up the chimney by means of condenfed zir; the machine was tried, and deemed wholly inadequate to the purpose. A third apparatus confitted of classic rods of whalebone and cane, with a bruth at the end of the upper one, which was found to answer only in short and Braight chimnics. The next confilled of laths feveral feet long, which locked into one and 4 O other,

other, and on the upper one was fixed an elaffic expanding brich, which, in its alcending and contracted flate, occupied a fpace of only fix or eight inches, but which was to be a firing attached to it the whole length of the rods. After many experiments before divers persons appointed to examine its merits, this was given up as inclledfuld to the vented by Mr. George Smart, the patentee of a method of metropolis, we shall give a particular account of it, with references to an engraved plate. The principal parts of the machine are a bruth, fome rods or hollow tubes, that fiften

necting the whole together. The bruth confits of four fan-shaped portions (fee Plate Channey-jweeping, figs. 1 and 2) which are so bung upon the bruth is prevented from falling down into its contracted form: fig. 1 represents it expanded, and in fig. 2 it is shewn in its contracted state. The substance made use of in general for the brush is what is called whilk. The rods represented by a, b, c, d, c, f, &c. f(gs. 1, 2, and g, are hollow tubes with a metal focket, at the lower end; fome of the fockets have a forew in them for the purpole of confining the cord after it has been duly stretched, and preventing the rods from leparating (see fig. 2.) The upper end of the rods are either with or without ferrules, and taper to admit of a fmall motion within the fockets. The rods are about thirty inches long, and the cord runs from the top of the brush through all the rods, and when drawn tight keeps the whole machine together. Fig. 3, represents the cloth to be placed before the chimney opening, and a bar of deal or other wood, with a flide on it, fixing it to different fized openings. Fig. 4, is a bar or bars made to flide out, like a telescope slide, with a ferew to fix it at different lengths, for cloting the fides of the cloth to the jambs of the chimney piece. Fig. 5, exhibits the machine raifed up the chimney with the man working, he being on the outfide of the cloth, through which there is a fmall flit or opening to admit the tubes passing. Fig. 6, a part of the apparatus, confifting of a fmall post and pulley, fixed on a board for the purpole of more callly drawing the cord tight before it is made fast with the forew. The method of uling the machine is this: Having afcertained, by looking up the chimney, what is the direction of the flue, the cloth is then to be fixed before the fire-place, with the horizontal bar, fig. 3, and the fides to be closed with two upright bars like fig. 4. The brush is introduced through the opening of the cloth, which opening is then to be buttoned, and one of the rods is to be paffed up the cord into the focket on the lower end of the rod which supports the brush; the other rods are in like manner to be brought up one by one in fuccession, till the brush is raised somewhat above the top of the chimney, observing to keep the cord constantly tight, and when those rods which have a ferew in the focket are brought up, they are to be placed on the purchase; the cord is to be put round the pulley and drawn very tight, and forewed down, by which all the rods above will be firmly connected together, and the whole may be regarded as one long flexible rod. In pulling the machine down, the edges

of the brush striking against the top of the chimney, will cause it to expand, and there being a spring to prevent its contracting again, it will bring down the foot with it. In drawing down the machine, the perlon should grasp with his left hand, the rod immediately above that which he is feparating with his right hand, to prevent the upper ones from fliding down too foon. The rods as they are brought down, are to be laid carefully one by one in as small a compass as possible, and arranged like a bundle of sticks.

This machine has been found useful in extinguishing fires in chimnies; for that purpose a coarse cloth is to be tied over the bruth, dipped in water, and then passed up in the machine has been found in a great measure, to answer the purpofes for which it was intended; in the course of several thousand trials it is ascertained that not more than one or two chimnies, at molt, in a hundred, has refilted the paffage ney and chimney pot, that no bruth will of itself bring it down, so that after a considerable time it may be expected that means mult be found to forage off the foot as the climbing boys now generally do. We wish therefore that fuch an addition to the apparatus could be devifed, as top of the chimney pot being clogged with foot that adbruth has in many inflances failed to remove. He has done much to obviate an evil long complained of; an evil that has deprived of health, and eventually of life, a multitude of have been useful to the community, and we wish to see in dered still more useful by being more perfect. He has attained, with regard to making his brush ascend the chiamey, all that can be expected, and instead of bringing up infants cend, other means may be adopted, fuch as, 1st. By having a fixed apparatus at the top, with a chain defeending down the flue, and a brush annexed to it; for which purpose two 2dly, By the method practifed at Edinburgh, and other ting down a weight attached to one end of a cord, with a bush of holly tied at the other end, which by means of a person at the top and another at the bottom of the chimney is worked up and down till the foot is thoroughly cleanfed

CHIMNEY-Saveepers, regulations concerning. By flat. 28 Geo. III. c. 48, the church-wardens and overfeers of the bind any boy of the age of 8 years and upwards, who is years. No malter shall have more than fix apprentices at person for the purpose of sweeping chimnies; nor cause them of the year. Every mafter shall cause his name and place of abode to be engraved on a brafs plate, to be fixed upon the front of a leathern cap, which he shall provide for each ap-

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prentice, who shall wear the same when he is out upon his duty. These regulations are enforced by penalties of not more than rol, and not less than 51. The law is so tender with regard to these generally friendless children, that it has appointed a particular form of indenture, by which the appointed a particular form of indenture, by which the coupation, and other cloatles for his use when he is not employed at his work and for Sundays: he covenants also to see that he is properly cleansed from all foot and filth once a week, and be required to attend public worship in the dress adapted for the purpose.

CHIMNEY, in Geography, a town of the island of Ceylon,

to miles S.E. of Candy.

CHIMNEY jambs, are the fides of a chimney, usually standing out perpendicularly, sometimes circularly from the back;

on the extremities whereof the mantle-tree refts.

CHIMNEY-money, or hearth-money, a tax imposed by flattice 13 and 14 Car. 11. c. 10. expressing, that every fire-hearth, and stove of every dwelling, or other house, within England and Wales, except such as pay not to church and poor, shall be chargeable with two shiftings per ann. payable at Michaelhaas and Lady-day, to the king and his heirs. But this tax was declared to be an oppression and badge of slavery, and accordingly abolished by stat. I.W. and M. c. 10. and the window-tax established in its room. See Fuage and Wixdow-tax established in its room.

CHIMNEY-piece, in Building, a composition of certain mouldings, of wood or stone, standing on the fore-side of

the jambs, and coming over the mautle-ties.

CHIMOS, in Ancient Geography, a maritime village of Egypt, on the borders of the Marmotide nome. Ptolemy.

CHIMPANZEE, in Zoology, the Angola ape, simia troglodytes of Blumenbach, fatyrus indicus of Tulpius, &c. This animal very nearly approaches the orang-outang, but in the opinion of most zoologists is specifically distinct. It is, according to Blamenbach and Gmelin, diflinguished among other particulars by having the body fmooth, except the back and thoulders, which are hairy; the head is also of a fomewhat conic form, and the body brawny, or remarkably inufcular. The true orang-outang has the body entirely covered with hair, the haunches especially, and the hair on the fore arms is placed in a reverfed direction. In the year 1738, one of those chimpanzees was brought over into England by the captain of a ship in the Guinea trade; it was of the female fex, and was two feet four inches high: it naturally walked erect. It would eat very coarfe food, and was fond of tea, which it drank out of a cup with milk and fugar, as we do; it flept in the manner of the human species, and in its voice made fome imitation of the human speech, when people speak very hastily, but without any articulate found. The males of this species are represented as very bold; they will fight a man though they fee him armed. Their dispofitions are extremely lascivious, insomuch as to render it unfafe for women to venture into the woods alone; it is affirmed that the female negroes are often furprifed and overpowered by these difguisful animals. The chimpanzee thewn in London in 1738 was only about twenty months old, and was of a docile disposition: the parent had it in her arms when the was attacked by the Moors in Angola, and would not part with it till she was killed by one of their spears. This full-grown semale was five seet high.

CHINA, in Botany, Amdoinenfis, Rumph. See SMILAY

zeylonica.

CHINA radix, Bauh. Pin. See SMILAX China.
CHINA spuria nodosa, Bauh. Pin. See SMILAX pseudo-China.

CHINA, in History and Geography. The word China is

well known to the people whom we call Chinese; but the most learned among them never apply it to themselves or their country. They wish to be described as the people of whose actions they flatter their national pride; and their country they call Chum-eue, or the central kingdom, reprefenting it in their fymbolical characters by a parallelogram exactly bifected; at other times they diffinguish it by words give any account that shall be fatisfactory as to the origin of the Chinese. Four opinions have been advanced, all of which have been peremptorily afferted rather than supported by argument and evidence. By a few writers it has been urged that they are an original race who have dwelt for ages, if not from the first creation of things, in the land which they now possess: by others, chiefly the missionaries, it is alleged that they sprang from the same stock with the Hebrews and Ar.bs: a third affertion is that of the Arabs themselves, and of M. Pauw, who contend that they were originally Tartare, descending in wild class from the steppes of Imaus; and a fourth is that of the Brahmins, that the Chinas, fo they call them in Sanferit, were Hindus of the military class, who, abandoning the privileges of their tribe, rambled in different bodies to the north-east of Bengal; and forgetting, by degrees, the rites and religion of their ancestors, established separate principalities, which were afterwards united in the plains and vallies which are now possessed by them. Sir William Jones has examined each of these claims with great care and attention, and he observes, that, " in support of an opinion, (viz. that the Chinese and Hindus were the fame people), which I offer as the refult of long and anxious inquiries, I should regularly proceed to examine the language and letters, religion and philosophy of the present Chincle, and fubjoin some remarks on their ancient monuments, on their feiences and their arts, both liberal and mechanical; but their fpoken language not having been preferved in the usual symbols of articulate founds, must have been for many ages in a continual flux; their letters are merely the fymbols of ideas; their popular religion was imported from India in an age comparatively modern; and their philosophy seems yet in so rude a state as hardly to deserve the appellation; they have no ancient monuments from which their origin can be traced; their sciences are wholly exotic; and their mechanical arts have nothing in them characteristic of a particular family; nothing which any fet of men in a country fo highly favoured by nature might not have discovered and improved. They have, indeed, both national music and national poetry, and both of them beautifully pathetic; but of painting, sculpture, or architecture, as arts of imagination, they feem to have no idea. Inflead, therefore, of enlarging feparately on each of those heads, I shall briefly inquire how far the literature and religious practices of China confirm or oppose the proposition which I have advanced."

In the course of this inquiry, he finds that the Buddha of the Hindus is unquestionably the Fo of China; but the great progenitor of the Chinese is also named Fo-hi, where the second syllable signifies a victim. Now the ancestor of that military tribe whom the Hindus call the Chandravansa, Buddha, or the genius of the planet Mercury, from whom, in the lifth degree, descended a prince, named Druhya; whom his father, Yayati, sent in exile to the cast of Hindosta, with this imprecation, "may thy progeny be ignorant of the Veda." The name of the banished prince cannot be pronounced by the modern Chinese; and though fir William Jones does not affert that the last syllable of it has been changed

changed into Yao, he observes, that Yao was the fifth in descent from Fo-hi, or at least the fifth mortal in the first imperial dynasty; that all Chinese history before him is confidered by the Chinese themselves as fabulous; that his father, Ti-co, like the Indian king, Yayati, was the first prince who married feveral women; and that Fo-hi, the head of their race, appeared, fay the Chinefe, in a province of the west, and held his court in the territory of Chin, where the rovers mentioned by the Indian legislators are supposed to have settled. Another circumstance in defence of this opinion is, that the mother of Fo-hi was the "daughter of heaven," furnamed " Flower-loving;" and, according to the Chinese mythology, as the nymph was walking alone on the bank of a river, with a fimilar name, the found herfelf fuddenly encircled by a rainbow; foon became pregnant, and was delivered of a fon, called "Sui," or the "Star of the Year." According to the fyilem of the Hindus, the nymph Rohini, who prefides over the fourth lunar manfion, was the favourite miltrefs of Soma, or the Moon, among whose numerous epithets we find one answering to " Delighting in a species of water-flower that bloffoms at night;" and their offspring was Buddha, regent of a planet, and called also from his parent Raubineya, or Saumya. Sir William Jones shews also, that the opinions of the Chinese and Hindus are in many respects similar: they both believe this earth to have been wholly covered with water, which they describe as " flowing abundantly, then fubliding, and feparating the higher from the lower age of mankind;" and that the division of time, from which their poetical or fabulous history begins, just preceded the appearance of Fo-hi on the mountains of Chint. Though the religion of Confucius was pure, and worthy of a great mind, contending for the existence of a Supreme God, and giving a demonstration of his being and providence from the exquisite beauty and perfection of the celestial bodies, and the wonderful order of nature, in the whole fabric of the world; yet the people of China, in general, had an ancient fystem of ceremonies and fuperstitions, which the government and philosophers appear to have encouraged, and which has an apparent affinity with many parts of the oldest Indian worship. They believed in the agency of genii, presiding over all things, of which, like the Hindus, they reckoned sive. To these they offered victims on high places with ceremonies, and in a language very like those used by the Brahmins. M. Le Gentil ob-ferved, he says, a strong resemblance between the suneral rites of the Chinese, and the fraddha of the Hindus : and M. Bailly, the celebrated French aftronomer, after a very learned investigation, concludes, that, " even the puerile and abfurd flories of the Chinese fabulists contain a remnant of ancient Indian history, with a faint sketch of the first Hindu ages." After a very elaborate discussion, in all the particulars of which we cannot follow him, fir William Jones fays, that the feveral circumstances of literature and religion frem collectively to prove, as far as the quellion admits of proof, that the Chinese and Hindus were originally the fame people, but having been separated nearly four thousand years, have retained few throng features of their ancient confanguinity, especially as the Hindus have preserved their old language and ritual, while the Chinese very foon lot both; and the Hindus have constantly intermarried among themselves, while the Chinese, by a mixture of Tartarian blood from the time of their first establishment, have at Tength formed a race diffinet in appearance from Indians and Partars.

Mr. Barrow, who has visited China, and seen much of the inhabitants, and to whose excellent account of his travels in this country we shall have occasion frequently to refer,

does not agree with Sir William Jones with regard to the origin of the Chinese. He admits several of the facts adduced by M. Bailly and others: he allows that the Hindus, like the Chinese, have always shewn a remarkable predilection for the number nine: that the two nations refemble one another in the observance of the solititial and equinostial facrifices; in making offerings to the manes of their ancefthe accultomed obsequies to their memory; in observing fion of the zodiac, and in a variety of other coincidences; which the late Mr. Bryant accounts for, by fuppofing the Egyptians, Greeks, Romans, and Indians, to be derived-from one flock, and that forms of these people carried their religion, and their learning into China; but he fays their physical character is a fufficient proof that the Chinese do not owe their origin to the same stock as the Hindus. The fmall eye, rounded at the extremity next the note, inflead of being angular, as is the cafe in that of Europeans, its oblique instead of horizontal position, and the flat and broad root of the sofe, as fatte for the stees county drings from the Hindu, the Greek, or the Roman; and belong more properly to the natives of Tartary. There are fearcely in nature: two of the human species that differ more widely than a Chinese and a Hindu, letting aside the difference of colour; but the Mantchoo, and indeed all the other Tartar tribes bordering upon China, are hardly to be diffinguished from the Chinefe. The fame colour, the fame eyes, and general turn of countenance prevail, on the continent of Alia, from the tropic of Cancer to the Frozen Ocean. The peninfula of Malacca, and the vail multitude of illands fpread over the eastern seas, and inhabited by Malays, as well as those of Japan and Licou-kirou, have clearly been peopled from the fame common tock. Having given this account of the different conjectures respecting the origin of the Chinese, we proceed to confider the

Situation and extent of China. In the last century, the Chinese emperors extended this wide empire over many western countries, so that it may be now considered as reaching from those parts of the Pacific Ocean called the Chinese and Japanic seas, to the rivers Satasou and Silton in the west, a space of \$87°, which, taking the medial latitude of 30°, will amount to nearly 42c0 geographical, or 4900 British miles. From N. to S. this vast empire may be computed from the Uralian mountains, lat. 50°, to the fouthern part of China, about lat. 21°, being 29° of latitude, that is, 1740 geographical, or nearly 2030 British miles. This empire consists of three principal divisions; that of China proper; the territory of the Mandibucs and Monguls. on the north and west; and lastly, the singular and interesting region of Tibet; with the first of these we are at present concerned, reserving the others to their proper places in the alphabet.

China proper extends from the great wall in the north to the Chinefe fea in the fouth, about 1140 geographical, or 1300 British miles. The breadth from the shores of the Pacisic ocean to the frontiers of Tibet may be computed at 1330 British miles. In square miles the contents have been estimated at 1,297,999, and in acres at 830,719,3500. On the cast and fouth the boundaries are martime, and to the north they are marked by the great wall and the desert of Shamo, the consistes with Tibet on the west seem to be chiefly indicated by an ideal line, though occasionally more strongly marked by mountains and rivers; patieularly according to M. D'Anville by the river Yaton, which sails into the Kian-ku, the country of Sifan lying between Tibet and China, on the fouth of the Eluths of Kokenor.

As China extends from the fecond to the fifth climate,

its temperature must vary accordingly. The difference of the length of its days is little more than four hours; the longelt in the most northern parts, being about fourteen hours and three quarters; and the shortest, in the most southern, about ten hours and three quarters; and the night proportionable. It is, however, generally reckoned very moderate, except only towards the north, where the cold is extremely piercing, not fo much from its northern lituation, as from ridges of moutains that interfect those parts, and are vastly high, and mottly covered with deep fnows. Even in those parts which lie under the tropics, the winds that blow thither from the large and mountainous parts of Tartary render the weather exceedingly cold and picroing, during the three, and fometimes four, winter months. The fouthern parts, on the other hand, mult be supposed to be very hot and dry; but these heats are the more easily borne, by the help of their grottoes, groves, and cooling shades; to these they retire during the hear of the day; at which time there is the fame univerfal filence, and coffation from business, as if it were midnight. In these southern parts there is neither frost nor fnow; but they are much troubled with storms, and violent rains, about the time of the equinoxes; all the reft of the year is crowned with a terene fky, and a most delightful verdure. Upon the whole it mail be admitted, that where nature has been most unequal in the distribution of her gifts, Chinese industry has supplied the defects. It has in some instances levelled whole ridges of mountains in particular provinces, and raifed the land in others. By providing proper fences against excessive colds in some, and heats and droughts in others, and by varying their agriculture, according to the different foils and climates, every spot almost of that valt territory produces enough to maintain its inhabitants, rendering the whole country delightful, populous, healthy, and opulent.

Progressive Geography. The progressive geography of China, as known to the wellern nations, is not of ancient date, whether with M. D'Anville we suppose the Sinzto have been in Cochin-China, or with Goffelin place them in the western part of Siam. The most ancient external relation which we pollels, is that of the two Mahometan travellers in the ninth century, who furprife us with accounts of barbarifm and cannibalifm little to be expected: but the Arabs are fo fond of fables, that implicit credit may be fafely with-Yet thefe travellers impart held from feveral paffages .high ideas concerning the Chinese empire, and mention Cansu, supposed to be Canton, as a city of great trade, while the emperors relided at Camdan, which feems to be the city also called Nanking, or the fouthern court, in contradiffinction from Peking, or the northern court. This wide empire, continued, however, obscure to the inhabitants of Europe, t'll the travels of Marco Polo appeared, in the end : of the thirteenth century. Yet the work of this traveller remained fo unknown, that pope Pius II. in his description of Afia, is contented with the more imperfect account by Nicola Conti, a Venetian traveller of his own time, who vifited Cathay. Haitho the Armenian, who wrote his book on the Tartars about the year 1306, begins with an account of Cathay; and Oderic, of Portenau defer bed his voyage to China in 1318. Sir John Mandeville vifited China about 1340; and Pegoletti gave directions for the route in 1385. But in the following century there feems to have been a firange and unaccountable intermission of intercourse and refearch, if we except the travels of Nicola Conti above mentioned; and so perishable was the knowledge acquired, as to have escaped even a learned pontiff. Afterthis relapse of darkness, the rays of more genuine and authentic knowledge

gradually emerged by the discovery of the Cape of Good Hope, and the subsequent enterprizes of the Portuguese.

History. The Chinese as a nation pretend to an autiquity beyond all credibility; they carry their history back many millions of years before the period affigued by the Scriptures to the creation of the world. According to the Chinese histories, the first monarch of the 'whole universe, that is, of China, was called Puon-ku, which is a word denoting the highest antiquity. Puon-ku was fucceeded by Tienchoang, which fignifies the emperor of heaven; to this monarch they afcribe the invention of letters. He was succeeded by Tihoang, the emperor of the earth, who is faid to have been skilled in astronomy; to have divided the day and night; appointing thirty days to make the period of one moon; and he fixed the winter folllice to the eleventh moon. Tihoang was succeeded by Gine-hoang, sovereign of men, who shared the government with nine brothers. These are said to have taught their subjects to build houses, cities, &c. The reigns of these four emperors make up but one of what the Chinese called ki, "ages" or "periods," of which there were nine before Fo-hi, who is acknowledged, by the most. fensible writers, to be the founder of their empire, but the regular history begins with Yau.

The Chinese bistorians of this country have reckoned twenty three dynasties, of which the first included Fo-hi and his eight successor down to Sheen. The others, together with the number of emperors belonging to each family, and

the years they reigned, are as follow:

Dyn	afties.		Em	perors.		Year:
I.	Hya	-	-	17		458
2.	Shang	**	-	28		644
3.	Chew	-	~	35	-	873
4.	Tfin-al-C	hin .		4		43
5.	Han			25	-	420
6:	Hew-han		-	2	-	44
7.	Tzin, or	Chin :	2d	15	in .	155
S.	Song, or	Soun	-	8	-	59
9.	Tzi, or C	hi	-	5	-	23
IC.	Lyang		-	of	***	55
II.	Chin-al-K	in	- "	5		32
12.	Swi, Soui		-	3	44	29
13.	Tang Tar	11	-	20	-	So
14.	Hew-lyan	g		2		10
	Hew-tang		-	4	40	13
16.			-	2 .		11
17.	Hew-han			2	-	4
18.	Hew-chew	7	-	3	-	0
19.	Song, or S	oum	-	18		310
20.	Ywen			9.		89
21.	Ming, or l	lim .		17	40	27.6
22.	Tzin, Chir			2		53
						6. 5.

The most interesting particulars of the Chinese history relate to the incursions of the Tarturs, who at last conquered the whole empire, and who full continue to hold the sovereignty; though by transferring the seat of empire to Peking, and by adopting the Chinese language, manners, and cultoms, Tartary seems rather to be incorporated with China, than the conqueror of it. These incursions began very early, even in the time of Shun, the immediate successor of Yau above mentioned, when the Tartars were repulsed and driven back into their own territories. From time to time, however, they continued their invasions, and the northern provinces of China were often ravaged by the Tartars in their neighbourhood. About the year before Christ 213, Chi-hoang-ti having subdued all the princes of

the possession of unlimited powers. He divided the whole empire into thirty fix provinces; and finding the northern parts of his dominions greatly haraffed by the invafions of the neighbouring barbarians, he fent a formidable army against them, which drove them far beyond the boundaries of China: and to prevent their return he built the famous stone-wall which feparates China from Tartary. After this, being elated with his own exploits, he formed a delign of making pofferity believe that he himfelf had been the first Chinese emperor that ever fat on the throne : for this purpofe, he ordered all the historical books and records, which contained the fundamental laws and principles of the ancient government, to be burned, that they might not be employed by the learned to repel his authority, and the changes which he proposed to introduce into the monarchy. He is even faid, on this occasion, to have caused four hundred of the literati to be burnt, together with their books. In the tenth century of the Christian wra, the Kitan, a peofubdued a part of the empire, and established a government of their own in 016. Thirty years after this, Mingt-fong, the emperor of China, was attacked by his brother-in-law She-king tang, and was by him deprived of his crown and life. She-king-tang assumed the title of emperor under the name of Kaut-fu. But the Kitan general refuled to acknowledge him, except on the condition of his yielding up to the Tartars fixteen cities in the province of Pe-cheli, which is the most northern province of China. This submission served only to inslame the avarice of the Kitan, and in the year 950 they invaded the empire afreth. Th vang, the emperor, opposed them with a formidable army; but through treachery he was taken prisoner, and was obliged to refign his empire to one of his own generals, who affumed the name of Kaut-lu. The fucceflors of this man opposed the barbarians ineffectually till the year 978, when they became fo firong as to lay fiege to a confiderable city. The emperor fent against them in the night 300 foldiers, each carrying a light in his hand; with orders to approach the camp as near as possible. The enemy imagining by the number of lights that the whole Chinese army was at hand, immediately fled, and, falling into the ambulcade laid for them, were almost all cut to pieces. In the year 999, and again in 1035, the Kitan attacked the empire, and laid it under heavy contributions; after which we hear little more of them till the year 1117; when their ravages became fo intolerable, that Whey-tlong, the emperor, in order to put a flop to them, called in the affiflance of the Eaftern Tartars to defroy the kingdom of Kitan, which they effectually accomplished. This, however, proved of no advantage to the Chinese; for the Tartar general, elated with his conquelt, gave the name of Kin to his new dominion, affumed the imperial title, and began to think of aggrandizing his empire. For this purpose he invaded and made himself master of the greater part of the provinces of Pe-cheli and Shan-si, when, after several conferences between the Tartar general and Whey-tlong, the latter was thrown into prilon, where he ended his days in 1126, having nominated his eldest fon, Kin-tsong, to succeed him. Kin-tsong began his reign with putting to death fix ministers of state, who had betrayed his father into the hands of the Kin-Tartars. The Barbarians in the mean time purfued their conquelts, and, marching directly towards the imperial city, took and plundered it, at the fame time feizing the Emperor and his ants, who are faid to have amounted to near a million and confort, they carried them away captives. The crown de- a half of families. The monarch, after this difafter, retired volved on Kau-tfong, the ninth fon of Whey-tfong, who to Juning-fu, a city in the fouthern part of Honan, attended

the different provinces, became the emperor of China, with fixed his court at Nanking. He made leveral fruitless efforts to recover some of his provinces from the Kin. Kitsong, the Kin monarch, in the mean time, endeavoured to gain the effect of his Chinese subjects, by paying a great regard to their learning and learned men. He advanced to Nanking, from whence Kau-tlong had retired, and took it; but receiving advice that Yo-fi, general of the Song, or dared to cross the river Kyang. But in 1163 the king approached the mouth of that river, and commanded his troops, on the pain of death, to cross it, which they reful d, rebeiled against their fovereign, and killed him in the be-

ginning of the tumult, and then retired. history till the year 1210, when the chief of the Western Taitars, Moguls, or Mungls, quarrelled with Yong-th, emperor of the Kin. In 1212, the Mogul generals forced the great wall to the north of Shan-fi, made incursons as far as Peking, the capital of the Kin empire, and defeated an army of 300,000 Kin. The war was continued, and feveral battles fought in the next year; in one of which, the ground was strewed with dead bodies for upwards of four leagues. In 1226, Oktay marched into Honan, befieged the capital of the Kin empire, took feveral cities, cut to pieces an army of 30,000 men, but was, notwithflanding, obliged to retire into Shan-fi. The war was carried on with various fuccels by Oktay and his brother Toley, who took more than fixty important pells in the province of Shan-fi. Toley demanded of the Song a paffage for his army through the country of Han-chong-fu, which being refused, he forced the passage, and put to the sword the inhabitants of two cities. Having cut down rocks to fill up deep abyfles, and made roads through places almost inaccessible, he besieged the city itself, the miserable inhabitants of which fled to the mountains on his approach, where more than a hundred thouland of them perified. In Januany 1232, Oktay, paffing the Whang-ho, encamped in the dillrict of Kay-fong-fu, the capital of the Kin empire, and fent his general, Suputay, to beliege the city. At that time the place was 30 miles in circumference; but having only 40,000 foldiers to defend it, as many more, befides 20,000 pealants, were ordered into the city, while the emperor published an affecting declaration, animating the proguls took fome confiderable posts, yet, in other instances, they were opposed with such intrepidity and valour, that they were obliged to retire. Oktay refolved to return to Tartary, but Suputay, his general, pushed on the siege o feemed only to inspire the belieged with fresh courage: ?.. incredible number of men perinced on both fides; at length Suputa, finding that he could not take the city, with free his army. Soon after, the plague broke out in Kay-fongfu, and raged with fuch violence, that, in fifty days, more than a million of perfons perished by it.

In a fhort time the war was again renewed. The capital of the Kin empire was delivered up by treachery to Societay, who put all the males of the imperial race to the fword, while he spared, by command of Oktay, the inhabitonly by four hundred perfons. Here they were again befigged by the Moguls, and reduced to the extremity of living three months on human fleth, killing the old and feeble, as well as many prifoners, for food. This being known to the Moguls, they attacked them, but were repulled, though at the expence of all the best Kin officers: upon which the emperor resigned his crown to Cheng-lin, a prince of the blood. While the extremony of investing the new emperor was performing, the Moguls broke into the city, slew the late emperor and his fuecessor; and thus, in the year 1234, an end was put to the dominion of the Kin Tartars in China

in China, The empire of China was now to be shared between the Song, or fouthern Chinefe, and the Moguls. It had been agreed upon, that the province of Honan should be delivered up to the Song as foon as the war was finished. But they, without waiting for the expiration of the term, or giving Oktay notice of their proceedings, introduced their troops into fome of the confiderable Mogul cities. On this the Mogul general refolved to attack them, and repaling the Whang-ho, cut to pieces purt of the garrifon of Lo-yang, while they were out in fearch of provitions. The Song emperor now defired a continuance of peace, which, however, did not accord with the views of Oktay, who, at the head of the Moguls, made great progress in the province of Huquang, where he took feveral cities, and put vaft numbers to the fword. From 1239 to 1246, the Moguls were unable to make any progress; but upon the death of the Chinese general, Mong-kong, they renewed the war with more vigour and fuccels than ever, for feveral years. In 1250 they laid fiege to Ho-chew, a flrong city, to the west of Peking, defended by a numerous garrison. The fiege continued from February till August, when the Moguls made a general affault in the night. They mounted the walls before the governor had intelligence of it, but were foon attacked with the utmost fury; a terrible slaughter ensued, and among the rest fell the emperor himself, upon which they raised the fiege, and retired to Shenfi. Hupilay succeeded to Mongko, and laid fiege to Vu-chang-fo, a city near the capital of the Song empire. The relief of this city was committed to a man deflitute of courage and talents, and who, to obtain a peace, entered into a treaty, by which he engaged the Song empire to pay an annual tribute of 100,000/, and likewife to acknowledge the fovereignty of the Moguls. This treaty proved the ruin of the empire; for when the Mogul emperor found the terms not fulfilled, he determined to revenge himfelf on the Song for their treachery, published a manifesto against them, and, in 1268, the war was renewed. They made many conquests, took Nanking, and marched towards Hang-chew-fu, the capital of the Song empire. Notwithstanding, however, the progress made by the Moguls, vaft territories still remained to be subdued, before they could be confidered as mafters of the Chinese empire. On the death of Iwon-tlong, therefore, the mandarins raised his brother, Te-ping, to the throne. His army, confilling of nearly 200,000 men, ignorant of the art of war, was deleated by 20,000 Mogul troops. Nor was the fleet more fuccessful; for being thrown into confusion by that of the Moguls, and the emperor in danger of falling into their hands, one of the officers, taking him upon his shoulders, jumped with him into the sea, where they were both drowned. Most of the mandarins followed this example, as did also the empress and minister, all the ladies and maids of honour, and multitudes of others, inalmuch that 100,000 people are supposed to have perished on that day. Thus ended the Chinese race of emperors; and the Mogul dynalty, known by the name of Ywen, commenced.

Though no race of men ever existed more remarkable for cruelty than the Moguls, yet the emperors of the Ywen dynafty were not, in any respect, worse than their predecessors. On the contrary, Hupilay, colled by the Chincle Shi-tfu, who was the first emperor of that race, endeared himself fo much to the people, that the reign of his family is flyled by the Chinese, the wife government. This he accomplished by paying frict regard to their ancient laws and cultoms, by the mildness of his government, and by his attention and encouragement to learned men. In 1280 he employed some mathematicians to fearch for the fource of the river Whangho, which, at that time, was unknown to the Chinese themfelves. In four months they made the difcovery, and drew a map of it, which they prefented to his majetty. A treatife on altronomy was, by his order, published in the fame year. And, in 1282, he brought together all the learned men of the empire, to examine into the state of literature, and to take measures for its advancement. Soon after his accession he fixed his residence at Peking, where being informed that the barks, which brought to court the tribute of the fouthern provinces, were obliged to come by fea, and often fuffered shipwreck, he caused that celebrated canal to be cut, which is at prefent one of the wonders of the Chinefe empire. It reaches from Canton to Peking, and thus forms a communication between the fouthern and northern provinces. During the reign of Shi-tfu he formed the defign of reducing the islands of Japan, and the kingdoms of Tonquin and Cochin-China; but thefe enterprifes failed, with the loss of 100,000 men. The throne continued in this family till the year 1367, when Shun-ti, the lall of that dynasty, was driven out by a Chinese, named Chu, who affumed the imperial title under the name of Hong-vu, and thus put an end to the Ywen government. Hong-vu and his fuccessor drove the Moguls beyond the great desert, which feparates China from Tartary. They continued, notwithflanding, to make incursions upon the empire till 1583, when valt numbers of them were cut to pieces by the Chinese troops. The twenty-first dynasty of Chinese emperors, founded in the year 1368, continued till 1644, when they were again expelled by the Tartars. The last Chinese emperor was Whey-tiong, who afcended the throne in 1628. He found himself at once engaged in a war with the Tartars, and attacked by a number of rebels in the different provinces of his empire. The former were foon vanquished; but the emperor finding himself overpowered by the rebels, deferted by his fubjects, betrayed by those in whom he placed the greatest confidence, and preferring death to the diffrace of falling into the hands of his enemics, retired with his empress, whom he tenderly loved, and the princess, their daughter, into the garden. His grief was fo great that he was unable to utter a fingle word. After a few filent embraces the empress hanged herself on a tree. Her husband staid only to write these words on the border of his veil; " I have been bafely deferted by my fubjects; do what you will with me, but spare my people." He then cut off the young princess's head with one throke of his fcymitar, and hanged himfelf on another tree, in the feventeenth year of his reign. His prime minister, queens, and cunuchs followed his example. And thus ended the Chinese monarchy, to give place to that of the Tartars, which has continued ever fince. The whole empire fubmitted to the usurper Li, except prince U-fan-ghey, who commanded the imperial forces in the province of Lyau-tong. This brave prince, finding himfelf unable to cope with the usurper, invited the Tartars to his assistance; and Isong-te, their king, immediately joined him with an army of 30,000 men. Upon this Li marched directly to Peking, plundered

and burnt the palace, and then fled with immenfe treasures. ruins of houses, and a full greater number in the surrounding The young Tartar monarch was immediately declared emperor of China, his father, Tfonte, having died almost as foon as he let foot in that empire. The new emperor, Shun-chi, conferred upon U-fan-ghey the title of king, and affigued to him the capital of Shen-li for his refidence. In emperor, Kang-hi, successor to Shun-chi, determined to villt Tartary, his native dominions, in order to take the di-. . . of hunting. This practice he continued for feveral . . . He was a great encourager of learning and the C riftian religion, in favour of which he published a dicree in 1602. In 1716, however, he revived fome obfolete laws against the Christians; and in the next reign Christians of all denominations, not excepting even those of the that kau, a little island inhabited by the Portuguese, but subject to China.

In the year 1720, the emperor received the congratulations of the whole empire, on the figual victory which his forces had gained over the Eluths, who possessed the country of the Lamas, and had committed dreadful ravages for four years fucceffively; which victory gave him now the fole command of the kingdom of Tibet. In the morth of June an earthquake was felt at Peking, which laited about two minutes, and killed above 1000 persons by the fall of houses. In November, the czar of Muscovy made his public entry into Peking, with a numerous and splendid retinue, dressed after the European manner. He met with a gracious reception at the court, though the emperor would not accede to the object of this visit, which was to take measures for effablishing a free commerce between the dominions of the

two fovereigns.

The emperor, while taking the diversion of hunting in one of his parks, was fuddenly feized with a fhirering fit, which obliged him to return to his palace immediately. His illness increased, and medical affistance was applied to, but was found to be in vain. Being confcious of his approaching end, he affembled all his grandees, and having in their presence declared his fourth son his successor, he expired on the 20th of December, 1722, in the 69th year of his age. Yong-ching was 45 years old when he afcended the throne. He had feveral brothers, but placed his confidence only in one; the rest he dispersed or banished. He imprisoned many of the princes and grandees for protecting the missionaries, to whose design he had himself formerly been very favourable; and discarded all these fathers from his fervice except one, who was an excellent painter. In other respects he shewed himself a wife prince, assiduous and indefatigable in the discharge of the duties of government, fleady and resolute in his disposition, and endowed with a degree of eloquence and address, and attentive in answering the memorials which were prefented to him. He governed wholly by himself; and no monarch was ever more absolute, or more dreaded by his subjects. This unlimited authority enabled him to enforce a great many wholesome laws and regulations, in framing which he fpent whole days and nights with the most persevering industry. The furest way of gaining his favour, was by prefenting him with some scheme tending to the public good, or to the relief of his subjects in times of calamities, in the execution of which, if it appeared practicable, he spared no pains. On the 13th of November, 1731, the city of Feking was nearly overturned by a dreadful earthquake, fuch as had never before been felt in China. The first shocks, which happened about eleven in the forenoon, were so sudden and violent, that in less than a minute above 100,000 inhabitants were buried in the

country, where whole villages and towns were deftroyed. The emperor was then at his pleafure-house about two leagues from the capital. While taking an airing in his barge, feeing the edifice inflantaneously converted into ruins, he fell proftrate on his knees, with his hands and eyes lifted up to heaven. He published an edict, accusing himself as the chief cause of this calamity, and attributing the judgement to the wrath of God for his offences and want of care taken of the families that had fuffered by it, and an ellimate of the damage it had occasioned, advancing considerable sums for their relief; part of which was prefented to the mifflouand caused the missionaries, and all that belonged to them. to be loaded with irons, and thrown into prison; and some he even condemned to the punishment of carrying the wooden after a happy, peaceable, and long reign of 63 years, died on the 11th of February, 1799; and was fucceeded by Man Hing, the present emperor, and the fifth of the Tartar dynafty. Their emperors have wifely prevented the European nations, who have overthrown all the other eathern gevenments, from obtaining a footing in China. They permit them, the English in particular, to carry on a refricted intercourse at the single port at Canton; but they treat with coolness every attempt to obtain exclusive privileges, to build forts, or to establish permanent factories.

Topographical Description, Population, &c .- After the above hiltorical sketch, we proceed to the topography of China. It is divided into fifteen provinces, fix of which are ftyled northern and nine fouthern. The names of these will be given below, when we come to speak of the population; and the description of each province will be found in the alphabetical order of the dictionary. Sentible as the Chinese feem to be of the advantages derived from an eafy communication between the different parts of the empire, by means of canals, it is the more furprizing what the motives could have been, that, till this moment, have reftrained them from facilitating an intercourse by means of good roads, in such parts of the country as have no inland navigation. In this respect they fall short of most civilized nations. Except near the capital, and in some few places where the junction of the grand canal with navigable rivers is interrupted by mountainous ground, there is fearcely a road in the whole country that can be ranked beyond a foot path. Hence it happens that in the northern provinces, during winter, it is impossible to travel with any degree of ease, convenience, or fafety; all the canals to the nothward of the Yellow river, which runs from 34° to 35° latitude, being frozen up. It is equally furprizing that their ingenuity has not extended itfelf to the invention of iledges, or some fort of carriages, fuitable for travelling on ice, which other nations have converted into the best of roads. The cities and large tow are for the most part built in a regular form; their walls a high and throng, the gates are spacious, the main streets are broad and straight, interfected with others, which cris them at right angles. The squares are adorned with nob " structures, such as triumphal arches and stately towers feveral ftories high, embellished with galleries, carving, gilding, and a variety of other ornaments. Their public buildings more remarkable for their extent than for their magnificen ... their private houses are large but low, seldom exceeding ent flory in height, without any windows towards the firet; these are often painted, varnished, and gilt, in a most spiene did manner. The shops are set out with all their rich the .

chandize, some of which is brought out and displayed in front of the houses. Before these are erected large wooden pillars, the tops of which are higher than the eaves of the houses, bearing inscriptions in gilt characters, setting forth the nature of the wares to be fold, and the honest reputation of the feller, and, to attract the more notice, they are generally hung with various coloured flags and ftreamers from top to bottom, exhibiting the appearance of a line of shipping dreffed, as may be sometimes seen, on the river Thames, in the colours of all the different nations of Europe. The ftreets, being generally unpaved and covered with fand, prove fo dufty in dry weather, as to be not only offensive to the great crowds that continually throng them, but very injurious likewife to the fine merchandize that is exposed. These clouds are still increased by multitudes of horses and carriages of all descriptions that are in continual motion. In rainy weather they are still more incommodious from the mud and dirt, fo that in winter and fummer they are very troublesome and even unhealthy to walk in. 'I'ne towns, villages, and military posts, are regularly placed at intervals of about three miles. No just idea can be formed of the population and magnitude of a Chinese city by the extent of its enclosing walls. Few are without large patches of unoccupied grounds within them, which, in many instances, far exceed the quantity of land that is built upon. Even in that part of the capital called the Chinese city, several hundred acres are under cultivation. The imperial city, containing the palace and buildings for the officers of state, the ennuchs, and artificers, occupies very nearly a fquare mile, more than two-thirds of which is a kind of park and pleafure grounds; and under the north wall of the Tartar city there is a pond or swamp, which appears to be fully twice the dimensions of Lincoln's-Inn-Fields. Such fpaces of unoccupied ground might perhaps have been referved for the use of the inhabitants in case of siege, as the means of supplying a few vegetables of the pungent kind, as onions and garlie, for the belieged, which are the more necessary for a people who use so small a portion of animal food, and little or no milk. Thus the cities of Babylon and Nineveh, which were fo frequently exposed to the calamities of war and fiege, had gardens and corn-lands within their walls. Independently of towns and villages, the houses of the pealants are, in many parts, fcattered about. The face of the country is often level and entirely open; not a hedge-row, and very few trees to be feen through an extenfive district. The cottages appear clean and comfortable; they are without fences, gates, or other apparent precaution, against the intrusion of wild beasts or thieves. Robbery is faid to happen feldom, though not punished by death, unlefs aggravated by the commission of violence. The wives of the peafantry are of material affiftance to their families, in addition to the rearing of their children, and the care of domestic concerns; for they carry on most of the trades which can be exercised within doors. Not only do they rear filk-worms and spin the cotton, but the women are almost the fole weavers throughout the empire.

Many parts of the country are to covered with fivamps and morafles, as not to admit of the ufual cultivation. In fuch fituations the Chinefe exhibit new intlances of industry and ingenuity. They form rafts or hurdles of bamboo which they float upon the water, or reft upon morafles; on these rafts they spread a layer of soil, from whence they raise various kinds of vegetables; in like manner successful attempts are also made, in miniature, to produce smaller vegetables on ship-board, by laying seeds on moistened foil, or even on pieces of flannel placed in frames and wetted. By these means the radical leaves of mustard, for example, Vol. VII.

fprout up quickly and are particularly grateful to perfons long absent from land. Belides this method of railing a crop upon the water, the lakes, rivers, and canals of China are converted affiduously to such other useful purposes, either in cultivating vegetables growing from their bottom, or in catching the birds that fwim upon its furface, or the fith that exilt under it, or the other animals which creep upon the bottom, or by fertilizing the lands, by irrigation from them, and by the cheap and easy communication which they afford between the different districts of the empire; thus faving fo much land, otherwife necessary for roads, and fo much labour to make and keep them in repair, which is now employed in agriculture. In a country to populous as China every precaution is necessary to prevent the smallest fpot of ground from being unoccupied that can be applied to any ufe; hence grape-vines, valt quantities of which are produced in this country for food, are generally planted on the fides of the canals; and, as they spread, finall upright posts are driven in the water five or fix feet from the bank, by which means that space is converted into a perfect arbour, without any expence of earth but what is immediately about the roots. Ample provision is likewise made for the confrant cultivation of the land, by the forfeiture of fuch as are neglected, to the fovereign, who immediately grants them to other farmers willing to undertake their culture.

We must next proceed to the rivers of China, of which the Hoan-ho and the Kian-ku, deferve particular attention. The fources of the first, which is also denominated the Yellow river, from the quantity of mud which it devolves, are two lakes, fituated among the mountains of that part of Tartary known by the name of Kokonor. These lakes lie about 35° N. lat. and 19° of longitude, to the westward of Peking, or about 97° E. of Greenwich. This prodigious river is extremely winding and devious in its course, pursuing a N.E. direction to about 42° of N. latitude, and after running due east it fuddenly bends fouth to a latitude nearly parallel to its fource, and purfues an eafterly direction till it is lost in the Yellow sea. Its comparative course may be estimated at about 1800 British miles; or according to the late embaffy 2150. At about 70 miles from the sea, where it is crossed by the imperial canal, the breadth is little more than a mile, and the depth only about nine or ten feet, but the velocity equals about feven or eight miles an hour. The Kian-ku rifes in the vicinity of the fources of the Hoan-ho; but, according to the received accounts and maps about 200 miles further to the west, and winds nearly as far to the fouth as the Hoan-ho does to the north. After washing the walls of Nanking, it enters the sea about 100 miles to the fouth of the Hoan-ho. The Kian-ku is known by various names during its long progrefs; and near its fource is called by the Eluths, Porticho or Petchou: its course is about equal to that of the former; these two rivers being confidered as the longest on the face of the earth, for they are supposed to exceed the famous river of the Amazons in South America, and the majellic course of the Ganges does not extend half the length. In the late embally the length of the Kian-ku is estimated at 2200 miles; and it is observed that these two great Chineserivers, taking their source from the fame mountain, and passing almost close to each other, in a particular spot, afterwards separate from each other, miles; and finally discharge themselves into the same sea, comprehending a tract of land of about 1000 miles in length, which they greatly contribute to fertilize. To these grand rivers many important streams are tributary; but it would not be confillent with our plan to enter into details here respecting them, the principal of those meriting

In China there are many noble and extensive lakes. According to Du Halde, there is one in the province of Hou-quang, that is at least 80 leagues in circumference. In the province of Kiang-fi there is another about thirty leagues in circumference, formed by the confluence of four large rivers, and is itself very dangerous to navigators. There is a confiderable lake, not far to the fouth of Nanking, besides a number of smaller ones chiefly in the eastern and central parts of China. Sir George Staunton mentione, that upon a lake near the imperial canal, were observed thousands of fmall boats and rafts, conftructed for a fingular species of fishery. On each boat, or raft, are ten or twelve birds, which, at a fignal from the owner, plunge into the water: and it is aftonishing to see the enormous size of fish with which they return grafped within their bills. They are so well trained, that it does not require either ring or cord about their throats, to prevent them from fwallowing any portion of their prey, except what the master is pleased to return them, for encouragement and food. The boat made use of by these fishermen is of a remarkably light make, and is often carried, together with the fishing birds, by the men who are there to be supported by the employment.

Du Halde describes some of the Chinese mountains as abounding with filver: others produce marble and crystal. In the province of Kiang-nan there is a district wholly mountainous. Two grand ranges, running E. and W. interfect the centre of the empire, apparently continuations of the enormous chains of Tibet. In the fouthern part of China

the principal ridges run from N. to S.

The population of China has been a topic of confiderable debate. Pauw observes from Du Halde, that when the missionaries proceeded through the empire, to prepare their maps, they found in the greater part of its large governments, countries of more than twenty leagues, little peopled, almost uncultivated, and often so wild as to be quite unhabit-

notice, will be found in the alphabetical order of the dic- able, and he infers that the population is even exaggerated when it is computed at 82,000,000. " In fo wide an empire," fays Mr. Pinkerton, " most of the features are on a large scale, nor can human industry totally overcome, though as we have feen, it diminishes certain impediments of nature, as ridges of rocks, and extensive swamps, in certain positions; and in the north of China large forests are indispensably preferved for the fake of fuel. On a smaller scale, such obstacles to universal population are found even in the most fertile countries; they occur, as we all know, near the capital of our town." Civil wars, which, as we have feen in the foregoing history, have repeatedly raged in China, have laid desolate immense districts of the country for a long period of time. As it would be abfurd to suppose that all China confills of land fit for cultivation, fo it would be equally abfurd to deny that the population has impressed every traveller with aftonishment, and with ideas totally different from those of Pauw, who seems to have forgotten that the want of cultivation in some districts is balanced by that reliding on the waters, millions of families passing their whole existence in boats, on the numerous rivers, lakes, and canals. The recent English embassy, prepared as they were for fomething very extraordinary on the subject of population, were nevertheless greatly astonished when the following statement was delivered at the request of Lord Macartney by a mandarin of high rank, as the abstract of a census that had been taken the preceding year: "The amount," fays Mr. Barrow in his Travels in China, "appeared fo enormous as to furpass credibility. But as we had always found this officer a plain, unaffected, and honest man, who on no occasion had attempted to deceive or impose on us, we could not confiftently confider it in any other light than a document drawn up from authentic materials. To the table containing the account of the population are added the number of people on a square mile, and the value of the furplus taxes remitted to Peking in the year 1792.

Provinces.	Population.	Square miles.	No. on each fquare mile.	Surplus taxes. remitted to Peking.	
Pe-tche-lee Kiang-nan Kiang-fee Tche-kiang Fo-kien Houquang {Hou-pee} Honan Shan-tung Shan-fee Shen-fee {one Kan-foo {province} Se-tchuen Quang-tung Quang-fee Yu-nan Koei-tchoo	38,coo,coo 32,cco,coc 19,coo,coo 21,cco,coo 15,coo,coo 13,coo,coo 25,coo,coo 27,coo,coo 18,coo,coo 18,coo,coo 12,coo,coo 12,coo,coo 27,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 21,coo,coo 20,coo,coo	58,949 92,961 72,176 39,150 53,480 144,770 65,104 55,268 154,008 166,800 79,456 78,250 107,969 64,554	644 344 263 536 280 187 384 368 488 195 162 264 128 74	oz. filver. 3.036,000 8,210,000 2,120,000 3,810,000 1,277,000 1,345,000 3,500,000 3,702,000 1,700,000 3,1700,000 1,340,000 070,000 1,340,000	
Totals	333,000,000	1,297,999	1	1 36,548,000	

The measurement annexed to each of the fifteen ancient provinces was taken from the maps constructed by a laborious, and, as is generally believed in China, very accurate furvey, which employed the Jesuits ten years. Whether this great empire, the first in rank both in extent and population, does or does not actually contain three hundred and thirtythree millions, is a point that Europeans are not likely to ascertain. That it is capable of sublisting this and a much greater population, Mr. Barrow, in his work already referred to, has taken confiderable pains to prove. He mentions feveral causes that have contributed to the populousness of this country: fince the Tartar conquest China has enjoyed a profound peace, and its army being parcelled out as guards for the towns, cities, and villages, and stationed at the numberless posts on the roads and canals, all marry, have families, and a certain portion of land, which they have time to cultivate, is allotted for their use. As the nation has little foreign commerce, there are but few feamen: fuch as belong to inland navigation are mostly married: public opinion indeed confiders celibacy as difgraceful, and a fort of infamy is attached to a man who continues unmarried beyond a certain time of life. As an encouragement to the nuptial state, every male child may be provided for, and receive a thipend from the moment of his birth by having his name enrolled on the military lift. By the equal division of the country into small farms, every peasant has the means of bringing up his family, if drought or inundations do not frustrate his labour; and the pursuits of agriculture, it is well known, are very favourable to health, and confequently to population. From the general poverty that prevails among the lower classes, drunkenness is little known, and temperance, from necessity, very much practifed. The climate in general is moderate and uniform, and, excepting the small pox, the Chinese are liable to few epidemical disorders; the women are very prolific, and from the inanimate kind of life which they lead, are subject to few accidents, and they all suckle and nurse their own children. From these and other favourable circumstances, Mr. Barrow supposes that the population of China may not have been exaggerated even by those who have given the highest calculations.

Canals and Chinese Navigation. In China there is scarcely a town or even a village which has not the advantage either of an arm of the sea or a canal; by which means navigation is rendered fo common, that almost as many peo-ple live on the water as on land. The great canal is one of the wonders of art; it runs from north to fouth, extending from the city of Canton to the extremity of the empire; and by it all kinds of foreign merchandize entered at that city are conveyed directly to Peking, a diffance of 825 miles. This canal is about 50 feet wide; it paffes through, or near 41 large cities; it has 75 large fluices to keep up the water, belides feveral thousand bridges. China owes the greatest part of her riches to these numerous canals, which are cut through any kind of private property, not even excepting the gardens of the emperor, who, when the work arrives at his ground, digs the first spade of earth, and pronounces with an audible voice, "This is to let all know that private plea-fure should never obstruct the public good." The canals are bordered or faced with quays of free-thone, and, in low places, long caufeways are raifed for the convenience of travellers. There are bridges over the canals of three, five, or more arches, of which the middle one is high enough for reffe's to pass under with their mails standing. the water is liable to overflow the neighbouring meadows, they open the fluices to convey it away, and there are inpectors appointed to keep the canals in proper repair. One arge canal generally runs through every province, and a

vast number of smaller ones are cut from the large one; which again are divided into fome still smaller, that end at a village or great town; fometimes they discharge themselves into a lake, or large pond, from which all the adjacent country is watered. Among all the canals in the fouthern provinces, one is called the great canal, which is the grandest inland navigation in the known world, being, according to Mr. Barrow, nearly 1000 feet in width, of which the fides are built with maffy blocks of grey marble mixed with others of granite; and this immense aqueduct, although forced feveral feet above the furface of the country, by embankments thrown up by the labour of man, flows with a current of about three miles an hour towards the Yellow river. The buille and activity both on thore and on the numberless canals that branch out in every direction from the main trunk, exhibit, for feveral miles, on either fide, one continued town, extended to the point of junction with this large river, celebrated in every period of Chinese history. That which most charms the eye is the immense number of large boats with imperial colours, and beautifully painted, that fail in fleets, and commanded by a fingle mandarin of the province. and loaded with its best productions, and chiefly on the emperor's account. There are feveral classes or rates of these boats, very neat and commodious; a middle fized one has a hall and four very convenient rooms, belides a good kitchen, and place for the attendants; the rooms are generally carved. painted, and gilt; even the ceiling is painted, and the whole varnished; some of these boats are of 200 tons burthen, and from 300 to 400 of them on the same canal at the fame time, and sometimes in one fleet; and by the clearnefs and good management of the canals, it is rendered the mo!t pleafant and fertile country in the world. The Chinese junks are strong roomy vessels, from 100 to 200, and some 300 tons burthen; the hold below deck is divided into feveral diffinct apartments, partitioned off with two-inch plank, grooved or rabetted as close as possible, and the joints or feams are caulked with a cement of lime, pitch, &c. prepared in fuch a manner as to render it perfectly water-tight. A junk may strike against a rock and not fink; a leak may be sprung, but will damage no further than the goods in that apartment. Before the barges are launched from the canal into the stream of the Yellow river, certain ceremonies are conceived to be indispensably necessary: an oblation is made in every vellel to the genius of the river: the animals facrificed on fuch occasions confist of fowls or pigs. The blood, with the feathers and the hair, are daubed upon the principal parts of the veffel, and on the fore-callle are placed cups of wine, oil, and falt, the last article being thought by the Chinese as necessary to every facrifice. The cups, the slaughtered animals, and several made dishes remain on the fore-callle, while the captain stands over them on one side, and a man with his gong on the other. On approaching to the rapid part of the stream, at a fignal given by the gong, the captain takes the cups one by one, the contents of which he throws over the bow of the velfel, into the river. The libation being performed, a quantity of crackers, fquibs, and gilt tin foil are burnt with up-lifted hands, while the deepfounding gong is inceffantly thruck with increasing violence as the vessel sweeps along with the current. The victim and the other dishes are then removed for the use of the captain and the crew, and the ceremony ends by three genuflexions, and as many profrations. The Chinese are unskilled in the art of navigation. They keep no reckoning at fea, nor poffels the least idea of drawing imaginary lines upon the furface of the globe, by the help of which the polition of any particular place may be assigned; in other words, they have no means of afcertaining the latitude or longitude of any

place either by the diffance failed, or by observation of the heavenly bodies. Yet they pretend that many of their carly navigators made long voyages in which they were guided by charts of the route, fomctimes drawn on paper, and fometimes on the convex furface of large gourds. The prefent fyltem of Chinese nagivation is to keep as near the shore as possible, and never to lofe fight of land, unless in voyages that absolutely require it, such as to Japan, Batavia, and Cochin-China. Knowing the bearing or direction of the port intended to be made, they endeavour to the compals. Yet even with the affiliance of the compals it is furprifing how their ill-conftructed veffels can perform fo long and dangerous a voyage as that of Batavia, and, indeed, valt numbers of Chinese vessels are annually lost by shipwreck in attempting it. When a snip leaves Canton on a foreign voyage, it is confidered as an equal chance that she will never return; and when the event proves favourable, a general rejoicing takes place among the friends of those who had embarked in the hazardous undertaking. and contain half that number of fouls, befides paffengers, who hope to make their fortunes at Batavia or Manilla. A ship belongs to several merchants, and is divided into as his own as he pleases. He thips his goods and accompanies them in person, or sends his son, or a near relation, for it rarely happens that they will trull each other with property where no family connection exists. Each sleeping-place is just the length and breadth of a man, and contains only a small mat spread on the floor, and a pillow. Behind the compass is generally placed a fmall temple, with an altar, on which is continually kept burning a spiral taper composed of wax, tallow, and landal-wood. This holy slame answers a double purpose; for while the burning of it fulfils an act of piety, its twelve equal divitions ferve to measure the portions of time which make a complete day. It should feem that the fuperstitions notions inculcated on the people, have led them to believe that fome particular influence refides in the compals; for on every appearance of a change in the weather, they burn incense before the magnetic needle.

· Government and political Relations. The government of China is patriarchal. The emperor is absolute, but the examples of tyranny are rare, as he is taught to regard the people as his children, and not as his flaves. Being confidered as the common father of his fubjects, he is accordingly invested with the exercise of the same authority over them, as the father of a family exerts on those of his particular household. In this sense he takes the title of the Great Father; and by his being thus placed out of the reach of any earthly controul, he is supposed to be also above earthly defcent, and therefore, as a natural confequence, he fometimes Ayles himself the sole ruler of the world and the son of heaven. Conformably to this fystem, founded entirely on parental authority, the governor of a province is confidered as the father of that province; of a city, the father of that city; and the head of any office or department is supposed to prefide over it with the fame authority, interest, and affection, as a father of a family superintends and manages the concerns of domestic life. The stability of the government, in all its fensible and even minute forms and customs, justly arifes from a circumitance unknown in any other govern-ment, the admissi n and practice of the principle, that "knowledge is power." For all the officers of government pass through a regular education, and a progress of rank, which are held indispensable. Of the officers called manda-

rins, there are nine classes, from the judge of the village to the prime minister. The profession requiring a long and severe course of study, the practice of government remains, like that of medicine, unshaken by exterior events; and while the imperial throne is subject to accident and force, the remainder of the machine goes on without interruption. The governors of the provinces have great and absolute power, yet rebellions are not unfrequent. Bribery is also an universal vice, and the Chinese government, like many others is less beautiful in practice than in theory. The Chinese laws are ancient, but numerous; and edicts of the reigning dynasty have restrained the mandarius within stricter limits of duty.

Though unbounded authority is given to the emperor by his power with moderation and diferetion, which are the two props that have to long supported the great fabric of the ple, and is never spoken to but on the knces. When he is excuse them from this duty: so long as the emperor is in pain or in danger, the people feem to fear nothing but the lofs of him. Self-interest is no small occasion of the great in his hands, and the fortunes of his subjects are entirely at his difpofal. 1st. All places of honour and profit are in his emperor has the fole choice of all officers of state, fo he difduty. 2d. He has absolute power over the lives and properties of all his fubjects. Offenders are arraigned and tried in the different provinces, but the fentence is always preferred to the emperor, who either confirms or rejects it, as he pleafes. He can lay what taxes he thinks fit upon his fubjects to supply the pressing wants, and relieve the necessities of the state. 3d. The right of making peace and war belongs to the emperor; he may make what treaties, and upon what terms, he pleafes, provided they are not dishonourable to the kingdom. The judgments passed by him are irrevucable, and his fevereign courts and viceroys dare not use the least delay in registering them. 4th. Another fingular circumstance belonging to the Chinese government, is the right that the emperor has of chooling his fuccessor, whom he may felect not only from the royal family, but from among Examples of this nature are not, however, very common, but it frequently happens that the choice does not fall according to feniority, which, in China, never occasions any civil commotions or rebellions. 5th. The grave itfelf doer not put an end to his power over his subjects, which is exwhen he has a mind either to reward or punith them or their language, "makes them naked spirits." Sometimes he builds for them temples; and, if their administration of publiaffairs has been very beneficial, or their virtues remarkably eminent, he commands the people to honour them as gods. The emperor has ever been looked upon as the chief priest and principal servant of religion; and there are ceremonies and public facrifices which he alone is thought worthy to offer up to the great Creator of heaven. 6th. The emperor may change the figure and character of the letters, abolish characters already received, or form new ones. He may likewise change the names of provinces, of cities, and of families. He may sorbid the use of any commonly received expression or modes of phrase, and introduce others which have hitherto been esteemed obsolete and uncouth.

To affift the emperor in the weighty affairs of the flate, and in the arduous task of governing an empire of so great an extent, and fuch an immense population, the constitution has affigned him two councils; the one, called the ordinary council, is compeled of his principal ministers, of which there are fix. The other, or extraordinary council, confifts entirely of the princes of the blood. For the administration of the affairs of government, there are fix boards or departments, confifting of, 1. The court of appointments to vacancies in the offices of government, being composed of the ministers and learned men, qualified to judge of the merits of candidates. 2. The court of finance. 3. The court of ceremonies, prefiding over the direction of ancient cultoms, and treating with foreign ambaffadors. 4. The court for regulating military affairs. 5. The tribunal of justice. 6. The board of works.—These public functionaries refolve upon, recommend, and report to the emperor, all matters belonging to their feparate jurisdictions, who, with the advice of his ordinary, and, if necessary, of his extraordinary council, confirms, amends, or rejects their decrees. Subordinate to these supreme courts held in the capital, are others of a fimilar constitution, established in different provinces, and great cities of the empire, each of which corresponds with its principal in Peking.

The political importance and relations of China may be faid to be concentrated within itself, as no example is known of alliance with any other state. It has been supposed, that one European ship would destroy the Chinese navy, and that 10,000 European troops might over-run the empire. Yet its very extent is an obstacle to foreign conquest, and, perhaps, not less than 100,000 foldiers would be necessary to maintain the quiet subjugation of it; so that any foreign yoke must prove of very short continuance. The recent conquest by the Mandshurs happened in confequence of the general deteftation excited against a fanguinary usurper; and the invaders were in the immediate proximity, while even a Ruffian army would find almost infurmountable difficulties on the route, and the conquest, like that by the descendants of Zingis, would infallably prove of short duration. The Chinese have taken almost all their civil laws from their canonical books of morality. Filial piety is their balis, as well as that of their government. Some decrees of the emperors, and especially those respecting the observance of certain ceremonies, which custom has established, form the rest of the code. In a word, the Chinese jurisprudence contains every thing that is to be found in the best moral writers. Every mandarin who is a governor, either of a province or city, is obliged, twice a month, to inftruct the people around him, and to recommend the observance of certain falutary rules, fuch as filial piety, a certain deference to elders, frugality, temperance, and the other personal virtues. An'express law points out those parts of morality which ought to be the subjects of these discourses. Jurisprudence is taught in China in the same manner as the principles of religion are taught in other countries,

The laws of China which concern marriage are very extensive. A man can have only one lawful wife, and her rank and age must be nearly equal to his own; but he may receive into his house, on certain conditions, several concubines or wives of the fecond rank, who are wholly fubject to the lawful spoule. Their children are considered as hers, they address her as mother, and can give this title to her only. Divorces are granted in China as they were among all ancient nations, but with lefs facility and only in certain hereditary and infectious difeafes. The law protects every wife who is abandoned by her hufband, and can, if he abthe first get the confent of the mandarins. The law forbids marriage in certain circumflances; and marriage is also fulpended when a family experiences any fevere misfortunes. Every father of a family is responsible for the conduct of his children; he is even accountable for that of his domethes. Every fault is imputed to him, whose duty it is to the young; the former ferve to moderate the palions of the latter, and the influence of age over youth is supported by the fentiments of nature, by habits of obedience, by the precepts of morality ingrafted in the law of the land, and by the unremitted policy and honest endeavours of parents to that effect. They who are past labour dispense the rules and the wildom which experience taught them, to those who are advancing in life. Plain moral fentences are written up in the common hall where the male branches of the family affemble. In almost every house is hung up a tablet of the ancestors of the persons then residing in it, to which references are perpetually made, and their example ferves as an incitement to travel in the fame path. The defcendants from a common flock visit the tombs of their forefathers together, at stated times, which practice collects and unites the most remote relations. They cannot lofe fight of each other, and feldom become indifferent to their respective concerns. The child is bound to labour and to provide for his parents' maintenance and comfort, and the brother for the brother and the fifter, who are in extreme want; the failure of which duty would be followed by fuch deteftation that it is not necessary to enforce it by positive law. Even the most distant kinfman, reduced to mifery by accident or ill-health, has a claim on his kindred for relief. Manners, thronger than laws, produced and nurtured by intercourse and intimacy, fecure effectual affiftance for him. These habits and manners fully explain a fact that appears extraordinary to Europeans, that no spectacles of diffress are seen to excite the compassion, and implore the casual charity of individuals.

Civil and Military Establishments. From the produce of the taxes, the civil and military establishments, and all the incidental and extraordinary expences, are first paid on the fpot where they are incurred, out of the provincial magazines, and the remainder is remitted to the treasury in Pethe emperor, his palaces, temples, gardens, women, and princes of the blood. The confications, prefents, tributes, and other articles, may be reckoned as attaching to his privy purfe. The furplus revenue remitted to Peking in the year 1792, was stated to be about twelve millions sterling. It is a general opinion among the Chinese part of his subjects that vaft fums of the furplus revenue, and fuch as arife from confiscations, are annually fent to the capital of Tartary: this, however, is an erroneous opinion. Notwithstanding the great wealth of the imperial treasury, the present emperor found it necessary, in a single year, to accept of what

the falt merchants of Canton, and fums of money, and articles of merchandize from other quarters, to enable him to quell a rebellion that was raging in one of the western provinces. He even fent down to Canton a quantity of pearls, agates, ferpentines, and other stones of little value, in the hope of raifing a temporary fupply from the fale of them to foreign merchants. The emperor of China, therefore, has not so much wealth at his disposal as has usually been

is called an offering, of five hundred ounces of filver, from imagined. He even accepts of patriotic gifts from individuals, confilling of pieces of porcelain, filks, fans, tea, and fuch like trifling articles, which afterwards ferve as prefents to foreign embaffadors; and each gift is pompoully proclaimed in the Peking gazette. The chief officers in the civil departments of government, independent of the ministers and the different boards in Peking, according to the statement of Tehon-ta-gin, with their falaries and allowances, reduced into filver, will be feen from the following table:

			Salaries in Ounces		
Quality.			Number.	of Silver.	Total.
Viceroys, over one or more provinces	-	-	11	20,000	220,000
Governors of provinces	-	**	15	16,000	240,000
Collectors of revenue	~		19	9,000	171,000
Prefidents of criminal tribunals	-	-	18	6,000	108,000
Governors of more than one city of the first order	r =		86	3,000	258,000
Governors only of one city of the first order -	-	-	184	2,000	368,000
Governors of a city of the fecond order	-	-	149	1,000	149,000
Governors of a city of the third order	-		1,305	800	1,044,000
Prefidents of literature and examinations	-	-	17 7		100.000
Inspectors-General			117 \$	3,000	402,000

Total ozs. 2,960,000

The inferior officers acting immediately under the orders of these, and amounting to many thousands, together with the falary and expences of the different boards, all of which are paid out of the public treasury, must require a sum, at least equal to the above; so that, on a moderate calculation, the ordinary expences of the civil government will amount to the fum of 5.920,000 ounces of filver, or 1,973,333 pounds fterling. Some idea may be formed of the numerous appointments and the frequent changes in administration, from the Chinese court calendar, which is published every three months, making four large volumes. The attention, precaution, and extreme jealoufy of the government, have not been considered as sufficient for the protection of the empire, without the affiltance of an immense standing army, which, in the midst of a profound peace, was stated by Van-ta-gin, to confift of one million of infantry and eight hundred thousand of cavalry. The expense of this military establishment, together with artillery, tents, war equipage, veffels of force on the different rivers and canals, the building and keeping in repair the military posts, &c. &c. has been estimated at 49,982,9331. sterling. The revenue is estimated at fixty-fix millions iterling, fo that the whole will fland as

Total amount of the revenue Civil eltablishment £1,973,333 Military ditto 49,982,933

Surplus, being for the emperor's establishment £ 14,043,734

which accords pretty nearly with the fum faid to have been remitted to Peking in the year 1792. It may perhaps be asked, in what manner this large body of men is employed, fince the nation is so little engaged in foreign war. To which it may be replied, that the employments of the military differ materially from those among European nations. Except a great part of the Tartar cavalry, who are stationed on the northern frontier, and in the conquered provinces of Tartary, and the Tartar infantry, who are distributed as guards for the different cities of the empire, the rest of the army is parcelled out in the fmaller towns, villages, and hamlets, where they act as conflables, thief-takers, affiftants to magistrates, subordinate collectors of the taxes, guards to

the granaries, and are employed in a variety of different ways under the civil magistracy and police. Besides these, an immense multitude are stationed as guards of the military posts, along the public roads, canals, and rivers. These posts are small square buildings, like so many little castles, each having on its fummit a watch-tower and a flag, placed at the distance of three or four miles asunder. At one of these posts there are never fewer than fix men, who not only prevent robberies and disputes on the roads, but convey the public dispatches to and from the capital. An express fent from post to post travels in this way at the rate of a hundred miles per day, and there is no other post nor mode of conveying letters for the convenience of the public.

A great part then of the Chinese army may be considered as a kind of militia, which never has been, and probably never will be, embodied; as a part of the community not living entirely on the labour of the rest, but contributing something to the common stock. Every soldier stationed on the dif-ferent guards has his portion of land assigned to him, which he cultivates for his family, and pays his quota of the produce to the state. The different kinds of troops that compose the Chinese army consist of, I. Tartar cavalry, whose only weapon is a fabre; and a few who carry bows. 2. Tartar infantry, bowmen having also large fabres. 3. Chinese infantry, carrying the fame weapons. 4. Chinese matchlocks. 5. Chinese tigers of war, bearing large round shields of balket-work and long fwords. On the shields are painted monthrous faces of fome imaginary animal, intending to frighten the enemy, or to petrify their beholders. The military drefs varies in almost every province; sometimes they wear blue jackets edged with red, or brown with yellow; fome have long pantaloons, fome breeches, and others petticoats and boots; the bowmen have long loofe gown: of blue cotton, stuffed with wadding, studded with brails knobs, and bound round the middle with a girdle, from which the fabre is appended behind. On the head the wear a helmet, with flaps on each fide, that cover the cheeks and fall on the shoulders. The upper part is like an iverted funnel, with a long pipe terminating in a kind of fpear, on which is bound a tuft of hair dyed leadet. "The greatest number of soldiers," fays Mr. Barrow, " that we for at any one place might be from 2 to 3000, which were draws. up in a fingle line along the bank of a river, and, as they it all

with an interval between each other, equal to the width of a man, they formed a very confiderable line in length. Every fifth man had a small triangular flag, and every tenth a large one; the flags that supported them were of different colours, and fixed to the jacket behind the shoulders." The Tartar cavalry appear to be remarkably swift, and to charge with great impetuofity; but the horfes are fo fmall, and broken into fo quick and fhort a stroke, that the eye is deceived, and their real speed is but moderate. Their saddles are foft, raifed before and behind, fo that the rider cannot be eafily thrown out of his feat; and the stirrups are fo short that the knee is nearly level with the chin. They have little artillery, and that is very bad. They give a decided preference to clumfy match-locks, over the fire-locks now in use among European troops, pretending that the former, by being fixed with iron forks into the ground are capable of doing more execution than the latter; but the true reasons are probably their want of good metal to manufacture locks, or the bad quality of their gun-powder, or, above all, their deficiency in courage to make use of them with that fleadiness which is required to produce their full effect. Their favourite weapon is the bow, which, like all other missile weapons, requires less courage to manage than those which bring a man to oppose himself in close contest with man. Although the Tartars have continued the Chinese army on the old footing, they have used every exertion to recruit it with their own countrymen in preference to the Chinefe. Every male Tartar child is accordingly enrolled, a precaution highly necessary, as their whole army at the time of the conquest is said not to have exceeded So,oco men. It is, however, certain, that the Chinese government was at this time under a very weak administration, and every department both civil and military under the controul of eunuchs, 6000 of whom are faid to have been turned adrift by the Tartars, on the taking possession of the palace at Peking.

The conduct of the Mantchoo Tartars, whose race is now on the throne, was a master-piece of policy not to have been expected in a half-civilized race of people. They entered the Chinese dominions as auxiliaries against two rebel chiefs, and in a short time placed their own leader on the throne; but instead of setting up for conquerors they melted into the mass of the conquered. They adopted the dress, the manners, the opinions of the people, and in all the civil departments of the state, they appointed the ablest Chinese, and all vacancies were filled with Chinese in preference to Tartars. They learned the Chinese language, married into Chinese families, encouraged Chinese superstition, and, in fhort, omitted no step that could tend to incorporate them as one nation; their great object was to ffrengthen their army with their own countrymen; while the Chinese were so satisfied with the change, that they almost doubted whether a change had really taken place. In proportion as the Tartar power increased, they have become lefs folicitous to conciliate the Chinese; all the heads of departments are Tartars; the ministers are Tartars; and most of the offices of high trust and power are filled by Tartars. The best soldiers of this empire are collected from the three northern provinces; those supplied by the rest are seldom called forth; but remain with their families; e njoy their pay, and have feldom may occasion to remember that they are foldiers, except when ordered to appear at a

State of Society; Manners and Cufloms. It may be laid own as an invariable maxim that the condition of the female part of fociety in any nation will furnish a tolerably just criterion of the degree of civilization to which that

nation has arrived. The manners, habits, and prevailing fentiments of women have great influence on those of the fociety to which they belong, and generally give a turn to its character. Thus, those nations where the moral and intellectual powers of the mind in the female fex are held in most estimation, will be governed by fuch laws as are best calculated to promote the general happiness of the people; and, on the contrary, where the personal qualifications of the sex are the only objects of confideration, as is the cafe in all the despotic governments of Asiatic nations, tyranny, oppression, and flavery are fure to prevail; and these personal accomplishments, so far from being of use to the owner, serve only to deprive her of liberty and the fociety of her friends, to render her a degraded victim subservient to the sensual gratifications, the caprice, and the jealoufy of man. Among favage tribes the labour and drudgery fall heaviest on the weaker fex. The Chinese have imposed on their women a greater degree of humility and restraint than the Greeks of old, or the Europeans in the dark ages. Not fatisfied with the physical deprivation of the use of their limbs, they have contrived, in order to keep them the more confined, to make it a moral crime for a woman to be feen abroad. If they should have occasion to visit a friend or relation, they must be carried in a close sedan-chair: to walk would be the height of vulgarity. Even the country ladies, who may not possess the luxury of a chair, rather than walk, fuffer themselves to be rolled about in a fort of covered wheel-barrow. The wives and daughters, however, of the lower class are neither confined to the house, nor exempt from hard and flavish labour, many being obliged to work with an infant upon the back, while the husband, in all probability, is gaming, or otherwife idling away his time. In the province of Kiang-fee nothing is more common than to fee a woman drawing a kind of light plough, with a fingle handle, through ground that has previously been prepared; the easier task of directing the machine is left to the hufband, who, holding the plough with one hand, casts, at the fame time, with the other, the feed into the drills. The advantages which these women possels in a higher sphere of life, if any, are not much to be envied. Even at home, in their own family, a woman must neither eat at the same table. nor fit in the fame room with her husband. And the male children, at the age of nine or ten years, are entirely separated from their fifters. Thus the feelings of affection, not the instinctive products of nature, but the offspring of frequent intercourse, and of a mutual communication of their little wants and pleafures, are nipped in the very bud. A cold and ceremonious conduct must be observed on all occasions between the members of the same family. There is no common focus to attract and concentrate the love and respect of children for their parents. Each lives retired and apart from the other. The incidents and adventures of the day, which furnish the conversation among children of many a long winter's evening, by a comfortable fire-fide, in our own country, are in China buried in silence. Boys, it is true, fometimes mix together in schools, but the stiff and ceremonious behaviour, which constitutes no inconsiderable part of their education, throws a restraint on the little playful actions incident to their time of life, and completely fubdues all spirit of activity and enterprise. A Chinese youth of the higher class is inanimate, formal, and inactive, constantly endeavouring to assume the gravity of years. To. beguile the many tedious and heavy hours that must unavoidably recur to the feeluded females, totally unqualified for mental pursuits, the tobacco-pipe is the usual expedient. Every female from the age of eight or nine years wears, as an appendage to her drefs, a fmall filken purse or pocket.

to hold tobacco and a pipe, with the use of which many of them are not unacquainted at this tender age. Some, indeed, are contrantly employed in working embroidery on filks, or in painting birds, infects, and flowers on their gauze. But the women who employ their time in this manner are generally the wives and daughters of tradefmen and artificers; a lady of rank would not be supposed to condescend to use her needle. Daughters may be faid to be invariably fold. The bridegroom must always make his bargain with the parents of his intended bride. She has no choice, but is disposed of to the highest bidder. The man, indeed, in this respect, has no great advantage on his fide, as he is not allowed to fee his intended wife until the arrives in formal procession at his gate. If, however, on opening the door of the chair in which the lady is thut up, and of which the key has been fent before, he should dislike his bargain, he can return her to her parents; in this case the articles are forfeited that conflituted her price; and a fum of money in addition may be demanded, not exceeding the value of these articles. "To what a degraded condition," fays Mr. Barrow, "is a female reduced by this abfurd cuttom, and how little inducement can the have to render herfelf amiable or elegant, knowwho will give the price that her parents have fixed upon her charms." The man takes a wife because the laws of the country direct him to do fo, and cuttom has made it indifpenfable; and a woman after marriage continues to be the fame piece of inanimate furniture the always was in her father's house. She suffers no indignity, nor does she feel any jealoufy or diffurbance when her hufband brings into the same house a second or a third woman. Although polygamy be allowed by the government, yet few take the advantage of it. Nine-tenths of the community find it difficult to rear the offspring of one woman by the labour of their hands; fuch, therefore, are neither in circumstances, nor probably feel much inclination to purchase a second. The unfociable distance which the law prescribes to be obferved between the fexes, and the cool and indifferent manner of bargaining for a wife, are not calculated to produce numerous inflances of criminal intercourfe. Thefe, however, fometimes happen, and the weight of punishment always lies taining a fentence of divorce, after which he may fell her for a flave, and thus redeem a part at least of his purchafe-money. The fame thing happens in case a wife should clope; but if a young girl should chance to lose what is the is fent to market by her parents, and publicly fold for a flave. In cases of mutual dislike, or incompatibility of temper, the woman is generally fent back to her parents. The prohibition against the frequent intercourse with modest females, for there are public women in every great city, is more eager; it feems even to have the contrary effect, of promoting that fort of connection, which, being one of the greatest violations of the law of nature, will ever be confidered by an enlightened people as the first of moral crimes, tended with so little fense of shame, that many of the first pipe-bearer, who is generally a handsome boy, from 14 to' 18 years of age, and is always well dreffed, the reason of which is too obvious, to bye-standers, to be misinterpreted.

to promote the affection and kindness which children seel for their parents in many countries. A tyrant to command, of kindness and attention that create mutual endearments be wanting among the members of the fame family living under the large sphere of public life; and in fact there are no friendly focicties, nor meetings, to talk over the transactions and the news of the day. These can only take place in a free government. A Chinefe, having finished his daily employment, retires to his folitary apartment. There is, it is quented for the fake of company. Whenever a few Chinese meet together, it is generally for the purpose of gaming, or to eat a kettle of boiled rice, or drink a pot of tea, or smoke a pipe of tobacco. The upper racks indulge at home in the strictly prohibited by law. It is, however, too expensive to be used by the common people. The young have no occasional assemblies for the purpose of dancing, and of exercising themselves in seats of activity, which in Europe are at-tended with the happiest effects. The first day of the new year, and a few succeeding days, are the only holidays that are observed by the working part of the community. On these the poorest peasant makes a point of procuring new cloaths for himfelf and his family; they pay vifits to their friends and relations, interchange civilities and compliments, make and receive prefents; and the officers of government, and the higher ranks, give fealts and entertainments; but even in these there is nothing that bears the resemblance of conviviality. The guells never partake together of the fame fervice of difhes, but each has frequently a separate table; the eyes of all must constantly be kept on the master of the feast, to watch his motions, and to observe every morfel he puts into his mouth, and every time he lifts the cup to his lips (for a Chinese of good breeding can neither eat nor drink without a particular ceremony), to which the guests must pay attention. If a person invited should be prevented from attending, the portion of dinner that was intended for him is fent in procession to his own house; it is even customary to fend after the guest the remains of his dinner. Whatever may be the occasion of bringing together a few idlers, they feldom part without trying their luck at fome game of chance, for which a Chincle is never unprepared. He rarely goes abroad without a pack of cards in his pocket, or a pair of dice; both of these are different from similar articles elsewhere; their cards are much more numerous than ours, and their games much more complicated. They fometimes play at chefs, which appears to be effentially different from that game as played in other Oriental nations. The spirit of gaming is so universal, in most of the towns and cities, that, in almost every bye corner, groups are to be found playing at cards or throwing dice. They are accused of even staking their wives and children on the hazard of a which is as eagerly purfued by the upper classes in China, as the opper clairs in China, it continues to be by those in a similar situation in some parts of Europe. The training of quals for the same coal purpose of butchering each other, surnishes abundance of employment for the idle and diffipated. They have even extended their inquiries after fighting animals into the inor locust, that will attack each other with fuch ferocity, as feldom to quit their hold without bringing away, at the fame time, a limb of their antagonist. These little creatures are The flate of domeflic fociety in China is ill calculated kept apart in bamboo cages; and the cuftom of making them devour each other is fo common, that during the fummer ment where every man is fiable to be made a flave, where months fearcely a boy is feen without his cage and grafs- every man is fubject to be flogged with the bamboo, where

hoppers

Another trait in the Chinese character, which must not be passed over, is the horrid practice of infanticide, tolerated by custom, and allowed by government; because where the legislature does not interfere to prevent crimes, it may be faid to lend them countenance. The laws of China do not indeed suppose such an unnatural crime to exist, and have therefore provided no punishment for it. They have left the child entirely to the disposal of the father, concluding, that if his feelings will not prevent him from doing it an injury, no other confideration will. Thus, though the committion of infanticide be frequent in China, it is confidered as more prudent to wink at it, as an inevitable evil, which natural affection will better correct than penal statutes. It is, however, tacitly confidered as a part of the duty of the police of Peking, to employ certain persons to go their rounds at an early hour in the morning with carts, in order to pick up fuch bodies of infants as may have been thrown into the ftreets in the course of the night. No inquiries are made, but the bodies are carried to a common pit without the city walls, into which all those that may be living, as well as those that are dead, are said to be thrown promiscuously. The number of children thus inhumanly flaughtered, in the course of a year, is differently stated by different authors, fome making it about 10 and others 30,000 in the whole empire. Mr. Barrow thinks the truth may probably lie in the mean of these extremes. He concludes that about 24 infants are on an average daily destroyed in Peking, where it is supposed about an equal number are exposed, to that of all the other parts of the empire. How very weak then, fays he, mult, be the boafted filial affection of the Chinese for their parents, when they scruple not to become the murderers of their own children, towards whom, according to the immutable laws of nature, the force of affection will ever be ftronger, than for those, whom the laws of China, in preference, have commanded to be protected and supported when rendered incapable of affilting themselves. Hence, and from other facts, the result of his own observations, he infers that filial piety, among the Chinese, may rather be considered in the light of an ancient precept, carrying with it the weight of a politive law than the effect of fentiment. These unfavourable features, in the character of a people whose natural disposition is neither ferocious nor morose, but on the contrary mild, obliging, and cheerful, can be attributed only to the habits in which they have been 'trained, and to the heavy hand of power, perpetually hanging over them. That this is the case may be inferred from the general conduct and character of those who have from time to time emigrated into other countries, where they are not less remarkable for their honesty than for their peaceable and industrious habits. In these places it appears also that their quickness at invention is not surpassed by accuracy of imitation. The exterior deportment of every class in China is uncommonly decent, and all their manners mild and engaging; but even thefe, among persons of any rank, are confidered as objects worthy of the interference of the legislature; hence it follows that they are ceremonious without fincerity, Itudious of the forms only of politeness, withcut either the ease or elegance of good-breeding. An inferior makes a sham attempt to fall on his knees before his Superior, and the latter affects a slight motion to raise him. A common falutation has its mode prescribed by the court of ceremonies; and any neglect or default in a plebeian towards his fuperior is punishable by corporal chastifement, and in men in office by degradation or suspension. In a govern-VOL. VII.

every man is subject to be slogged with the bamboo, where he is compelled to thank the tyrant on his knees for the trouble he has taken to correct his morals, high notions of honour, or even of common honelty, cannot be expected. Such a fythem is well calculated to exclude and obliterate every notion of the dignity of human nature. A flave in fact cannot be dishonoured, the vices of such a condition are innumerable, and they appear on all occasions: a Chinese merchant will cheat, whenever an opportunity offers him the means, because he is considered incapable of acting honestly; a Chinese peasant will steal whenever he can do it without danger of being detected; because the punishment is only the bamboo, to which he is daily liable; and a Chinese prince, or a prime minister, will extort the property of the fubject, and apply it to his private use whenever he thinks he can do it with impunity. The only check upon the ra-pacity of men in power, is the influence of fear, arifing from the possibility of detection. The love of honour, the dread of shame, and a fense of justice seem to be equally unfelt by the majority of men in office. Mr. Barrow produces a variety of instances to prove that the character of the Chinese is generally defective in these respects; and he says that the refined knavery displayed by Chinese merchants in their dealings with Europeans, and the tricks that they play off in their transactions with one another, are well known to most nations, and proverbial in their own. A merchant, with them, is confidered as the lowest character in the country, as a man that will cheat if he can, and whose trade it is to create, and then supply artificial wants. To this general character, an exception is due to those merchants, who, acting under the immediate fanction of government, have always been remarked for their liberality and accuracy in their dealings with Europeans trading to Canton. The want of principle in the Chinese character seems to be more in the system. of government, than in the nature and disposition of the people.

The Tartars, by affuming the drefs, the manners, and the habits of the Chinese, are scarcely dillinguishable from them in their external appearance; and if any physical difference exists it seems to be in stature only. The Chinese are rather taller and of a more flender and delicate form than the Tartars, who are in general short, thick, and robust. The fmall eye, elliptical at the end next to the nofe, is a predominating feature both in the Tartar and Chinese countenance; they have both the fame high cheek-bones and pointed chins, which with the cultom of shaving off the hair gives to the head the shape of an inverted cone. The natural colour both of the Chinese and Tartars seems to be that tint between a fair and a dark complexion, and the shades of this complexion are deeper, or lighter, according as they have been more or lefs exposed to the influence of the climate. The women of the lower class, who labour in the fields or who dwell in veffels, are almost invariably coarse, ill featured, and of a deep complexion, very like that of a Hottentot. Among the men, those who are belt dressed wear a fort of velvet cap on their heads; a short jacket close buttoned round the neck and folded across the breast, the sleeves remarkably wide; the materials, cotton cloth; black, blue, or brown filk; or European camblet; they wear quilted petticoats and black fatin boots. The common people are dreffed in large itraw hats, blue or black cotton frocks, wide cotton trowlers, and shoes made of straw; some have coarse stockings of cotton cloth; the legs of others are naked, and a fingle pair of drawers constitutes the whole cloathing of a great portion of the crowd. On the banks of the Pei-ho, and indeed in most parts of the country, bunches of large artificial flowers,

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women, which is ferewed up close behind, and folded into a knot across the crown of the head. Two bodkins of filver, brafs, or iron, are conspicuously placed behind the head in the form of an oblique cross. Their faces and necks are daubed with white paint, the eye-brows are blackened, and on the centre of the lower lip, and at the point of the chin, are two spots about the fize of a small wafer, of a deep vermillion colour. A blue frock like that of the men, reaching in some to the middle of the thigh, in others to the knee, is almost universal. A pair of wide trowsers of different colours are extended a little below the calf of the leg, where they are drawn close, the better to display an ancle and a foot which, for fingularity at least, may challenge the whole world. This distorted member confists of a foot that has been cramped in its growth to the length of four or five inches, and an ancle that is generally fwollen in the fame proportion that the foot is diminished. The little shoe is as fine as tinfel and tawdry can make it, and the ancle is bandaged round with party-coloured cloths ornamented with fringe and taffels: with fuch a leg and foot thus dreffed out they are confidered in China superlatively beautiful. This monftrous fashion of cramping the growth of the feet has been attributed to the jealousy of the men. The fashion is, however, at present so universal, that any deviation from it is confidered as difgraceful. Upon the principle of being thought superior to others, the men of learning, as they call themselves, suffer the nails of their little fingers to grow, fometimes to the length of three inches, for the fole purpole of demonstrating the impossibility of their being employed in any fort of manual labour; and upon the fame principle, perhaps, the ladies of China may be induced to continue the cultom of maining their female infants in order that they may be distinguished from those of the peasantry, who in most of the provinces are condemned to submit to the drudgery of the field. The interior wrappers of the ladies' feet are faid to be feldom changed, a custom that conveys no favourable idea of Chinese cleanliness; this, indeed, forms no part of their character; the comfort of clean linen, or frequent change of under garments, is equally unknown to the fovereign and the pealant. A fort of thin coarse filks Supplies the place of cotton or linen, next the skin, among the upper ranks; but the common people wear a coarfe kind of cotton cloth. These vestments are rarely removed for the purpose of washing; the consequence is an abundant increase of those vermin, to the production of which filthiness is found to be favourable. The highest officers of state make no hesitation of calling their attendants in public to seek in their necks for those troublesome animals, which when caught they put between their teeth. They carry no pocket handkerchiefs, but make use of small square pieces of paper, which their attendants have ready prepared for the purpofe. They fleep at night in the fame cloaths they wear by day; their bodies are as feldom washed as their articles of dress. At their meals they make no use of table linen, and eat without knife, fork, or spoon; a pair of imall flicks, or the quills of a porcupine, are the only fubititutes or these convenient articles; and a Chinese, if his rank enables him, lies down to fleep as foon as he has finished his lonely meal. There are no inns in any part of this vast empire, that is, no inhabited and furnished houses where a traveller may purchase those refreshments of which he stands in need. What they call inns are mean hovels, confifting of bare walls, where, perhaps, a passenger may procure a cup of tea for a piece of copper money, and permission to pass the night, but this is the extent of the comfort which fuch places afford. The practice indeed of journeying by land

of different colours, are fluck in the jet black hair of the is fo rare, that no loufe of decent accommodation could women, which is forewed up close behind, and folded into a knot acrofs the crown of the head. Two bodkins of filver, of ficers of flate invariably make use of the conveniences bras, or iron, are conspicuously placed behind the head in which the temples afford, as being the best that can be obtained to the conveniences are taken to the form of an oblique cross. Their faces and pecks are

Buildings and Furniture of the Chinese. The Chinese buildings, even public monuments, and the emperor's palaces, strike more by their extent than their magnificence. The imperial palace at Peking may be compared to a large city: those of the princes, principal mandarins, and people of great fortune, contain four or five outer courts, in each of which is a feparate building with three gates; that in the middle is larger than the other two, and is decorated with two marble lions, which are placed on either fide of it. The halls fet apart for receiving vifits are neat, and provided with feats, and other plain furniture, but nothing can be perceived in them which marks either magnificence or grandeur. The apartment in which they entertain their friends is equally plain and simple. Those fet apart for their women and children are inacceffible to every stranger, even the most intimate friend of the master of the house. The Chinese gardens are laid out in a peculiar style. In these are groves, ponds, artificial mountains and rocks, and winding alleys, which conduct to different points of view, each of which prefents a new object. The Chinese are fond of every thing that is gigantic: with them the beauty of a column consists in its fize and height; and that of a hall in its extent. Two provinces, viz. Chan-tong and Kiang-nan, abound with excellent marble, and in quantities sufficient to supply the rest of the empire; but the Chinese are neither acquainted with the art of cutting it properly, nor of applying it to the purposes of building. They generally employ it in constructing bridges, for thresholds to the doors, and to pave their streets, where any of them are paved. Some triumphal arches, temples, and pagodas, are, however, built of it, but without art or taste. The Chinese exhibit but little attention in ornamenting and embellishing the interior part of their houses: they have neither mirrors, tapeftry, nor gilding. They, besides, receive no visits but in a particular hall, which is fituated in the front part of the house, and before every other apartment, for the purpose of preventing those who are admitted into it from having any communication with the inner apartment. Its ornaments confift of large lanterns made of painted filk, which are suspended from the ceiling, tables and other furniture, which are generally covered with a most beautiful varnish so transparent, that the veins of the wood may be feen through it, and fo bright and shining, that it reflects different objects, like filvered glass. The fort of tapellry manufactured in China. is of white fatin, on which are wrought birds, flowers, landscapes, &c. Sometimes they contain, in large characters, a few moral fentences, which generally compose a kind of enigma. Poor people are contented with whitening the walls of their apartments; others cover them with that fort of paper which is brought from China, and which people of fortune, in Europe, used formerly to employ in ornamenting some part of their's. The beds of the rich are furnished in winter with curtains of double fatin, and in summer of plain white taffety, interspersed with slowers, birds, and trees: fometimes they are composed only of very fine gauze, which keeps out gnats and mosquitoes, and leaves a free pal-The posts of these beds are gilt, painted fage for the air. and ornamented with what they denominate sculpture. The common people use curtains only of linen, and plain mattreffes, fluffed with cotton; in the northern provinces they fleep upon beds constructed of brick. These fingular beds are larger or fmaller in proportion to the number of the fa-

mily. They are kept warm by means of a fmall flove. Those who are able place on the bricks a kind of mattress. In the morning this is removed, and its place is supplied by a carpet, or mat; the bed then becomes a fort of couch, upon which the whole family fit and work. At the floves the poor people drefs their meat and warm their tea and other liquors, for, notwithstanding the heat of the climate, they ne-

ver drink any thing cold. In the houses of the great the floves are built in the wall, and the fire is lighted from the outfide. Language and Literature. The Chinese language is not only one of the most ancient in the universe, but is, perhaps, the only language of the early ages, which is still spoken and living: it is indeed as extraordinary, as the people who fpeak it, and has no relation whatever to any known lan-guage. Its genius is such that no laws of analogy can com-prehend it. It has no alphabet, and the words which compose it consist of one syllable only, and are very few in number. These words always remain the same; that is to say, monofyllables, even when two are united to fignify one fingle thing: whether they are written or pronounced, they remain always feparate and diffinct, and are never blended These monofyllables never produce but one found. When they are written by the European alphabet, they begin by the letters ch, tch, f, g or j, i, h, l, m, n, ng, p, s, ts, v, ou; the final letters are a, e, i, o, oi, ou, u, l, n, gu. The middle of Chinese words consists of vowels and confonants, which produce only one found, and are always pronounced as monofyllables. The Chinefe language contains only about three hundred and thirty primary and radical words; though fome dictionaries make them amount to four hundred and eighty-four. The fense of these primitive words may be multiplied almost without end, by the abundance and variety of accents, inflections, and afpirations used, and by other changes of the voice which pronounces them. The nice dillinctions between the tones and accents of words, nearly refembling each other in found, but varying much in fense, require a great nicety of ear to diftinguish, and of vocal powers to render them exact. To succeed in making those distinctions perfectly, a stranger should begin to learn them at an early age, while his organs are flexible and acute. Synonymous words are frequently introduced into Chinese dialogues to prevent any doubt about the fense. If, however, in an intricate discussion any uncertainty should still remain as to the meaning of a particular expression, recourse is had to the criterion of tracing, with the finger in the air, the form of the character, and thus completely afcertaining at once what was meant to be expressed. In the Chinese language there are not many minute rules of grammar, conjugation or declention. There is no necestity of distinguishing substantives, adjectives, or verbs; nor any accordance of gender, number, and case, in a Chinese sentence. The beginning or end of words is not altered as it is in the Greek erb, by the times of performing the action meant to be expressed, or the cases in which the things mentioned are intended to be placed. A very few particles denote the past, the prefent, and the future; nor are those auxiliaries employed, when the intended time may be otherwise inferred with certainty. The plural number is marked by the addiion of a word, without which the fingular is always implied. Neither the memory, nor the organs of speech, are burhened with the pronunciation of more founds to express ideas, han are absolutely necessary to mark their difference. A ingle fyllable always expresses a complete idea, and may be ounded by an European conf nant preceding a vowel, someimes followed by a liquid. Such an order of words renlers the language foft and harmonious as the Italian, from he rarity of confonants, and the frequency of its vowel

terminations. There is in the Chinese a certain order or settled fyntax in the fuccession of words in the same sentence: a succession fixed by custom differently in different languages. The formation of Chinese sentences is often the simplest and most artless possible, and such as may naturally have occurred at the origin of fociety. A simple character repeated, stands sometimes for more than one of the objects which singly it denotes; and sometimes for a collective quantity of the same thing. The character of moo, fingly, is a tree; repeated, is a thicket; and tripled, is a forelt. In Chinese there are scarcely fifteen hundred distinct sounds. In the written language there are, at least, eighty thousand characters, or different forms of letters.

The Chinese characters are divided into fix forts; the first exhibiting the shape or image of sensible things; the second indicating the object by some visible addition to the shape or symbol; the third affociating two characters to express an object, which neither will denote feparately; the fourth expressing a found, in order to supply the defect of the figure, as ya adjoined to the figure of a bird, to represent a duck, &c.; the fifth being a metaphorical application of their characters, by which their language acquires a force and vivacity of colouring peculiar to itself, but at the same time rendering it extremely obscure; the fixth extending the primitive fense of a character, so that the same character may denote a verb or adverb, an adjective or fubstantive. These characters have been represented by some learned writers for fensible things, and symbols for mental objects, which are tied to no found, and may be read in every tongue; and this feems to have been the cafe in the most remote antiquity, when their characters, which are now abbreviated and disfigured, might have been more simple and natural. See Phil.

Tranf. vol. lix. p. 489.

The characters of the Chinese language were originally traced, in most instances, with a view to express either real images, or the allegorical figns of ideas: a circle, for example, for the fun, and a crelcent for the moon. A man was represented by an creek figure, with lines to mark the extremities. The difficulty and tediousness of imitation, foon occasioned a change to traits more simple, and more quickly traced. A faint refemblance, however, still remains, in a few instances, of the original forms in the present hieroglyphic characters; and a gradation of their changes is traced in feveral Chinese books. Not above half a dozen of the prefent characters confit each of a fingle line; but molt of them confilt of many, and a few even of seventy different strokes. A certain connexion is to be perceived in the arrangement of the written characters of the Chinese; as if it had been originally formed upon a fystem to take place at once, and not to grow up, as other languages, by flow and dillant intervals. Upwards of two hundred characters, each confifting of a few lines, are made to mark the princi-pal objects of nature. These may be considered as the genera or roots of language, in which every other word or species, in a systematic lense, is referred to its proper genus. The heart is a genus, of which the representation of a curve line approaches somewhat to the form of the object, and the species referable to it, include all the sentiments, pasfions, and affections, that agitate the human breaft. Each species is accompanied by some mark denoting the genus. or " heart." Under the genus "hand" are arranged most trades and manual exercises. Under the genus "word," every fort of speech, study, writing, understanding, and debate. A horizontal line marks a unit; croffed by another line it stands for ten. The five elements, of which the Chincle suppose all bodies in nature to be compounded, form fo many genera, each of which comprehends under it a great

number of species. As in every compound character or species, the abridged mark of the genus is discernible, a perfon is foon enabled to confult the Chinese dictionary, in which these characters are arranged under their proper genera. The characters of the genera are placed at the be-ginning of the dictionary, in an order, which, like that of the alphabet, is invariable, and foon becomes familiar to the learner. The species under each genus follow each other, according to the number of strokes of which each confilts, independently of the one or few which ferve to point out the genus. The species wanted is thus foon found out, and its meaning and pronunciation are given through other words in common use, the first of which denotes its fignification, and the other its found. When no one word is found to render exactly the same found, it is communicated by two words, with marks to inform the inquirer, that the confonant of the first word, and the vowel of the second, joined together, form the precise found wanting. The composition of many of the Chinese characters often displays considerable ingenuity, and ferves to give an infight into the opinion and manners of the people. The character expreffive of happinels, includes abridged marks of land, the fource of their physical, and of children, that of their moral, enjoyments. This character, embellished in a variety of ways, is hung up

in almost every house. Upon the formation, changes, and allusions of compound characters, the Chinese have published many thousand volumes of philological learning. No where does criticism more abound, or is more strict. The introduction or alteration of a character is a ferious undertaking, and feldom fails to meet with opposition. The most ancient writings of the Chinese are still classical among them. The language seems in no instance to have been derived from or mixed with any other. The written feems to have followed the oral language, foon after the men who spoke it were formed into a regular fociety. The Chinese printed character is the same as is used in most manuscripts, and is chiefly formed of straight lines in angular positions, as most letters are in eastern tongues. A running hand is used by the Chinese only on trivial occasions, or for private notes, for the ease and expedition of the writer; and differs from the other as much as an European manuscript does from print. The principal difficulty in the study of Chinese writings, arises from the general exclusion of the auxiliary particles of colloquial language, that fix a relation between indeclinable words, fuch as are all those of the Chinese language. The judgment must be constantly exercised by the student, to supply the absence of fuch assistance. That judgment must be guided by attention to the manners, cultoms, laws, and opinions of the Chinese, and to the events and local circumstances of the country, to which the allufions of language perpetually refer. The Chinese characters are sketches, or abridged figures; and a fentence is often a string of metaphors. The different relations of life are not marked by arbitrary founds, fimply conveying the idea of fuch a connection, but the qualities naturally expected to arife out of fuch relation become frequently the name by which they are respectively known. Kindred, for example, of every degree is thus dillinguished, with a minuteness unknown in other languages. That of China has diffinct characters for every modification known by them of objects in the phyfical and intellectual world. Abstract terms are no otherwise expressed by the Chinese than by giving to each the name of the most prominent objects to which it might be applied, which is likewife indeed generally the case of other languages. Among the Latins the abstract idea of virtue was expressed under the name of

virtus, being the quality most esteemed among them, as filial

piety is confidered to be in China. The words of an alphabetical language being formed of different combinations of letters, each with a different found and name, whoever knows and combines these together, may read the word without the least knowledge of their meaning; this, however, is not the case with hieroglyphic language, in which each character has a found annexed to it, but which bears no certain relation to the unnamed lines or strokes, of which it is composed. Such character is fludied and best learned by becoming acquainted with the idea attached to it; and a dictionary of hieroglyphics is less a vocabulary of the terms of one language with the correspondent terms in another, than a Cyclopædia containing explanations of the ideas themselves, represented by such hieroglyphics. In such sense, only, can the acquisition of Chinese words be justly said to engross most of the time of men of learning among them. Enough, however, of the language is imperceptibly acquired by every native, and may, with diligence, be attained by foreigners, as far as

concerns the ordinary concerns of life.

We now proceed to the literature of the Chinese. In their language are a multitude of books, abounding in ulcful knowledge; but the highest class confifts of five works: one of which, at least, every Chinese who aspires to literary fame must diligently peruse. The first is purely historical, containing annals of the empire from 2337 years before Christ; it is entitled Shuking, and a version of it has been published in France. The second claffical work of the Chinese contains three hundred odes, or fhort poems, in praise of ancient sovereigns and legislators, or descriptive of ancient manners, and recommending an imitation of them in the discharge of all public and domeltic duties. They abound in wife maxims, and excellent precepts, their whole doctrine being reducible to this grand rule, "that we should not even entertain a thought of any thing base or culpable." So high an opinion do the Chinese entertain for this work, that one of their writers asks, " Why, my fons, do you not fludy the book of Odes? If we creep on the ground, if we lie ufeless and inglorious, those poems will raife us to true glory : in them we fee, as in a mirror, what may best become us, and what will be unbecoming; by their influence we shall be made social, assable, benevolent : for, as music combines sounds in just melody, so the ancient poetry tempers and composes our passions. The Odes teach us our duty to our parents at home, and abroad to our prince; they instruct us also delightfully in the various productions of nature," " Haft, thou studied," faid the philosopher to his fon, " the first of the three hundred odes? He who studies them not, refembles a man with his face against a wall, unable to advance a step in virtue and wisdom." Most of these odes are three thousand years old. The work is printed in some volumes. The third book is entitled Teking, or the book of changes, believed to have been written by Fo, the Hermes of the East, and confisting of right lines variously disposed; it is, however, fearcely intelligible to the most learned manda-Confucius, himfelf, being diffatisfied with the comrins. mentators upon it, intended to have elucidated it, but was prevented by death. The fifth, or Liki, is compiled from old monuments, and confilts chiefly of the Chinese ritual, and of tracts on moral duties; but the fourth, entitled Chung-Cia, or Spring and Autumn, by which the writer meant the flourifhing state of an empire under a virtuous monarch, and the fall of kingdoms under bad governors, is an interetting work to every nation. The Chinese have their stanzas, odes, egies, ecloques, epigrams, and satires. The common people also have ballads and songs peculiar to themselves. Some of the most distinguished of the literati have even thought it of importance to turn into verse the celebrated maxims of mo-

rality, the duties of the different conditions, and the rules of civility for their use. Seldom is the Chinese poetry diffraced by obscenity, and if it ever happens, the author mult pay dear for it if his works fall into the hands of government. It is in consequence of that rigid and severe attention which watches over every thing in the least tending to corrupt public manners, that all romances, without exception, are expressly prohibited by the laws. The police, however, less fevere than the law, permits fuch novels and romances as have an useful tendency, and in which nothing is found prejudicial to morality. Every author who writes against government is punished with death, as well as all those who have had any hand in the printing or circulation of his works. The rules of dramatic composition established in Europe are not known to the Chinese. They neither observe our unities, nor any thing that can give regularity and probability to the plot. Their dramas do not represent a single action; they exhibit the whole life of a hero, and this representation may be supposed to continue forty or fifty years. The representation of thefe is thus described by fir George Staunton. "The company of actors successively exhibited, during a whole day, feveral different pantomimes and historical dramas. The performers were habited in the ancient dreffes of the Chinefe, at the period when the personages represented were supposed to have lived. The dialogue was spoken in a kind of recita. tive, accompanied by a variety of mufical instruments; and each paule was filled up by a loud crash, in which the loo bore no inconfiderable part. The band of music was placed in full view, immediately behind the stage, which was broad, but by no means deep. Each character announced, on his first entrance, what part he was about to perform, and where the feene of action lay. Unity of place was apparently preferved, for there was no change of scene during the reprefentation of one piece. Female characters were performed by boys or eunuchs."

Chinese Education. According to the book of ceremonies, the education of a child should commence at the moment of its birth: it allows nurses, but enjoins mothers to use the greatest precaution in choosing them. As foon as a child can put its hand to its mouth, it is weaned, and taught to use its right hand. At the age of six, he is made acquainted with the numbers most in use, and with the first principles of geography. At feven he is separated from his fifters; after which he is no longer fuffered to eat with them, nor to fit down in their presence. At eight he is instructed in the rules of good-breeding and politeness. The calendar becomes his fludy at the age of nine. At ten he is fent to school, where he learns to read, write, and cast accounts. From thirteen to fifteen he is taught mulic; after which he is instructed in the use of the bow and arrow, and how to mount a horse. When the Chinese youth have attained to the age of twenty, they receive the first cap, if they are judged to deferve it : they are then permitted to wear filk dreffes, ornamented with furs; but before that period they have no right to wear any thing but cotton. In their mode of instruction, the Chinese select some hundreds of characters that express the commonelt objects, or those at least which fall most frequently under the perception of the fenses, such as a man, some domestic animals, ordinary plants, the most useful furniture of a house, the fun, the moon, and even the heavens. These objects are ongraved or painted separately on certain substances, and under each is put the name of the thing represented, which points out to the children the meaning of the word. The first book put into the hands of a child is a collection of short fentences, confilling of three or four verles each. They are

obliged to give an account in the evening of what they have learned in the day. Youth in China have no relaxation from the feverity of their studies, but at the commencement of the new year, and a few days at Midsummer. After this elementary treatife, they have to learn the books that contain the doctrines of Confucius and Mencius; and while they are learning by heart all the characters, they are taught to form them with a pencil: for this purpole they have leaves of paper given them, on which are written or imprinted with red ink very large characters; these they are required to cover with black ink, and to follow exactly their shape and figure, which infentibly accultoms them to form the different itrokes. After this they are made to trace other characters, placed under the paper on which they write; thefe are black and smaller than the former. It is of great advantage to the Chinese literati to be able to paint characters well, because a deficiency in this respect will frequently occasion a student to be rejected at his examinations when he is candidate for his degrees. When a pupil has made himself master of a sufficient number of characters, he is put upon composition. To incite the youth to improvement in this part of their education, there is a fort of competition established in China. Twenty or thirty families, who are all of the fame name, and who confequently have only one hall for the manes of their ancestors, agree among themselves to fend their children to this hall at flated times in order to compose. Each head of a family in turn gives a subject for literary contest, and adjudges the prize; but the exercise of this privilege lays him under the necessity of being at the expence of a dinner, which by his orders is carried to the hall of competition. These contests are private, and have no concern with the rules laid down for public education; but every student is obliged to undergo an examination, at least twice a year, under the inspection of an inferior man-darin of letters. This practice is general throughout all the provinces in China. It happens frequently, that the mandarins of letters order these students to be brought before them, to examine into the progress they have made in their studies, and to excite a spirit of emulation among them. Even the governors of cities do not think it below their dignity to take this care upon themselves. They order all the students, who are not far distant from their refidence, to appear at their tribunal once a month. The author of the best composition is honoured with a prize, and the governor treats the candidates on the day of competition at his own expence. To encourage learning, there are in every city, town, and almost in every village, masters who keep schools, for the purpose of teaching what they call the fciences. Befides this, parents, possessed of the means, provide preceptors for their children, to attend and instruct them, to form their minds to the principles of virtue, and to initiate them in the rules of good breeding and the accustomed ceremonies, and, if their age will admit of it, to make them acquainted with the laws, and with the knowledge of hillory. To give dignity to the examinations, the building in which they are held has always fomething to diffinguish it, even in the smallest cities; but in those denominated capitals of provinces, it is a real palace. When the competition begins, the fludents are all flut up, each in a small chamber, care being first taken that no one conposition. They are forbidden, under the severest possible penaltics, to carry any thing with them into their closet but pencils and ink; and from that moment they are allowed to have no communication with any one.

In connection with this part of our jubject we may notice,.

deference and modelly; he does not even call himfelf the ion, but the grandfon, though he may be the eldeft of the famany, and perhaps the father of many children himfelf. He will also often make use of his own name, that is, the name that he possesses at that period, for the Chinese have differ-The family name is that which is given them at their birth : a month after, the parents give a diminutive name to their fon, which is generally that of a flower, animal, &c. This name is changed when the youth begins to make progress in his education at a public school, and the matter beslows upon him fome flattering appellation, which the pupil adds to his name. When he has attained to manhood, he requetls a new name from his friends, and this he retains during life, unless he has the good fortune to rife to some diguity in the state, when he is honoured with one that corresponds with his talents and office. No other must be

afterwards given him, not even that of his family. Religion of the Chinefe. The primitive religion of China, or at least those opinions, rites, and ceremonies, that prevailed in the time of Confucius, and before that period all feems to be fable and uncertainty, may be pretty nearly afcertained from the writings afcribed to that philosopher. He maintains that out of nothing there cannot possibly be produced any thing; that material bodies must have existed from all eternity; that the cause or principle of things must have had a co-exittence with the things themselves; that therefore this cause is also eternal, infinite, indestructible, without limits, omnipotent, and omniprefent; that the central point of influence from which this cause acts, is the blue firmament, from whence its emanations spread over the whole universe; that it is, therefore, the supreme duty of the prince, in the name of his subjects, to present offerings to Tien, and particularly at the equinoxes, the one for obtaining a propitious feed-time, and the other a plentiful harvest. These offerings to the deity were always placed on a large itone, or heap of itones, erected on the fummit of a high mountain, on the supposition that their influence would be fo much the greater, in proportion as they should approach the feat and fountain of creating power, like the ancient Persians, who considered the circle of the heavens to be the ruling power of the universe, to which they also sacrificed on high mountains. To the same principle Tacitus refers, observing that the nearer mortals can approach the beavens the more distinctly will their prayers be heard. Noah also, after quitting the ark, built an altar on the mountain where it refted, and made a burnt offering, the imoke of which afcending unto heaven, was pleafing to the Lord. Abraham was commanded to offer his only fon Lianc on a mountain, and Balaam ascended to the top of Mount Pifgah, to offer a facrifice and to curfe Ifrael. Thus all nations in their infancy feem to have adopted the natural idea of paying adoration to heaven from high places. The large stones or heaps of stones, that have been appropriated to religious uses in almost every part of the world, may have been introduced from the cultom among favage nations, to mark with a great stone the place where their worthies were interred; fuch being at length deified in the opinions of their votaries, the flones that were dedicated to their memory were used in their religious worship. The peculiar homage, that, from time immemorial, has been paid to the memory of the dead by the Chinese, renders probable this explanation of the origin of their altars, or four stones, which are called Tan, and which in former times were erected on most of their high mountains. At the present day the Tan is re-

that a fon who speaks to his father does it with the greatest presented, upon many of the altars ercced in their temples, by four loofe flones placed in the corners of the altar, as the horns were in the corners of the Jovith altars. As the people increased and spread over the empire, the inconvenience of afcending any particular mountain was felt, and the Tan was then transferred to places better adapted to general accommodation. In the city of Peking, which stands on a fandy plain, the tien tan, or altar of heaven; the tee-tan, or altar of earth; and the fien nong-tan, or altar of ancient agriculturifls, are erected on artificial mounts, within the walls of the palace; and here the emperor continues, to this day, to facrifice at appointed times, exclusively, as the fon of heaven, and the only being on earth worthy to intercede for his people. The same doctrine prevailed in the time of Confucius, who observes that the distance between the all-creative power and the people is fo immeasurably great, that the king, as high prieft, can alone offer fuch a facrifice; and that this power is best satisfied when man performs the moral duties of life, which coufift chiefly in filial piety, and unlimited obedience to the will of the prince. In the writings of Confucius appears a strong predilection for predicting events by the mystical lines of Fo-shee. By the help of these lines, he pretended to foretel the events that would take place for a confiderable length of time. This manner of expounding the lines of Fo-fnee by Confucius, the supposed lystem of binary arithmetic by Leibnitz, laid the foundation of consulting future deltiny, at this day universally sought after by the Chinefe. Government even grants licences to certain persons, who pretend to predict events and cast out evil fpirits by a charm, confisting of some character written by them, according to the supposed prevailing planet. Predestination in all ages has formed one of the leading features of popular religion, but the Chinese confine the influence of lots to the events of this life. Other parts of the doc-trine of Confucius were well calculated to keep alive the fuperstitious notions that still prevail among the Chinese multitude. He taught them to believe that the human body was composed of two principles, the one light, invisible, and afcending; the other gross, palpable, and descending; that the separation of these principles causes the death of man, when the light part ascends into the air, and the gross finks to the earth. The word death never enters into the philosophy of Confucius, nor is it even now employed by the Chinese. When a person departs this life, the common expression is, he is returned to his family, and it was on this ground, that it became the indispensable duty of every good man to observe a strict obedience in the performance of the facred rites in the temple confecrated to the memory of ancestors. He maintained that all who neglected this duty, would, after death, be deprived of the privilege of vifiting the hall of ancestors, and of the pleasure arising from the homage bestowed by their descendants. Such a syttem could not fail to establish a belief in good and evil spirits prefiding over families, towns, cities, houses, mountains, and other particular places. Neither Confucius nor any of his disciples attached the

idea of a perfonal being to the deity; nor does it feem ever to have entered into their minds to represent their first cause under any image or personification. They considered the sun, moon, stars, and the elements, with the azure sirmament, as the creative and productive powers, the immediate agents of the deity, and inseparably connected with him, and they offered adoration to these agents, united in one word, Tien (Heaven). The disciples of Confucius, like the floics, confider the whole universe as one animated syftem made up of one material substance and one spirit, of which

every living thing was an emanation, and to which, when separated by death, from the material part it had animated, every living thing again returned. But what has been esteemed surprising is, that the followers of Confucius have never erected any statue to his memory, nor paid him divine honours, as has been erroneously supposed. In every city is a public building, in which examinations for public offices are held, and this building is called the house of Confucius. Here on certain days the men of letters affemble to pay respect to the memory of their philosopher. In the great hall, appropriated for this ceremony, a plain tablet is erected with an infcription to this effect: " O Cong-foo-tfe, our revered mafter, let thy spiritual part descend, and be thou pleased with this token of respect which we now offer unto thee." Fruit and wine, flowers and perfumes, and other articles are then placed before the tablet and fcented gums, frankincense, and tapers of fandal wood are at the same time This ceremony is in every respect the same as that which Confucius taught to be observed towards the manes of departed relations, who are thought to delight in hovering over the grateful odour of fruits, flowers, and the smoke of incense.

Another religion sprung up shortly after the death of Confucius. A man of the name of Lao-kung, having travelled into Tibet, became acquainted with the worship of the priefts of Lama, which he thought would fuit his countrymen, and he accordingly established a fect under the name of Tao-tze, or fons of immortals. He maintained, like Epicurus, that to live at eafe and make himfelf happy were the chief concerns of man. The doctrine of immortality, a branch of the Metempsycosis, was converted by Lao-Kung, into the art of producing a renovation of the faculties in the fame body, by the means of certain preparations taken from the three kingdoms of nature. The infatuated people flew with avidity to the fountain of life. Princes fought after the draughts that should render them immortal, but which, in fact, in numerous instances, brought on premature death. Confiltent with the principle of " taking no thought for the morrow," the priefts of Lao-kung devoted them-felves to a state of celibacy, as being more free from cares and the incumbrances which necessarily attend a family connexion; and, the better to accomplish this end, they affociated in convents. Here they practifed all manner of incantations, and their fucceffors perform their magic tricks as they march in procession round the altar, on which the facred flame is supposed to be kept continually burning. They chaunt in unison a kind of recitative, and they bow their heads obfequiously every time they pass before the front of the altar. The great Gong is struck at intervals, accompanied by tinkling founds, emitted by gently striking small metal plates, sufpended in a frame. Their temples are crowded with large and monstrous figures, some made of wood, some of flone, and others of baked clay, daubed over with paint and varnish, and sometimes gilt. To these figures, however, they do not feem to pay any homage, but they are intended to reprefent good and evil genii under the various passions to which human nature is liable.

About the year 65 of the Christian eva, the sect of Fo was introduced into China from Hindostan. The name was derived from the idol. Fo, supposed to be the Boodh of Hindostan, and the chief tenets are those of the Hindoss, among which is the metemptycosts, or transition of souls from one animal to another. The priess are denominated bonzes, and Fo is supposed to be gratified by the savour shewn to his servants. Since the sitteenth century, many of the Chinese literati have embraced a new system, which acknowledges an universal principle, under the name of Taiki,

feeming to correspond with the foul of the world of some ancient philosophers. This opinion may indeed deserve the name of atheifm, but it is confined to very few; and the Chinese are so far from being atheists, that they go into the opposite extreme of polythesim, believing even in petty demons, who delight in displaying minute acts of evil or good. There is in China no state religion, none is preferred or encouraged by it; the emperor is of one faith, many of the mandarins of another; and the majority of the common people of a third, which is that of Fo. This last class, the least ca-pable, from ignorance, of explaining the phenomena of nature, and the molt exposed to wants which it cannot supply by ordinary means, is willing to recur to the supposition of extraordinary powers, which may operate the effects that it cannot explain, and grant the requelts which it could not otherwife obtain. The Chinese have no Sunday, nor even such a division of time as that of a week. The temples are open every day for the vifits of devotees, and perfons of that description have, from time to time, made grants, though to no great amount, for the maintenance of their clergy; but no lands are fubject to ecclefiaftical tythes. The common Chinefe are remarkably superstitious: besides the habitual offices of devotion, the temples are particularly frequented by the difciples of Fo, previously to any undertaking of importance; whether to marry or to go a journey, or conclude a bargain or change fituation, or for any other material event of life, it is necessary first to consult the superintendant deity. This is performed by various methods. Some place a parcel of confecrated flicks differently marked and numbered, which the confultant, kneeling before the altar, shakes in a hollow bamboo till one of them falls on the ground; its mark is examined, and referred to a correspondent mark in a book which the priest holds open, and fometimes even it is written upon a fheet of paper pasted upon the inside of the temple. Polygonal pieces of wood are by others thrown into the air, each fide of which has its particular mark; the fide that is uppermost when fallen on the sloor, is referred to its corre-spondent mark in the book of sate. If the first throw be favourable, the person who made it, prostrates himself in gratitude, and undertakes, in confidence, the bufiness in agita-But if the throw be adverse, he tries a fecond time, and the third throw determines, at any rate, the question. In other respects, the people of the present day seem to pay little attention to their priefts. The temples are, as we have observed, always open to such as choose to consult the decrees of heaven. They return thanks when the oracle proves propitious to their wishes. Yet they more frequently calt lots to know the iffue of a projected enterprize, than to fupplicate for its being favourable; and their worship confitts more in thankfgiving than in prayer. Although the religion of Fo teaches the doctrine of the transmigration of fouls, and promifes future happiness to the people, on certain conditions, yet the Chincfe feldom carry the objects, to be obtained by their devotion, beyond the benefits of the present life.

The temples of Fo abound with more images than are found in most Christian churches, and some that bear a greater analogy to the ancient than to the present worship of the Romans. One figure, representing a female, was thought to be something similar to Lucina, and is particularly addressed by unmarried women wanting husbands, and married women wanting children. The doctrine of Fo, admitting of a subordinate deity particularly propitious to every wish which can be formed in the human mind, would feareely fail to spread among those classes of the people, who are not satisfied with their prospects, as resulting from the natural causes of events. Its progress is not obstructed by the

government of the country, which never interferes with mere opinions. It prohibits no creed which is not supposed to

Afficht the tranquillity of fociety.

Foneral rites may be reckoned among the Chinefe religious cultoms. Formerly it was ufual to bury flaves alive with their dead emperors, but this cruel practice has given way to that of burning reprefentations of their domettics in tin-foil, cut into the shape of human beings, and of placing their flatues, in wood or flone, upon their graves. The Chinese burying-places, planted with cyprels trees, are at a distance from any church or temple, and are no otherwise confecrated than by the veneration of the people, the remains of whose ancestors are depolited in them. The people preferve those facred repolitories with all the care they can afford to bellow upon them. They vifit them annually, repair any breaches that accidents may have made, and remove any weeds that may have grown. No person is allowed to be buried within a city, and where there is ground that cannot be cultivated, it is always prefered for places of interment, as less liable to be disturbed; yet the meanest peafant will respect the spot over which a heap of earth denotes a repository of the dead beneath. The last remains of a relation are interred with all the honours which the family can afford. The lofs of a parent in China is esteemed the greatest that can happen to any one, and the fentiment of affection and respect towards such, while living, is not fuddenly extinguished in the breast of the furvivors. The heart is indulged and confoled by paying fuperfluous duties to the manes of the deceased. The dictates of nature in this inflance are enforced by the moral laws which govern the empire. Every institution tending to maintain the habits of affectionate regard of offspring towards their progenitors, is fanctified into a precept, not to be neglected but at the peril of being accounted infamous. The funeral processions of the great officers of state, sometimes extend for nearly half a mile in length. In the front marches a priest uncovered, next a group of musicians with flutes, trumpets, and fymbols; after these the male relations of the deceased, in long white frecks, and behind them the chief mourner, supported by two friends, whose exertions to prevent him from tearing his cheeks and hair appear ridiculous; next follows the coffin, covered by a magnificent canopy, and borne generally on the shoulders of men; after the canopy, the female relations proceed in chairs, or in little covered carts, wearing white frocks like the men, their hair dishevelled, and broad white fillets bound across their foreheads. Over the mourners are carried umbrellas, with deep curtains hanging from the edges. Several persons are employed to burn circular pieces of paper, covered chiefly with tin-foil, as they pass by burying-places and temples. These pieces, in the popular opinion, like the coin to Charon for being conveyed to the Elyfian fields, are understood to be convertible, in the next stage of existence, into the means of providing the necessaries of that new life. Notwithstanding the philosophical doctrines of the learned Chinese, which exclude all notions not confonant with reason, as well as the reality of all beings not referable to the fenses, they often yield, in practice, to the notions of the vulgar. The people, among other superstitions, are particularly scrupulous about the time and place of burying their dead. The delay occafioned before those difficult points are ascertained, has often detained the coffins of the rich from their last repository; many are seen in houses and gardens under temporary roofs to preferve them, in the mean time, from the weather; but necesfity obliges the poor to overcome many of their scruples in this respect, and to deposit at once, and with very little ceremony, the remains of their relations in their last abode.

The cometeries of the dead exhibit a much greater variety of monumental architecture than the dwellings of the living can boalt. Some, indeed, deposit the remains of their anceltors in houses, that differ in nothing from those they inhabited while living, except in their diminutive fize; others prefer a square vault, ornamented in such a manner as fancy may sugothers of an octagon. The round, the triangular, the fquare, and multangular column, is indifferently raifed over the grave of a Chinese; but the most common form of a monument to the remains of persons of rank, confists in three terraces one above another, enclosed by circular walls. The door of the vault is in the centre of the uppermost terrace, covered with an appropriate inscription; and figures of flaves and horfes, and cattle, which, when living, were fubfervient to them, and added to their pleasures, are employed after their death to decorate the terraces of their tombs.

The celebration of marriage, oftentatious, and, indeed, expenfive as it is, is yet interior to that of funerals in the fame rank of life. Its pomp, was probably, in the origin, fug-gested by the parents of the parties. They naturally wished to give dignity to an union of their choice, and to mark it with a folemnity tending to render the tie more facred and more durable. But the impulse which unites the fexes did not require the aid of public festivals. Sir George Staunton describes both a funeral and marriage procession, which he witnessed at the same time. Speaking of the former, he fays, "it was moving towards the gate in which the white or bridal co'our, according to European ideas, of the perfons who formed it, feemed at first to announce a marriage ceremony; but the appearance of young men overwhelmed with grief shewed it to be a funeral, much more, indeed, than the corfe itself, which was contained in a handsome square case, shaded with a canopy, painted with gay and lively colours, and preceded by flandards of variegated filks. Behind were fedan chairs covered with white cloth, containing the female relations of the deceased; the white colour, denoting, in China, the affliction of those who wear it, is studiously avoided by such as wish to manifest fentiments of a contrary kind; it is, therefore, never feen in the ceremony of nuptials, (met foon afterwards), where the lady, as yet unfeen by the bridegroom, is carried in a gilt and gaudy chair, hung round with ferbooks of artificial flowers, and I is lowed by relations, attendants, and fervants, bearing the paraphernalia, being the only portion given with a daughter in marriage by her parents.

Among the religious ceremonies of the Chinese must be noted their festivals, the first of which is kept on the emperor's anniverlary. This fettival may be confidered as lasting several days. The first is consecrated to the purpose of rendering a facred and devout homage to the supreme majesty of the emperor. The prince's embasfadors, and great officers of thate, are affembled in a large hall; and, upon particular notice, they are introduced into an inner building, like a temple, which is chiefly furnished with instruments of music; among these are fets of cylindrical bells, suspended in a line from ornamented frames of wood, and gradually diminishing in fize from one extremity to the other, and also triangular pieces of metal arranged in the same order as the bells. To the sound of these instruments a flow folemn hymn is fung by the cunuchs, who have such a command over their voices as to produce the effect of mufical glatfes at a diffance; the performers are directed in gliding from one tone to another by the thriking of a shrill and sonorous cymbal. During the performance, and at particular fignals, nine times repeated, all the perfons present prostrate themselves, nine times, except the emperor, who continues, as if it were an imitation of the deity, fuperiority affected by the Chinele court. But when the invitible the whole time.

The celebrated feaft of lanterns, when the whole country is lighted up, from one extremity of the empire to the other, in every possible way that fancy can suggest, is an ancient religious ulage, of which, at the present day, they can give no plaufible account. It has been supposed that it may be derived from a common origin, with an annual illumination of the fame kind mentioned by Herodotus; which was generally obferved, from the cataracts of the Nile to the borders of the Mediterranean, by hanging lamps of different kinds to the fides of the houses. On this day the Chinese not only illuminate their houses, but they also exercise their ingenuity in making transparencies in the shape of different animals, in which they run through the different threets by night. The effect, when perfectly dark, is whimfical enough. Birds, beatts, fiftes, and other animals are feen darting through the air, and contending with each other; fome with fquibs in their mouths breathing fire, some fending out sky-rockets, others rifing into pyramids of party-coloured fire, and others

burfting like a mine with violent explofions. Throughout the whole empire of China a grand festival is celebrated on the fame day, called the vernal festival. In the morning the governor of every city comes forth from his palace crowned with flowers, and enters a chair, in which he is carried amidst the noise of different instruments which precede. The chair is furrounded by feveral litters covered with filk carpets, upon which are represented persons illustrious for the support they have given to agriculture, or fome historical painting on the subject. The streets are hung with carpets; triumphal arches are erected at certain distances; and the houses are every where illuminated. A large figure made of baked earth representing a cow comes next. A child with one foot naked and the other shod, which represents "the spirit of labour and diligence," follows, beating the image to make it advance. Labourers furnished with implements of husbandry march behind, and a number of comedians and people in masks close the rear, whose appearance and attitudes afford entertainment to the populace. The governor advances to the eastern gate as if he intended to meet the spring, and then the procession returns to the palace in the same order. After this the cow is stripped of its ornaments, and a number of earthen calves are taken out of its belly, which are distributed, as well as the figure itself, when broken to pieces, among the crowd. The governor then puts an end to the ceremony, by making a short oration in praise of agriculture, in which he endeavours to excite his hearers to promote fo ufeful an art by all the means in their power. Another Chinese sedival is that on the commencement of the new year, during which all affairs, whether private or public, are suspended; the tribunals are shut; the posts stopped; presents are given and received; the inferior mandarins go and pay their respects to their fuperiors; children to their parents; and fervants to their mafters. This is called taking leave of the old year. In the evening all the family affemble to take a grand repall, when no stranger is admitted; but on the following day they become more fociable, the whole of which is employed in diversions and feasting, and the evening concluded with illuminations. It may be worth observing in this place, that almost every intercourse in China between superiors and inferiors, is accompanied or followed by reciprocal prefents, but those made by the former are granted as donations, while those on the part of the latter are accepted as offerings. Chinese terms correspondent to these are still applied to the prefents passing between the emperor and foreign princes, according to the official style of the arrogated

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fuperiority affected by the Chinefe court. But when the emperor of China has occasion to make mention of himself, he uses the most modest and, indeed, humble expressions in every thing that relates to his own person, according to the system of Chinese manners; which require, in the mention of one's self, that the most abject terms should be employed, and the most exalted towards those who are addressed.

State of Knowledge in China. It is a matter of doubt whether natural philosophy or chemistry can be faid to be known as sciences in this country. There are several treatises indeed on particular subjects in each, and the Chinese possels a very voluminous Cyclopædia containing facts and observations relating to them; but no traces are to be perceived of any general fyltem or doctrine by which separate facts or observations are connected and compared, or the common properties of bodies afcertained by experiment; or where kindred arts are conducted on fimilar views; or rules framed, or deductions drawn from analogy, or principles laid down to constitute a science; for some there is not even a name. Of pneumatics, hydroflatics, electricity, and magnetism, they may be faid to have little or no knowledge; and their optics extend not beyond the making of convex and concave lenfes of rock crystal, to affilt the fight in magnifying, or for the purpole of burning glasses. The single microscope is in common use, but the Chinese have never hit upon the effect of approximating objects by combining two or more Their books are full of particular processes and methods, by which a variety of effects may be produced in chemical and mechanic arts, and much might probably be gained by the perulal of them, by persons versed in the language of the describers, and acquainted with the subject of the description. As soon as the product of any art or manufacture has appeared to answer the purpose for which it was intended, it feldom happens that the discoverer is either impelled by curiofity, or enabled by his opulence, to endeavour to make any further progress towards its encreased utility. The use of metals for the common purposes of life has made them fearch for them in the bowels of the earth, where they have found all those that are deemed perfect except platina. If they have not discovered the helt methods of separating the precious metals from the substances among which they are found, nor of reducing the ores of others into their respective metals, they have at least fucceeded in obtaining them without alloy, whenever they wish fo to do. The gold is chiefly coilected in finall grains among the fand in the beds of rivers and torrents, which carry it down with them as they descend from the mountains. It is pale, foft, and ductile, and is often formed into bracelets, which fome mandarins and many women of rank wear round the wrift, not more for ornament, than from a notion that they preferve the wearer from a variety of difeases. The Chinese beat it into leaf used for gilding, and the weavers employ it in their tiffues and embroideries. Trinkets are also made of it at Canton, which are fent to Europe as eastern ornaments. Besides the use of silver as a medium of payment for other goods when it passes according to its weight, it is likewise drawn into threads used in the filk and cotton manufactures. Bell metal and white copper are made in great perfection in China; the latter is found to confift of copper, zinc, and a little filver. The iron ore of the Chinese is not well managed, and the metal is not fo foft, malleable, or ductile, as the iron of this country; and their fmiths work is exceedingly brittle, clumfy, and without polift. They excel in the art of calling iron, and form plates of it much thinner than is generally known to be done in Europe. Much of the tin imported by the Chincle is formed into as thin a foil as possible, to paste it upon fquare pieces of paper, which are burnt before the images of their idols. With the amalgam of tin and quickfilver, they make mirrors; and their spectacles, which are much used in China, are formed of crystal, which the Canton artiffs cut into laminæ with a kind of steel faw. The powder of the crystal, like that of the diamond, helps to cut and polish itself. In almost every thing the Canton artifts are uncommonly expert in imitating European works: they mend and even make watches, copy paintings, and colour drawings with very great fuccels. They supply strangers with coarse filk stockings, manufactured at Canton, though none of the natives wear fuch, unless it be fome young Chinese, who are fond of following the fashions of Europeans. The toys made at Canton, known under the name of balancers or tumblers, are partly filled with quick-filver. That metal is fometimes used in the fame complaints as those to which it is applied in Europe as a specific; but a prejudice prevails among the common people, that it is apt to destroy the powers of one sex, and

to occasion barrenness in the other. The flate of physic is extremely low in China: there are no public schools or teachers of it; and a young man who wishes to become a physician has no other way of acquiring medical knowledge than by engaging, himfelf as an apprentice to some practitioner. He has thus the opportunity of feeing his mafter's practice, of vifiting his patients with him, and of learning fuch parts of his knowledge and fecrets as the other chuses to communicate. The emoluments of the profession rarely exceed the skill of the practitioner. As many copper coins as are equal to about fixpence are faid to be the ulual fee among the people, and perhaps quadruple among the mandarins. The latter of high rank have phyficians in their household; the emperor's physicians, as well as most of the domestics, are chiefly eunuchs. Medicine is not divided in China into diffinct branches; the same person acts as physician, furgeon, and apothecary. The furgical part of the profession is still more backward than the other. Amputation in cases of compound fracture is utterly unknown, and death is the speedy consequence of such accidents. The mortality of the fmall-pox, joined to the ob-fervation that it attacked the same person but once, induced the Chinese, at an early period, to expose young persons to its infection when it happened to be mild. This led to the practice of inoculation, which is first mentioned in the annals of China at a time answering to the beginning of the tenth century of the Christian æra. The general method of Chinese inoculation is, when the disease breaks out in any district, the physician carefully collects a quantity of proper matter, which is dried, pulverized, and closely thut up in a porcelain jar, fo as to exclude it from the air; and in this manner it will retain its property for many years. When the patient has been duly prepared by medicine, and strictly dieted for some time, a lucky day is chosen for the sprinkling a little of the powder upon a piece of fine cotton, which they infert up the nottrils of the patient. No male physician is allowed to attend a pregnant woman, and still els to practile midwifery; in the indelicacy of which, both fexes feem to agree in China. There are books written on that art for the use of female practitioners, with drawings of the state and position of the infant at different periods of gellation, together with a variety of directions and preferiptions for every supposed case that may occur: the whole is mixed with a number of fuperstitious observations. In China, as in this country, there are quacks, who gain large fums of money by the fale of nostrums, the efficacy of which is fet forth in hand-bills distributed among the people. There are in China no professors of the sciences connected

with medicine. The human body is never, unless privately, dissected there. Books indeed, with drawings of the external structure, are sometimes published; but these are extremely imperfect, and confulted perhaps oftener to find out the name of the spirit under whose protection each particular part is placed, than for observing its form and fituation. The physiclogy of the human body, or the doctrine which explains the constitution of man, is neither understood, nor confidered as necessary to be known; and their skill in pathology, or in the causes and effects of diseases, is extremely limited and often ablurd. The feat of most difeases is supposed to be discoverable by means of the pulse; yet they have no knowledge whatever of the circulation of the blood. They imagine that every particular part of the human body has a particular pulse assigned to it, and that these have all a corresponding and sympathetic pulse in the arm: thus they suppose one pulse to be situated in the heart, another in the lungs, a third in the kidneys, and fo forth; and the skill of the doctor consists in discovering the prevailing pulse in the body, and the mummery made use of on such occafions is highly ludicrous. The best of their medical books are little better than mere herbals, specifying the names, and enumerating the qualities of certain plants. The knowledge of these plants, and of their supposed virtues, goes a great way towards constituting a physician. Those which are most commonly employed are gin-feng, rhubarb, and Chinaroot. A few preparations are also found in their pharmacopæia from the animal and mineral kingdoms. In the former they employ fnakes, beetles, centipedes, and the aureliæ of filk-worms and other infects; the meloe and the bee are used for blifters. In the latter, saltpetre, sulphur, native cinnabar, and a few other articles, are occasionally prescribed. Opium is taken as a medicine, but more generally as a cordial to exhilarate the spirits.

There is no branch of science which the Chinese affect to value fo much as aftronomy. Nothing indeed can be fo well calculated to excite curiofity, and occasion admiration, as the fight which the clear atmosphere of China almost always allows to its inhabitants, of an azure firmament spangled with stars. The viciflitudes of day and night, of summer and winter, and the different phases of the moon, exhibit appearances too striking not to claim attention in the rude as well as the cultivated flages of fociety. The necessity indeed of being able to mark with fome degree of precision the returns of the feafons, in fo large a community, must have directed an early attention of the government to this fubject: and accordingly we find, that an aftronomical board has formed one of the state establishments in China from the earliest periods of their history. Yet so little progress have they made in that science, that the only part of its functions which can be called aftronomical has long been committed to the care of foreigners, whom they affect to hold in contempt, and to confider as barbarians. The principal object of this board is to frame and to publish a national calendar, and to point out to the governor the fuitable times and seasons for its important undertakings. Even when the marriage of a prince is about to take place, the commissioners of astronomy must appoint a fortunate day for the celebration of the nuptials, which is announced, in form, in the Peking Gazette. In this almanack are inferted all the supposed lucky and unlucky days in the year, predictions of the weather, days proper for taking medicines, commencing journies, taking home a wife, laying the foundation of a house, and other matters of moment, for entering upon which particular times are affigned. To the superintendance of the Chinese members of this tribunal is committed the attrological part, a committee of whom is felected annually

for the execution of this important task. The phenomena of the heavenly bodies, to an enlightened and intelligent mind, furnish the most grand and sublime spectacle in nature; to the ignorant and superstitious the most awful. The common people in all countries and of all ages have confidered the occasional privation of the light of the two great luminaries of heaven as the forerunners of some extraordinary event. The people of China have, from the earliest ages, considered a folar eclipfe as ominous of some great calamity; and as great pains are taken to inspire them with a belief that their prosperity is owing to the wisdom and virtues of their sovereign, fo they are tempted to attribute whatever they think portentous to some deficiency on his part. To this convenient prejudice the emperor finds it prudent to accommodate his conduct. He never ventures upon any undertaking of importance at the approach of fuch an eclipfe, but affects to withdraw himfelf from the presence of his courtiers, to examine strictly into his late administration of the empire, in order to correct any error, for the commission of which the eclipse may have been an admonition, and invites his subjects to offer him freely their advice. The Chinese government observes on the event of an eclipse ceremonies similar to those that were in use two thousand years ago among the Egyptians, Greeks, and Romans. When the moon is eclipsed, their musical instruments are struck up, under the notion that by their shrill noise they may affist in relieving the labouring goddess. The brazen gong is violently beat by the Chinese on the occasion; and that such an event may not pass unobserved, and the luminary may thereby be deprived of the usual assistance of music to frighten away the dragon, which they suppose to have seized upon it, the great officers of state in every city and town are instructed to give public notice of the time when it will happen according to the calculations of the national almanack. "A rude projection of a lunar eclipfe," fays Mr. Barrow, " that happened while we were at Tong-choo, was fluck up in the corner of the freets; all the officers were in mourning, and all bufiness was suspended for that day." When the Dutch ambassadors were at Peking, the fun was eclipfed on the 21st January 1705, which happened to be the first day of their new year; a day observed through the whole empire with the greatest festivity and rejoicings; and almost the only day on which the bulk of the people refrain from their respective occupations. The embaffador and his fuite were fummoned to court at the usual hour of three in the morning, and on arriving at the palace, they were told that in confequence of an eclipse of the sun, about to happen on that day, which was a most unfortunate event, portending an unhappy year to the country, the emperor would not be visible for three days, during which time the whole court would go into mourning, and that the amusements usual on that particular day would be suspended from one end of the empire to the other. Just before the eclipse happened, the members of the mathematical board and other learned men affembled near the palace, each having in his hand a sketch of the obscuration in order to witness the truth of the altronomer's calculation. The moment the eclipse begins, they fall down on their knees and bow their heads nine times to the ground, during which is struck up the horrible crash of gongs, kettle drums, trumpets, and other noify instruments, intending to scare away the devouring dragon.

Aftronomy, as connected with the first principles of chronology, has however been in high estimation from a very early period of Chinese history. The first mention of it that has come down to us, is, where the emperor 2 no instructed his Astronomers Hi and Ho, how to diffinguish and determine the four seasons of the year, "Pirty," says

the mighty prince, " Tao defires that Ili and Ilo will calculate and observe the places and motion of the sun, moon, and thars; and that they will afterwards teach the people whatever relates to the feafons. Secondly, according to Yao the equality of day and night, and the star Niao, serve to determine the vernal equinox. The equality of day and night and the star Hiu point out the autumnal equinox. The longest day, and the star Ho, are the signs of the summer solstice. The shortest day, and the star Mao, shew the winter. Thirdly, Tao informs his two astronomers, that the Ki confilts of 366 days, and that to determine the year and its four feafons, an intercalary moon must be employed. Hence it appears that the Chinese astronomers, even at this early period, were required to mark in the calendar the times when the fun and moon entered the different figne, together with the places of the planets, and the times of the eclipfes. We know also from other works of authority, that those who neglected to announce these phenomena, were punished with death. It appears likewise, that even at that time, they knew how to determine the equinoxes and folftices by the length of the days and nights, and that they availed themselves of the motion of the planets, in order to compare their places with that of the fun in each of the four feafons. It is also evident, though certainly very extraordinary, that the Chincse were then acquainted with the length of a year of 365 days and fix hours. The Chinese have always fixed the beginning of the astronomical year at the winter folflice; but the beginning of the civil year has varied according to the will of the emperors. The Chinese year has at all times confifted of a certain number of lunations, twelve of which form a common year, and thirteen the embolismic year. They reckon their lunations by the number of days which happen to fall between the moment in which the fun is in conjuction with the moon, and the moment of the conjunction following.

The Chinese divide their days into a greater or smaller number of equal parts, but besides these they generally divide them into 12 hours, which are, of course, double the length of those adopted by us. Their day begins and ends at midnight. The path described by the fun has been known in China from the remotest antiquity, and the Chinese have always distinguished the ecliptic from the equator. The former they call hoang-tao, the yellow way ; the other is named tche tao, or the equinoctial line. year is also, with the Chinese, divided into four equal parts or feafons, each of which has three smaller divitions, its beginning, its middle, and its end, that is, a lunation for each of the three parts: it is likewife subdivided into 24 equal parts, each of which contains 15 degrees, fo that the whole together makes the 360 degrees. The Chinese make use of a cycle of fixty years called "kiatfe," from the denomination given to the first year of it, which serves as the basis of their whole chronology. Every year of this cycle is marked with two letters, which diftinguish it from the others; and all the names of the emperors, for two thousand years and upwards, have names in history common to them with the corresponding cycle. The intricate and irregular motion of the moon has been long known by the Chinese. In the reign-of Yao the allronomers were able to calculate, with fufficient preci-fion, the times of new and full moon. The first day of the new moon, they named cho, commencement or beginning, and the day of full moon, ouang, which fignifies to expect, or hope: because the people expected the kindness and protection of certain spirits, which they invoked only at that epocha. To express the age of the moon, besides the numbers, they use the words fuperior and inferior string: they fay chang-hien, a bow having the ftring uppermost, and hia-hien,

a bow having the firing undermoft. It is thus they diffinguish what are denominated the quarters of the moon. Their method of intercalation has varied, but it has generally admitted twenty-nine or thirty days for one lunation; the former is called a fmall lunation, and the latter a greater lunation. They divide the flars according to the following order: the pe-teou, or celeftial buffel of the north, is what we call the urfus major: the nan toou, or celetial bushel of the fouth, which comprehends the principal stars opposite to the great bear; and which, together, form a figure, almost like that of the great bear in the north. The five planets called "ou-hing" are next enumerated; these are Saturn, Jupiter, Mars, Venus, and Mercury: and lastly are mentioned 28 confiellations, in which are comprehended all the flars of the zodiac, and some of those which lie nearest to it. M. Gaubil, one of the learned Jesuits who relided long in China, and who paid great attention to the altronomy of the Chinefe, fays they have been long acquainted with the motion of the fun, moon, and planets, and even of the fixed thars from west to east; though they did not determine the motion of the latter till about 400 years after the Christian æra. 'To the five planets just enumerated they have assigned revolutions which approach very near to ours. They have no notion of their different fituations, when stationary and retrograde: and as in Europe, some of the Chinese imagine that the heavens and planets revolve round the earth, and others round the fun. By reading their books we may perceive, that the Chinese have had a perfect knowledge of the quantity of the folar year; that they have also known how to estimate the diurnal motions of the fun and moon; that they have been able to take the meridian altitude of the fun, by the shadow of a gnomon; and that they have thence made pretty exact calculations to determine the elevation of the pole, and the sun's declination: it appears that they have had a tolerable knowledge of the right ascension of the stars, and of the time when they pass the meridian; of the reason why the same stars, in the same year, rife and fet with the fun; and why they pass the meridian, fometimes when the fun rifes, and fometimes when he fets.

In China the first operations of arithmetic are very generally unknown; in the shops regular entries are made of the articles to be disposed of, and the several prices are affixed in the common Chinese characters equivalent to the words which express numbers in other languages; but not by a distinct set of figures upon a similar system to that of those called Arabic by the Europeans. Their arithmetic is mechanical, and to find the aggregate of numbers, a machine called the "swan-pan" is in universal use, from the man of letters to the meanest shopping. See Abacus and Shwan-Pan.

The knowledge of the Chinefe in geography is as limited as that in aftronomy. Their own empire was confidered by them as occupying the middle space of the square surface of the carth, the rest of which was made up of islands. When the Jesuits went first to China, they sound the charts, even of their own country, rude and incorrect, sketches without any scale or proportion, in which a ridge of mountains covered a whole province, and a river swept away half of another. At present they have neat and accurate maps of the country, copied after the original survey of the whole empire, undertaken by the Jesuits, and completed after several years labour.

State of the Arts. Little can be faid of the flate of the fine arts in this country. Of their poetry we have already spoken. Mufic does not feem to be cultivated as a fcience, nor learnt as an elegant accompliftment, nor practifed as an ammiement of genteel life, except by females who are edu-

cated for fale, or by fuch as hire themfelves out for the entertainment of those who may be inclined to purchase their favours. These women play generally upon wind-instruments, fuch as pipes and flutes, while the favourite inftrument of the men is fomething like a guitar. Eunuchs and their performance appears to confit in the intenfeness of the noise they are able to make. The gong is admirably adapted for this purpole. See Gong. and Chinese Music. Kettle drums and different fixed bells constitute part of their facred music. They have also an instrument which consists of of the Chinese historians, that the whole empire of nature has been laid under contribution in order to complete their system of music: that the skins of animals, sibres of plants, metals, flones, and baked earth, have all been emor endeavours to play, in unifon, but they never attempt to play in separate parts. They have not the least notion of counterpoint, an invention to which even the Greeks had not arrived, and which was unknown in Europe, as well as Alia, till the monkish ages. See Chinese Music. With regard to painting, they can be confidered in no other light than as miferable daubers, being unable to pencil out a correct outline of many objects, to give body to the same, by the application of proper lights and shadows, and to lay on the nice shades of colour, so as to resemble the tints of nature. But the gaudy colouring of certain flowers, birds, and infects, they imitate with a degree of exactness and brilliancy to which Europeans have not yet arrived; to give distance to objects on canvas, by diminishing them, by faint colouring, and by perspective, they have no fort of conception. At Yuen-min-yuen Mr. Barrow found two very large paintings of landscapes, which, as to the pencilling, were done with tolerable execution, but they were finished with a minuteness of detail, and without any of those strong lights and masses which give force and effect to a picture; none of the rules of perspective were observed, nor any attempt to throw the objects to their proper diffances. In a country where painting is at fo low an ebb, it would be in vain to expect much execution in sculpture. Grotesque images of ideal beings, and monttrous diffortions of nature are fometimes feen upon their bridges, and in their temples, where the niches are filled with gigantic gods of baked clay, fometimes painted with gaudy colours, plaistered with gold leaf, or covered with varnish. Near the gates of cities four-sided blocks of stone or wood are frequently erected, with inscriptions upon them, to perpetuate the memory of certain diffinguished characters, but they are neither objects of grandeur nor ornament. The whole of their architecture is indeed unfightly and unfolid, without elegance or convenience of defign, and without any fettled proportions. Then paged are the most disking objects. See Pagona. Their temples are mostly confluented upon the fame plan. See Timers. Next to their the most confpicuous objects are gates of othes, which are generally fquare buildings carried feveral flories above the arched gate-way, and, like the temples, are covered with one or more large projecting roofs. But the m stupendows work of this country is the great wall that dovides it from northern Tartary, which is built upon the fare plan as the wall of Peking, being a mound of earth cased or The aftonishing magnitus each fide with bricks or flones. of the fabric confitts not fo much in the plan of the work, as in the immenfed istance of fifteen hundred miles, through which it is extended, over mountains of two and three miles in height, and across deep vallies and rivers. See WALL.

Chinese Trade, Manufactures, Agriculture, &c. The trade of China is now encouraged by the government. Even the foreign commerce, which was formerly thut up by their jealous monarchs, has been laid open by the Tartars fince the conqueil, so that they now trade with Japan, Manilla, Siam, Batavia, and other parts of the East Indics. They likewise derive confiderable advantage from their traffic with the Europeans. These have indeed scarce any port open to them, except that of Quang-tong, and that only at certain times of the year; neither are they suffered to fail up quite to that city, but are forced to cast anchor at Whang-pu, a place about · four leagues short of it, where the river is so crowded with trading velfels, that it looks like a large city on the water. This trade was once very advantageous to the Europeans, who brought thither cloths, fwords, clocks, watches, looking-glaffes, diamonds, cryftals, telescopes, and other mathematical instruments, and fold them at a high rate; but the market is now over-stocked with those commodities, and the trade hardly worth carrying on in any thing but filver exchanged for gold, which is fold higher or lower according to the time of the year; it being cheapest in March, April, and May, when there is the greatest number of veffels in the port returned from Quang-tong. But what the Chinese chiefly depend upon is their home traffic. We ought to confider every province as a separate state or kingdom; fome of these abound with certain commodities, or provisions, which others want, and, to communicate which to all the rest, the best methods have been invented, both by land and water-carriage. Thus the provinces of Hu-quang and Kyang-si, which abound with rice, supply those that want it; Che-kyang furnishes the finest filks; Kyang-nan the finelt ink, varnish, and all forts of curious works; Yunnan, Shen-si, and Shan-si, yield plenty of iron, copper, and other metals, horses, mules, and furs; Fo-kyen, the best fugar and tea; and Sechwen the greatest variety of medicinal and other plants; all these are conveyed from one province to another, either by their rivers and canals, or by land-carriage; and when brought to the place of fale, are commonly vended in a few days. The next branch of their wealth arises from their manufactures, of which they have great variety. We shall only speak of some of the most confiderable, fuch as their filk and cotton, their porcelain and Japan ware, or varnish. We begin with the filk, the invention of which the Chinese records attribute to one of the wives of the emperor Wang-ti; fince which period many other empresses have been recorded for the fingular care they took to encourage it, by breeding the filk-worms, fpinning the filk, and delivering it to the proper workmen and women to be woven. Their example could not fail of exciting the rest of their sex to put their hands to such a profitable, as well as delightful, work, by which they were enabled to exchange their old garb of Ikins, for the more easy and elegant drefs made of this new and valuable commodity. Upon the whole, that manufacture hath been so well cultivated among them from time immemorial, that not only the princes, grandees, literati, and other persons of distinction, but their domestics, the merchants, tradefmen, and mechanics, can afford to clothe themselves with it; none, except those of the meanest fort, and the peasants, appearing in cotton. The quantity they fend abroad of it is prodigious, and plainly proves that it employs an infinite number of hands; fo that it is not without reason that China is flyled the filk country. Neither are the Chinese to be less admired for their furpriling ingenuity, diligence, and skill, in the management of every branch of it, the contrivance of their looms, and other instruments for spinning and weaving it in a beautiful variety of colours and patterns; their great of its fibres. It ferves to embellish the garden of the prince,

care and skill in breeding, hatching, and propagating their worms; and their excellent way of cultivating mulberrytrees to the belt advantage for their nourishment.

The Chinese appear to have strong claims to the credit of having been indebted to themselves only, for the invention of the tools required in the primary and necessary arts of life. The traveller will observe, in relation to common tools, fuch as the plane and anvil, that whether in India or in Europe, in ancient or in modern times, they are found fabricated in the same form, denoting one common origin. In China alone, these tools have something peculiar in their construction, clearly indicating that they are of an original invention. Thus, the upper furface of the anvil, elfewhere flat and fomewhat inclined, is among the Chinese swelled into a convex form. The common plane, too, is distinguished by some minute particulars, which characterize it to be original. There is reason to believe, that not only inventions of the first necessity, but those of decoration and refinement, were known among the Chinese in remote antiquity. The annals of the empire bear testimony to the fact, and it is confirmed by a confideration of the natural progress of those inventions, and of the state of the Chinese artists at this time. In the first establishment of an art, it is practised aukwardly, and this state is supposed to continue stationary, until at length it advances to its second period, when it becomes improved, and the artift is enabled to avail himself to the utmost of every tool and machine that can assist him. The last period of perfection is that in which the artist is become fo dextrous, as to complete his work with few, or aukward tools, and with little or no affiltance. And fuch is the character of the Chinese potter, weaver, worker in precious metals, and in ivory, and of most others in the several trades commonly practifed in the country. The process of fmelting iron from the ore is well known to them, and their cast ware of this metal is, as we have already observed, remarkably thin and light. Of all the mechanical arts, that in which they feem to have attained the highest degree of perfection, is the cutting of ivory. Nothing can be more exquifitely beautiful than the fine open work displayed in a Chinese fan, the sticks of which would feem to be fingly cut by the hand; for, whatever pattern may be required, as a shield with a coat of arms, or a cypher, the article will be finished according to the drawing, at the shortest notice. Out of a folid ball of ivory, with a hole in it not larger than half an inch in diameter, they will cut from nine to fifteen dittinct hollow globes, one within another, all loofe, and capable of being turned round in every direction, and each of them carved full of the fame kind of open work that appears on the fans. A very small sum of money is the price of one of these difficult trifles. Models of temples, pagodas, and other pieces of architecture, are beautifully worked in ivory, and from the shavings, interwoven with pieces of quills, they make baskets and hats, which are as light and pliant as those of straw. In short, all kinds of toys and trinkets are executed in a neater manner, and for less money, in China, than in any other part of the world.

The various uses to which that elegant species of reed called the bamboo, is applied, would require a volume to enumerate. Their chairs, their tables, their screens, their bediteads and bedding, and many other household moveables, are entirely constructed of this hollow reed. It is used on board ship for poles, for fails, for cables, for rigging, and for caulking. In husbandry, for carts, for wheel-barrows, for wheels to raife water, for fences, for facks to hold grain, and a variety of other utenfils. The young shoots furnish an article of food, and the wicks of their candles are made

and to cover the cottage of the peafant. It is the inftrument in the hand of power that keeps the whole empire in swe. Indeed there are few uses to which a Chinese cannot apply the bamboo, either entire, or split into thin laths, or divided into fibres, to be twifted into cordage, or macerated into a pulp, to be manufactured into paper. The difcovery of making paper from firaw is of very ancient date in China. The straw of rice and other grain, the bark of fome trees, and various plants, are employed in the paper manufactories of China, where sheets are prepared so large, that a fingle one will cover the fide of a room. The finest fort of paper for writing upon, has a furface as fmooth as vellum, and is washed with a solution of alum to prevent it from finking. Many old perfons and children obtain a livelihood by wathing the ink from written paper, which is afterwards re-manufactured into new sheets; the ink is also separated from the water, and preferved for future use. See PAFFR.

There is no doubt that the art of printing is of great antiquity in China, yet they never proceeded beyond a wooden block. With the Chinese the art confists in nothing more than in cutting in relief the forms of written characters on wood, daubing afterwards those characters with a black glupaper. It has not yet occurred to them to form moveable and separate types; they are satisfied, whenever the same characters very frequently occur, as in the public calendars and gazettes, to use types for such cut apart and occasion-

ally inferted. See PRINTING.

In China, the chain-pump, nearly in its primitive state, constitutes an essential part in their ships of war, and other large veffels; the principal improvements fince its first invention, confift in the fubilitation of boards, or balketwork for wifps of fraw. Its power with them has never been extended beyond that of raising a small stream of water upon an inclined plane from one refervoir to another, to ferve the purposes of irrigation. They are of different lizes, and worked in different ways fome by oxen, fome by treading in a wheel, and others by the hand. The power of the pulley is understood by the Chinese, and is applied on board all their large veffels, but always in a fingle flate. The lever is also well known among them, and is applied to weighing all their valuable wares; and the tooth and pinion wheels are used in the construction of their rice-mills, that are put in motion by a water-wheel. But none of the mechanical powers are applied on the great scale to facilitate and to expedite labour. Simplicity is the leading feature of all their contrivances, that relate to the arts and manufactures. The tools of every artificer are of a fimple conflruction, and yet each tool is contrived to answer several purpoles; thus the bellows of the blackfmith, which is nothing more than a hollow cylinder of wood with a valvular pillon, befides blowing the fire, ferves for his feat when fet on end, and as a box to contain the rest of his tools. The joiner makes use of his rule as a walking stick, and the cheft that holds his tools ferves him as a bench to work on. The pedlar's box and a large umbrella are fufficient for him to exhibit all his wares, and to form his little shop. Belides the variety of trades which are stationary in China, there are many thousands of the people, in every large city, who cry their goods about, as is done in our metropolis. Barbers also are seen running about the flicets with instruments for shaving the heads and cleansing the ears. They carry with them, for this purpole, a portable chair, a portable flove, and a fmall veffel of water; and, whoever withes

which they make a great noife, in order to obtain employment. There are persons also engaged in the open threets felling off their goods by auction, and the butchers of Peking not only fell, but dress the meat for their cultomers, who eat in the shops what is necessary, and having paid the price, go about their bufinefs.

The Chinese government has, in all ages, bestowed the first honours on every improvement in agriculture. The husbandman is considered an honourable as well as a useful member of fociety; he ranks next to men of letters or officers of state, of whom he is frequently the progenitor. The foldier, in China, cultivates the ground. The priests also are agriculturists whenever their convents are endowed with land. The emperor is confidered as the fole proprifion as long as he continues to pay about the tenth part of what his farm is supposed capable of yielding. And, though the holder of lands is only confidered as a tenant at will, it is his own fault if he is dispossessed. If any one happens to hold more than his family can conveniently cultivate, he lets it to another, on condition of receiving half the produce, out of which he pays the whole of the emperor's taxes. A greater part of the poor peafantry cultivate land on these terms. In China there are no immense estates, no monopolizing farmers, nor dealers in grain. Every one can bring his produce to a free and open market; no fisheries are here let out to farm. Every subject is equally intitled to the free and uninterrupted enjoyment of the fea, of the coalts, of the elluaries, of the lakes, and rivers. There are no manor lords with exclusive privileges, nor any

The Chinese never divide their fields into ridges and furrows, but plant their grain in drills on an even furface. They are not inattentive to the direction of their rows, or dibbling their grain, as may be inferred from the folemn regulations, made concerning the annual ceremony of the emperor's act of hufbandry in ploughing the ground. It is fettied that he shall stand with his face turned towards the fouth, and taking hold of the plough with his right hand, he shall turn up a furrow in that direction. The collection of manure is an object of fo much attention with the Chinele, that a prodigious number of old men, women, and children, incapable of much other labour, are constantly employed about the streets, public roads, banks of canals and rivers, with baskets tied before them, and holding in their hands small wooden rakes to pick up the dung of animals, and offals of any kind, that may answer the purpose of manure; this is mixed sparingly with a portion of this loamy earth, and formed into cakes, dried afterwards in the fun. It fometimes becomes an object of commerce, and is fold to farmers, who never employ it in a compact state. Their first care is to construct very large citterns for containing, befides those cakes, and dung of every kind, all forts of vegetable matter, as leaves, or roots, or items of plants; mud from the canals, and offals of animals, even to the shavings collected by the barbers. With all these, they mix as much animal water as can be collected, or of common water, as can dilute the whole; and, in this flate, generally in the act of putrid fermentation, they apply it to the ploughed earth. In various parts of a farm, and near the paths and roads, large earthen vessels are buried to the edge in the ground for the accommodation of the labourer or pattenger who may have occasion to use them. In small retiring houses, built also upon the brink of roads and in the to undergo either of these operations, sits down in the street, neighbourhood of villages, reservoirs are constructed of while the operator performs his office. To distinguish their profession, they carry a large pair of steel tweezers, with they receive, and straw is carefully thrown over the surface,

from time to time, to prevent evaporation. Such a value is kind, are here in great plenty and variety; fuch as eagles, fet upon the principal ingredient for manure, that the oldest and most helpless persons are not deemed wholly useless to the family by which they are supported. The quantity of manure collected by all these means is still inadequate to the demand. It is referved, therefore, for the purpose of procuring a quick succession of culinary vegetables, and for forcing the production of flowers and fruit. Among the vegetables raifed in the greatest quantities, is a species of brassica, called by the Chinese Pe-tsai, which resembles coss lettuce, and is much relished both by foreigners and natives. Whole acres of it are planted in the neighbourhood of populous cities, and it is difficult on a morning to pass through the crowds of wheel barrows and hand-carts loaded with this plant, going into the gates of Peking. It is falted for winter consumption, and, in that state, exchanged, in some of the provinces, for rice. That grain and that herb, together with onions, ferve as a meal for the Chinese peasants and mechanics. The husbandman always keeps the grain he intends to fow in liquid manure until it germinates, which has the effect of haltening the growth of plants, as well as de-fending them from infects. The great object of Chinese agriculture, the production of grain, is generally obtained with little manure, and without letting the land lie fallow. A mixture of earth, in due proportion, is fometimes fubliituted with fuccefs in the deficiency of manure; and a furface of strong loamy clay may, with the addition of fand and water, be rendered an advantageous medium of support of vegetable life. Sea-fand is likewise used for this purpose, and, if laid on in proper proportions, it tends to promote fermentation, which is favourable to the growth of vegetables. By practices fimilar to thefe, the Chinese supply the deficiency of manure. They are constantly changing earth from one piece of ground to another; mixing fand with that which they find to be too adhetive, and clay or loam where the foil appears too loofe; and having thus given their land the confiftency that it requires, their next care is to prevent it from becoming dry.

Besides the great plenty of corn, grain, and pulse of all forts, which almost every part of this country produces, it hath likewife a fufficient quantity of pasture-ground, which feeds a valt quantity of cattle of all forts; whilst their spacious woods and forests supply them with as great plenty and variety of wild beafts; fuch as buffalos, wild boars, deer of feveral kinds, elephants, leopards, tigers, bears, wolves, foxes, and a variety of others, not known to us, which afford the Chinese the diversion of hunting, as well as the commerce and profit of their furs, which are commonly very fine and valuable. This country also produces the mulk-cat, a profitable creature. They have, likewise, a fort of roebuck which they call hyang-chang-tie, the male of which has a bag of a very odoriferous substance. This creature, which breeds mostly on the northern ridge of mountains beyond Peking, is first hunted, then killed; the bag abovementioned is immediately cut off and tied very hard, that it may lofe none of its effluvia. The flesh is also good to eat; but the bag is efteemed of more value than the rest of the carcale. The most delightful, however, of the whole juadruped kind, is a small stag bred in the province of Yunan, and no where else; bought at a high rate by the crinces and nobles, merely to be kept for show in their cardens. These are exactly shaped like the common fort, ant their fize fearcely exceeds that of our ordinary dogs, on which account they are effected as curiofities: but they lave a great variety of stags of different kinds in the other stovinces, some of which are reckoned as extraordinary for heir large fize. Birds and fowl, both of the wild and tame

cranes, ftorks, hawks, falcons, pelicans, birds of Paradife, peacocks, pheafants, partridges, turkies, geefe, ducks, fwans, cocks, and hens, and a vail variety of water-fowl on their lakes, rivers, and canals. Among the tame and curious fort, they have a variety of beautiful parrots, not inferior, either in plumage, colours, or facility of talking, to any that are brought from America: but the most surprising and delightful of all the flying kind, is the little bird called kin-ki, or golden-hen, which is commonly found in the provinces of Yun-nan, Shen-fi, and Se-chwen. This admirable creature derived its name from the exquisite symmetry of its shape, the beauty, lustre, and variety of its plumage, the complete mixture and arrangement of light and shade, both in its wings and tail, and the fine plume that crowns its head: but what renders it still more valuable among the epicures is the delicate talte of its flesh, which, we are told, greatly excels that of pheafants. China feems to be deligned by nature to produce not only all the fruits which grow in other parts of the world, but likewife many others peculiar to its foil and climate; fo that, if they have not fo great a plenty and variety of the former, it is owing to their neglect of cultivating them; for, in general, they grow naturally almost in every province, and many of the more delicate kind in the fouthern parts to greater perfection than any in Europe. Apples, pears, plums, quinces, apricots, peaches, figs, pomegranates, mulberries, nectarines, grapes, oranges, lemons, citrons, melons, walnuts, chefnuts, pineapples, and other fruits, grow almost every where in great plenty. Yet they are not fo curious as the Europeans in cultivating and improving them, but content themselves with having three or four different forts of apples, feven or eight forts of pears and peaches; and as for their cherries, they are hardly worth eating. The only fruits that exceed ours are their pomegranates, a fine fort of mufcadine grapes of exquilite talte and flavour, and their tfe-tfe, called by the Portuguese macau, which is a kind of fig. Olives are here in great plenty and variety, and, though different from ours, have a very fine taite; but whether out of diflike, or that they do not think it worth their while, they extract no oil from them. Among those fruits which grow in the fouthern provinces, the li-chi is most esteemed. It is shaped like a date, and bath an oblong stone. The fruit is full of moiture, of an excellent tatte and flavour when full ripe; but shrivels, and grows blackish, like our prunes, by keeping. Next to that is the long-yen, or dragon's-eye, which is round, and yellowish, the pulp white, and a little acid. Both these are esteemed very wholesome, especially the lat-ter, which is taken to create an appetite. They have likewise fome fingular as well as ufeful trees, particularly that which they flyle the pepper-tree, which bears a fort of grain like a pea, but of too hot a nature to be eaten; but the hulk, which is less pungent, is used by the common people. The pea-tree produces a fort of pulse, like our common pea, only a little more rank. Their wax-tree is so called from the wax that is produced on it by a kind of little worm which runs up and fattens to its leaves, and quite covers them with combs. This wax is hard, thining, and confiderably dearer than that of common bees; though this last they likewife have in much greater quantities. When thefe worms are once used to the trees of any diffrict, they never leave them, unless fomething extraordinary drives them away. The nau-mu is a tall straight tree, the wood of which is incorruptible like the cedar: it is commonly used to make pillars, doors, windows, or ornaments for palaces, temples, and large buildings; but it is in other respects much inferior to the tze-tau, or refe-wood, which is of a reddish black, streaked, and

and full of fine veins, which appears to be painted by fome artift. The furniture and ornaments made of this wood are much esteemed all over the empire, and sell at a greater price than those which are varnished or japanned. We omit a great variety of other valuable and curious trees, fuch as the cedar, ebony, fanders, pines, oaks, &c. which we have not room to describe. But that which is justly esteemed the most profitable among the Chinese, and hath most excited the envy of the Europeans, is their tfi-shu, or varnish-tree, that yields the gum with which they make their fine giran-varnish or japan, which keeps such an infinite number of hands employed in most provinces of the empire, and furnishes it with such a prodigious variety of chelts, cabinets, boxes, and other household ornaments, fo beautifully painted and varnished, and fent abroad into most parts of the world. The next to that in usefulness is the tong-shu, or oil tree, from which a liquor or oil is drawn, not much differing from the varnish above-mentioned, and used almost to the same end, but chiesly in larger work, fuch as pillars, cornices, galleries, triumphal arches, and fine floors. This oil, when boiled into a confittency, not only preferves the wood over which it is laid, but gives it a fine luftre, and, like the varnish, may be mixed with any colour to great advantage. China is likewise famous for producing the camphor-tree, which grows to a prodigious fize, and rifes often to the height of 300 feet; its wood is of a firm texture, of great use in ship-building, as well as in joiners'-work, from the beautiful gloss it acquires in polishing; but the most valuable part is the gum, which the Chinese are extremely expert at extracting, percolating, purifying, and fubliming. The last of the tree kind, worth our particular notice, is what they call tie-li-mu, or iron-wood, from its extreme hardness. It is, indeed, very remarkable for its strength and durability, beyond any other wood; the tree is as tall and fpreading as our large oaks, and the wood is of a much deeper brown, as well as more weighty and tough.

Almost every part of the country being interfected by rivers and canals, abundance of water is always near at hand; and it remains only for them to contrive the means to convey as/much of it as is necessary to the planted grounds. Thus they reap full and constant crops without fallowing, and fometimes without manure. The draught cattle most generally in use are oxen, mules, and assess horses are scarce, of a miserable breed, and incapable of much work. No pains, however, are beltowed to improve the breed, for the Chinese imagine that this animal requires no other at-

tention than that of giving him food.

The taxes raifed for the support of government are neither exorbitant norburdensome: they consist in the tenth of the produce of the land, in a duty on falt, on foreign imports, and a few smaller taxes that do not affect the bulk of the people. The total amount of taxes and affeffments, which each individual pays to the state, does not exceed four shillings a year. With such advantages and such encouragements given to agriculture, one would imagine that the condition of the poor mult be better than elsewhere. Yet, in years of scarcity, either from unfavourable scasons of drought or inundations, which are perpetually occurring, in one province or other, thousands perish from an absolute want of food. There are few public charities; no poor laws; and it is not a common cultom to ask alms : Mr. Barrow fays he did not see a fingle beggar from one end of China to the other, except in the freets of Canton. The children, or next of kin, must take care of their aged relations; and the parents dispose of their children in what manner they may think beit for their family interest. As several generations live together, they are sublifted at a cheaper rate than if they had separate house-

holds; and in cases of real distress, the government is supposed to act the parent; and whenever any of its officers, through neglect or malice, with-hold grain from the poor, they are punished with singular severity, and sometimes even with death. Another great advantage enjoyed by the Chinice subject is, that the amount of his taxes is afcertained. He is never required to contribute, by any new assessment, to make up a given sum for the extraordinary expenses of the state: except in cases of rebellion, when an additional tax is sometimes imposed on the neighbouring

We shall conclude this article with a short account of their coin. Silver and copper are the two current metals in China; gold being on the fame footing as precious flones, purchased, like other valuable merchandizes, according to its weight and finenels. Silver, though used in payment, is not coined, but cut into pieces, fmaller or larger, as occasion requires; fo that its value is rated according to its weight and goodness. The scales, or rather seelyards, with which they weigh the filver or gold, and which they commonly carry about them in a neat japan case, consist of a little round plate, an ebony or ivory beam, and a weight. The beam, which is divided into minute parts on three fides, is fufpended by fine filken ftrings at one of the ends, in three different points, that they may more eafily weigh their pieces. These kinds of steelyards are so exceedingly exact for weighing any money, or fmall pieces of filver, that from fifteen or even twenty crowns, down to the twelfth part of a penny, and less, may be weighed in them with so great a nicety, that the one thousandth part of a crown will turn the scale. The Chinese chuse to have it in that manner rather than coined. If, like the Europeans, they had stamped pieces of determinate value, they fay their country would fwarm with clippers and coiners, and the dealers be forced to have still recourse to their scales and touchstone. The only expeditious way they have to pay any fum in filver, is to keep by them a variety of plates of that metal, beaten, either thinner or thicker, befides the ingots, which are referved for larger fums; and thefe, by long use, they can cut to a very great nicety. The only coin, properly fo called, in use among them, is of copper, and of a very inconfiderable value, fearcely amounting to the third part of one of our farthings, It is of a round figure, with some Chinese characters on each fide, and a square hole in the middle, through which they may be strung to any number. They, however, had, in ancient time, a great variety of coins of gold and filver, which are now only to be feen in the cabinets of the curious, and more particularly in that of the late emperor Kang-hi, who caused a noble collection to be made of all that could be four ! of that kind in the empire, and to be deposited there as curiofities. The Chinese pound, or lyang, weighs fixteen ounces, but is divided into only ten parts, called tfyen, this into ten fwen, which are equivalent to about feven pence English; the fwen into ten si of silver. The beam of the Chinese scale carries these divisions no farther; and yet, with respect to gold or filver of a confid able weight, the divisiis more minute, and almost extend imperceptible part, for which reason it is searce pessible to convey a just idea of them in our language. They divide the li into ten wha, the wha into ten fe, the fe into ten fu, the fu into ten chin, which last fignifies a grain of dust; this again into ten yay, the yay into ten myau, the myau into ten mo, the mo into ten tfyer, and the tfyun into ten fun. There were periods at which :: . scarcity of specie obliged their monarchs to raise the value of the small copper pieces so excessively high, that one of them was worth ten of the fame fort current in former time . This scarcity of copper coin, occasioned either by some

Ient irruption of foreigners, who came and carried it away, or through the cautiousness of the people, who buried it in time of war, and died, without discovering where it lay hid, hath been so terribly felt, that at one time an emperor caused near fourteen hundred temples of Fo to be demolished, and all the images and copper work to be cast into coin; and at other times the people have been expressly forbid the use of any vessels, or other utensis of copper, and obliged to deliver

up those they had to the mint. Penal Laws and Punishments. The laws of China define, in the most perspicuous manner, almost every shade of criminal offences, and the punishment awarded to each crime, and the greatest care has been taken in constructing the scale of crimes and punishments, which are very far from being fanguinary. Of all the despotic governments existing, there is certainly none where the life of man is held fo facred as in the laws of China. A murder is never overlooked, except in the horrid practice of expoling infants; nor dares the emperor himfelf take away the life of the meanest subject without the formality of a regular process. So tenaciously, however, do they adhere to the principle, " At the hand of every man's brother will I require the life of man; whoso sheddeth man's blood, by man shall his blood be shed," that the good intention is oftentimes defeated by requiring of the person last feen in company with one who may have received a mortal wound, or who may have died fuddenly, a circumflantial account, supported by evidence, in what manner his death was occafioned. In attempting to proportion punishments to the degrees of crimes, the Chinese seem to have made too little distinction between accidental manslaughter and premeditated murder. To constitute the crime it is not necessary to prove intention or malice; if a man should kill another by accident, his life is forfeited by the law. And however favourable the circumstances may be, the emperor alone has the power of remitting the fentence; a power which he rarely, if ever, exercises, to the extent of a full pardon. The process of every trial for criminal offences, of which the punishment is capital, must be transmitted to Peking, and submitted to the Supreme tribunal of justice, which affirms or alters according to the nature of the case. The execution of all capital crimes takes effect once a year, at the fame time; and the number, feldom above two hundred, is very small for so populous an empire. In most cases, indeed, fine and imprisonment, slagellation and exile, are the usual inflictions, except in cases of murder, and in crimes against the state or emperor. The punishment of treason extends even to the ninth generation. A traitor's blood is supposed to be tainted, though they usually fatisfy the law by including only the nearest male relations, then living, in the guilt of the culprit, and by mitigating their punishment to that of exile. Theft is never punished with death; nor is robbery, unless it be accompanied with personal injury. The moderation of those punishments feems to imply the infrequency of the offence. In a variety of capital punishments, strangulation is deemed less infamous than decapitation: the feparation of any part of the body from the remainder being confidered as particularly diffraceful. The punishment of the Canque, which confilts of an enormous block of wood, with a hole in the middle, to receive the neck, and two smaller ones for the hands of the offender, is generally inflicted for petty crimes. This ambulatory pillory the culprit is fentenced to wear for weeks or months together, provided he is able to walk about, but he is generally glad, for the support of his degrading burthen, to lean against a wall or a tree. If a fervant of a civil mag drace takes it into his head that the culprit has relled too long, he beats him with a leathern whip till he rifes. The punishment of the bamboo, however degrading it mult appear to · VOL. VII.

an European, is ordered upon a very fummary hearing upon any individual not in the rank of mandarins; and a viceroy has not only the power of degrading lower officers, but directing, without the form of a trial, any punishment, not capital, on them. Every mandarin may make use of the baton, or pan-tzee, which is a flat piece of bamboo, broad at the bottom, either when any one forgets to falute him, or when he administers public justice. On such occasions, he sits at a table, upon which is placed a bag filled with fmall flicks, while a number of petty officers stand around him, each furnished with some pan trees, and waiting only for a lignal to make use of them. The mandarin takes one of these little flicks and throws it into the hall of audience, upon which the culprit is feized, and receives five fmart blows from the pan-tzee; if the mandarin draws another flick from the bag, a fecond officer bestows five more blows, and the punishment is thus continued till the judge is pleased to make no more fignals; when the criminal is expected to proftrate himfelf in gratitude for the paternal discipline. Some crimes are punished either with banishment, or by being condemned to drag the royal barks for a term of years, or to have their cheeks branded with a hot iron. Children who are deficient in duty, are condemned to receive a hundred blows; and if they lift up their hands against their parent, or use abusive language, they are punished with death. The flightett punishment in China is the bastinado, which is only used for chastifing those who are guilty of very trivial faults, and the number of blows is estimated according to the nature of the offence. The lowest number is twenty, when the punishment is considered as paternal correction. The emperor even orders it to be inflicted upon force of his courtiers, which, however, does not prevent them from being afterwards received into favour.

The order and administration of the jails are said to be remarkably good. The debtor and felon are confined in feparate places, it being thought impolitic and immoral to affociate guilt with imprudence or misfortune. The two fexes are likewife kept carefully apart. Confinement for debt is only temporary; but if after the delivery of all, the debtor's property be infufficient to fatisfy the demands against him, he is liable to wear a neck-yoke in public, for a certain period, to induce his family, if able, to discharge the debt. If his infolvency has been incurred by gaming or other improper conduct, he is subject to corporal punishment and exile. A min may fell himfelf in China in certain cases, such as discharging a debt to the crown, or to affet a father in dillrefs, or to bury him in due form. If his conduct is unimpeachable, he is entitled to his liberty at the end of twenty years; but if otherwife, he continues a flave for life, as do his children also, if he had included them in the original agreement. The emperor's debtors, if fraudulently fo, are strangled; if through misfortunes, their wives and children, and property of every kind, are fold, and they themselves are fent to the new settlements in Tartary. In China, the intereils of the emperor are always made the first object; no property can be secure against his claims. Difputes among individuals concerning property, do not fill up a large space in the transaction of Chinese affairs. Property, whether real or personal, is held by tenures too simple to occasion much difference of opinion as to the right to it. There are no entails nor fettlements, and the little commerce they maintain with foreigners, together with the uniformity of their own principles, customs, and opinions; but above all, the union which exists in families, among whom, elsewhere, the exclusive rights of individuals occasion the greatest feuds; and the fort of community in which most of them continue in China, cut off the principal fources of diffention.

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The halls of audience are, in fact, more engaged in folicita- granulation. The boiler of fugar endeavours to enter into tions than in contests, and men of talents are employed, tometimes, to support the cause of others, who are young, ignorant, or incapable; but there is no particular order of men, who subfitt in affluence, as lawyers and attornies; or who arrive at dignitics like the former. The impartiality of the judge is endeavoured to be fecured by appointing no man to that office in the province of which he is a native. He is, however, liable to be swayed by the weight of prefents. Such offerings are universal from an inferior to a fuperior, and from a pleader to his judge. They are paid by both parties, and the value of the prefents is not afcertained: it is even expected, that the offerings should be in proportion to the opulence of the donor. By the laws relating to property, women in China are excluded from inheriting, where there are children, and from disposing of property; but where there are no male children, a man may leave by will the whole of his property to the widow. The reason affigned for women not inheriting is, that a woman can make no offering to deceafed relations, in the hall of ancestors. And it is deemed one of the first bleffings of life, for a man to have fome one to look up to, who will transmit his name to future ages, by performing, at certain periods, the duties

of this important ceremony.

Natural Productions and artificial Curiofities of China. Among the natural productions of China must be mentioned the tallow-tree, called by Linnaus croton feliferum, from which the Chinese obtain a vegetable fat for their candles. This fruit, in its external appearance, bears fome refemblance to the berries of the ivy. As foon as it is ripe, the capfule opens and divides into two or three divisions containing kernels, each attached by a separate foot-stalk, and covered with a white fleshy fat substance. The fat is separated from the kernels by crushing and boiling them in water, and the candles made of it are firmer than those made of tallow, and free from all offensive smell; the wicks are generally made of a light inflammable wood, in the lower extremity of which is pierced a fmall tube, to receive an iron pin, which is fixed on the flat top of a candleftick, and thus supports the candle without the necessity of a focket. The tallow-tree is faid to have been transplanted to Carolina, where it flourishes as well as it does in China. Sugar canes are very much cultivated in China; the plantations of which, belonging to individuals, and being but of little extent, the expense of erecting sugar-mills is too heavy to have one upon each plantation. The business of extracting the juice of the cane, and of boiling it into fugar, is there a feparate undertaking from that of him who cultivates the plant. The boilers of fugar travel about the country, with a small apparatus sufficient for their purpose, but which a West India planter would consider as inefficacious and contemptible. It is not a matter of great difficulty to travel with this apparatus, as there are few plantations of which some part is not accessible by water-carriage. A few bamboo poles and mats are deemed fufficient for a temporary building; within which, at one end, is fixed a large iron cauldron, with a fire-place and flue, and about the middle, a pair of cylinders or rollers, fixed vertically in a frame. Upon the top of the axis of one of the cylinders, prolonged above the frame, are fixed two shafts or levers, curved in fuch a manner as to clear the frame in turning round the rollers, and to the end of these shafts are yoked two buffaloes, who, moving round as in a common cattle mill, prefs the canes between the cylinders, and express their juice, which is conveyed through a tube into the cauldron. The canes, deprived of their juices, become fit fuel, by means of which those juices are boiled into a proper consistence for there. See PORCELAIN.

an agreement with feveral planters at a time, fo that his works, erected near the centre of their feveral plantations, may ferve them all, without changing his establishment. During the time he is employed, the fervants and children of the planter are bufily engaged in carrying canes to the mill. The canes are planted very regularly in rows, and the earth carefully heaped up about the roots; and under the roots of the canes is found a large white grub, which, fried in oil, is eaten as a dainty by the Chinese. In the neighbourhood of the canes are likewife feveral groves of orange trees, of the fruit of which there is a great variety in fize and colour. The pines, which bear large cones, have kernels much relished by the Chinese; and every mountain, either too steep, or too rocky, to be applied to any other use, is planted to the top with various kinds of pines, but most generally with the

larch, as preferred for the purpofes of building.

On the fides and tops of earthen embankments, dividing the garden grounds and groves of oranges, the tea-plant is feen growing like a common thrub feattered carelefsly about. Wherever it is regularly cultivated, it rifes from the feed fown in rows, at the distance of about four feet from each other, and is kept very free from weeds. Vall tracks of hilly land are planted with it, particularly in the province of Fo-chien; its perpendicular growth is impeded for the convenience of collecting its leaves, which is done first in spring, and twice afterwards in the course of the fummer. The largest and oldest leaves, which are the least esteemed, and destined for the uses of the lowest classes of the people, are often exposed to fale with fearcely any previous preparation, but the young leaves require much trouble before they are fit to be delivered to the purchaser. Every leaf passes through the singers of a female, who rolls it up almost to the form it had assumed before it became expanded in the progress of its growth. It is afterwards placed upon thin plates of earthen ware or iron, made much thinner than can be executed by artifts out of China: thefe plates are placed over a charcoal fire, which draws all the remaining moisture from the leaves, and renders them dry and crifp. The colour and astringency of green tea is derived from the early period at which the leaves are plucked. The tea is packed in large chefts, into which it is preffed down by the naked feet of the Chinese labourers. It is fometimes made up into balls, and fometimes a black extract is drawn from it, to which many virtues are attributed. This plant is cultivated in feveral of the provinces of China, feldom more northerly than about thirty degrees beyond the equator. It thrives best between that parallel and the line that separates the temperate from the torrid zone. Such immense quantities of tea are raifed in China, that a sudden failure of a demand from Europe would not be likely to occasion any material diminution of its price at the Chinese markets, though it might be attended with inconvenience to particular cultivators. See THEA.

Another natural production of China is the pe-tun-tfc. used in the manufactory of porcelain, which is a species of fine granite, or a compound perhaps of quartz, felispar, and mica, in which the quartz feems to bear the largett proportion. It appears from experiment that it is the fame as the growan flone of the Cornish miners. The micaceous part, in some of this granite, often contains particles of iron; in which case it will not answer the potters' purpose. This material can be calcined and ground much finer by the mills of England than by the imperfect machinery of the Chincle, and at a cheaper rate than the prepared pe-tun-tle of their country, notwithstanding the cheapness of labour

The bamboo is a curious and beautiful, as well as a valuable plant. It is properly a reed, hollow, and generally jointed; it is supposed to flourish most on dry ground in the neighbourhood of running water. Its growth is quick, attaining its height, about twenty feet, in a year and a half. It has the properties of being equally light and folid, and it rifes out of the ground with a trunk of which the diameter contracts as its length increases; the branches of the bamboo are few, and of a light shining green; the leaves are long and delicate. Within the hollow of its joints is frequently found a singular substance of a siliceous nature, which has been used in some countries as a medicine. The Chinese reckon above fixty varieties of the bamboo, and apply it perhaps to as many uses. See Arnno.

Of all the artificial curiofities in China, their stately towers are the most striking to strangers, though built in a ftyle peculiar to this country. There are two of thefe without the walls of Nanking, the most beautiful of which, flyled the Porcolain Tower, because it is lined all over the infide with China tiles, beautifully painted, is the most admired by all travellers, for its height, fymmetry, and varicty of carving, gilding, and other ornaments. It is of an octagonal form, nine stories, or two hundred feet high, and forty feet in diameter; so that every side is sifteen feet in length. The whole is built on a large basis of brick, ftrongly cemented, which forms a stately perron, or flight of nine or ten steps, likew fe of an octagonal figure, by which you ascend to the first story; and this perron is furrounded with a balustrade of unpolished marble on the outfide. The first story, or, as it is called, the hall, is the highest of all, but has no windows, nor any light but what comes in at three spacious gates, which open into it. The wall is faid to be about twelve feet thick, and eight and a half high, cased with porcelain, but of the coarser fort, and not a little damaged by age. From this you afcend to the fecond, and thence to all the other ftories, which are of equal height, by a very inconvenient stair-case, the steps of which are ten inches high, and very narrow. Every flory has eight large windows, one at every front. They all leffen, as they mount one over the other, fo as to form, in the whole, a kind of cone, or fugar-loaf; and between each of them is a penthouse or shed, which projects some yards from the wall all around, and leffens in the fame proportion the higher they rife. Each room is adorned with paintings and other ornaments, after the Chinese Ityle, both on the fides and on the ceiling, whill the outfide is embellished with variety of work in baffo-relievo, niches, and imagery. But the most beautiful part of the whole fabric is a kind of cupola, which arises thirty feet higher than the uppermost flory, and is supported by a thick mail, fixed at the bottom of the floor of the eighth flory. This piece feems to be inclosed in a large iron hoop, all the way, which winds round it like a spiral line or ferew, at the distance of several feet, fo that the whole looks like a hollow cone riling in the air, and supporting on the top a golden ball of an extraordinary lize. Such is the structure of that famed tower, which, whether of brick, marble, or whatever other material, is looked upon by Le Compte, and other authors, as the belt contrived, most folid and magnificent work in all the East. Nieuhost adds two circumstances concerning it, viz. that the ball, or pine-apple on the top, is reported by the Chinese to be of massly gold; and the other, that the tower bath flood feven-hundred years, and was erected by the Tartars, as a monument of their having made themfelves matters of the Chinese empire; whereas Le Compte riflicms it to have been, in his time, of no more than three hundred years tlanding, and to have been built, together

to which opinion Du Halde feems to subscribe. Most of these towers have in the uppermost gallery, and at every angle, fmall bells hanging at fome diltance, by chains or wires, which are eatily moved by every blaft or wind, and make an agreeable tinkling. But the greatest delight which these kinds of structures afford, is the charming prospect of all the country, exhibiting an incredible number of villas, orchards, gardens, meadows, towns, and monuments. They have a prodigious number of temples, both in town and country. The most celebrated of them are built in barren mountains; to which, however, the industry of the natives hath given beauties which were denied to them by nature; fuch as canals, cut at a great expence, to convey the water from the adjacent heights into proper refervoirs, for the use of the bonzes and their votaries; gardens, groves, and deep grottoes, cut into the rock, to shelter them from the excelfive heat; circumstances which render these solitudes delightfully romantic. These structures consist partly of fine porticos, paved with large square polished thones, and partly of halls and pavilions, reared in the corners of the courts, having a communication with each other by galleries, adorned with statues either of stone or brass. The roofs of these buildings shine with beautiful japanned tiles, of green or yellow, and are embellished at the corners with dragons of the same colour. The rest of those buildings are built of timber, and most of them have high towers. Most of the cities have large bells fet up in their high towers, by which they give notice of the different watches of the night; and those which have no bells make use of large drums. Some of their bells are of a monttrous bigness and weight; but the largest of all are those of Nanking and Peking. Le Compte mentions seven they have in the latter of these cities, that weigh one hundred and twenty thousand pounds. This is nearly five times the weight of that at Erfurth in Saxony, which Kircher supposed to be the largest in Europe. But the Chinese bells are very much inferior to those of Europe in found; their clappers are of a hard wood. Their metal is very coarse, and sull of knots, and their shape illcontrived, for they are almost as wide at top as at bottom, their thickness gradually lessening from the bottom upwards; fo that, upon the whole, they are mere unwieldy maffes of metal, without mulical tone, or any thing worth notice, but their huge, dull, beavy found, and prodigious weight. The last artificial curiofity we shall mention, is their furprifing fire-works, in which they may be justly faid to excel all other nations. This was the chief use they made of gun-powder, which it is faid they had among them many centuries before it was known in Europe; they used to exhibit these fire-works at their solemn festivals and other grand occasions, and in a great variety of figures and reprefentations. They have carried this art to fuch perfection, that they can give to every object its true form and natural colour. Magaillan relates, that he faw one of them which represented a vine-arbour, that burned without confuming, the root, branches, leaves, and grapes of which appeared all in their true shape and colour; the grapes were red, the leaves green, and the stem and branches exactly imitated nature .- Afiatic Refearches. Univers. Hift. Anc. and Mod. Hist. Univer. d'Anquetil. Playfair's Chron. Sir George Staunton's Embaffy. Phillips's Inland Navigation. Groffier's Defeription of China. Barrow's Travels. Pinkerton's Geography.

CHINA, or China-ware, in the Manufactures, a fine fort of earthen ware, otherwise called porcelain; which see.

CHINA, gilding on. See GILDING on China.

CHINA, party. See PARTY.

CHINA, broken, a coment for. See CAMENT. CHINA pink, in Botany. See DIANTHUS Chinenfis. CHINA rofe. See HIBISCUS; Rosa Chinenfis.

CHINALAPH, in Ancient Geography, a river of Africa, the most considerable in the Numidia Mattasylorum, or prefent state of the Algerines, who call it Shellif. It takes its rife in the Sahara, or Defert, at the diltance of about 80 miles to the S.E. in N. lat. 35° 2'. The fountains which form its fource, from their number and contiguity, are known amongst the Arabs by the name Sebbiene Aine, or Sebaoun Aloun, the fountains. In its course it receives the Midroe, the Harbeene at the town of Medea, the Toddah, or Silver river, the Archew, the Mina, Woarissa, and Fagia. See SHELLIF.

CHINCHA, in Geography, a fertile valley of South America, in the province of Peru, where the ancient Incas had a temple dedicated to the Sun. It was formerly very populous, but now contains about 500 families. The town, whence the valley derives its name, is fituated about 16

miles N. of Pifco.

CHINCHE, in Zoology: Buffon calls the Viverra Me-

, Litis by this name. Skunk weefel of Pennant.

CHINCHILLA, in Geography, a town of Spain, in the province of Murcia; 25 leagues S.W. of Valencia.

CHINCHIMEN. in Zoology, a name given by Molina and Pennant to the Lutra felina, or otter, with the shape and appearance of a cat; its length from note to tail is 20 inches. Molina (Chili, 265), fays, that it inhabits the fea of Chili. It fwims about in pairs, and loves to balk in the fun, on the tops of rocks; and, when taken, has all the fiercinels of a wild cat.

CHINCHINA, in Botany. See CICHONA.

CHINCHIO, in Geography, a town of European Turkey, in the province of Dalmatia; 6 miles E. of Spalatro. CHINCON, a town of Spain, in New Castile; 18 miles

E.S.E. of Madrid.

CHIN COUGH, also called Kink-cough, and Hooping-

cough. See PERTUSSIS.

CHINCULAGUA, in Geography, a fnowy mountain of South America, in the Cordilleras of the Andes, in the province of Quito, N. of Cotopaxi, and of a somewhat

CHINE, in the Manege, is used for the back-bone, or the ridge of the back of a horfe. The French call it echine;

and the ancient Italian matters efquine.

CHINE, La, in Geography, a village of Canada, feated on the illand of Montreal, about 9 miles higher up, whither goods are fent from Montreal in carts, on account of the rapids in the river St. Lawrence just above the town. This village is built on a fine gravelly beach, at the head of a little bay near the lower end of lake St. Louis, which is a broad part of the river St. Lawrence. Its fituation is very agreeable; and from some of the storehouses belonging to the king and to the merchants of Montreal, are charming views of the lake and of the country on its opposite side. In the king's storehouse, the presents for the Indians are deposited as foon as they arrive from England. In fight of La Chine, on the opposite side of St. Lawrence, itands the village of the Cachenonaga Indians, containing about 50 log-houles and a Roman Catholic church, built in the Canadian flyle, and ornamented within with pictures, lamps, &c. The number of the Cachenonagas in this village is eitimated at about 150; the other Indian villages in the civilized parts of Lower Canada are, one of the Canaladogas, fituated near the mouth of the Utawas river; one of the little Algonguins, near Trois Rivieres; one of the Abera-

and one of the Hurons, near Quebec; but none of thefe villages are as large as that of the Cachenonagas. The bateaux that navigate the river St. Lawrence ascend from this place by means of poles, oars, and fails.

CHINESE Chronology. See CHINA and CHRONOLOGY. CHINESE Coin. See CHINA.

CHINESE Language. See CHINA. CHINESE Music. This subject, of which we knew so little, except from Pere du Halde, whose information did not much enlighten us, has been fo amply treated of late years, by Pere Amiot, the Abbé Rouffier, M. La Borde, and the authors of the Encyclopédie Méthodique, that little would remain to be faid, if we had not other refources from which to draw that which may, perhaps, vary our narrative, if not instruct the reader. The author of the present article, when collecting materials for his "General Hittory of Music in every civilized part of the Globe," did not forget China, the most ancient, extensive, and polished, empire that exists. He fent queries to an English gentleman, a good judge of music, who had resided many years at Canton, and who transmitted them to different distant provinces, whence he obtained answers in French and Italian, from missionaries long resident there; and our correspondent at Canton not only transmitted to us their answers, but sent with them a complete fet of Chinese instruments; among which there was every species of flutes, several thringed instruments of the lute and guitar kind, the \$20, formerly called yu, tokeo, he, and ching, the appellation to which we shall adhere in the course of this article. The ching is a beautiful instrument, which has a gourd, or bamboo, for its basis, and represents in the arrangement of its reeds or bamboo pipes, the column of an organ; with these we received the largest gong which had over been brought to England. These instruments were accompanied by Chinese airs in Chinese characters of notation, and in those of Europe, with a treatife on music translated into French from the Chinese, and a poem by the late emperor, Kien-Long, on the suppression of a rebellion in a distant province from the capital. These are dated Canton, 1775 and 1777. Further information from books and various other inquiring friends, was accumulated before lord Macartney's embally took place; when, by his lordship's friendship and liberal spirit of research, not only for the satisfaction of his own mind, but the service of others, he extended his patronage fo far as to defire the mutical historian to write down a feries of questions, not only concerning music, but any thing elfe that was wished to be investigated; and satisfactory an-Iwers were received to most of the queries delivered, at his lordship's return; drawn up by the learned and ingenious Mr. Huttner, travelling tutor to the son of the late fir George Staupton, a gentleman, who, previous to the Chinese voyage, had resided a considerable time at Naples, and is a well-informed mufician. Another cheft of instruments, and a gong were added to the collection by the kindness and liberality of lord Macartney, and from all these materials, we thall endeavour to furnish curious inquirers after Chinese music, with as much information as can be compressed into the space usually allowed to articles of a similar

Music has powers so opposite over human affections, that wherever it is cultivated it is fure of at least two fets of friends of very different dispositions, the grave and the gay. It can equally footh and exhilarate. The Chinese, the most grave, formal, and ringid people on the globe, boatt the having framed the proportions of mufical tones into a regular fyllem 4000 years ago, not only long before the time of Pythagoras, but that of the Egyptian " Hermes Trii-

megistus,'

megiftus." or the establishment of their mystagogues or priefts. But mufic, like other ancient arts, has fo much depended on the tranquil and prosperous state of the nations by which it has been patronized, that, after being invented, cultivated, and brought to a certain degree of perfection, it has partaken of all the viciflitudes and calamities of flates, and has been fo totally loft during the horrors of invafion, revolution, and ruin, that if, in a long feries of years, profperity should return, neither its music nor its system is to be found, unless, such fragments as, according to M. Baillie's aftronomy, we now poffels of the theory and practice of the ancient Greek music. The Chinese in their old books have the numbers of their ancient scales as we have at present the ratios of Euclid and Ptolemy, which give us (according to the abbé Roussier) the "true dimensions of each tone, and their reciprocal generation," which are insupportable on our keyed-instruments. So that music being lost after the crush of kingdoms, is again to be found by long labour, fludy, and experience; again to be loft, and again to be found! per omnia fecula feculorum.

It is well known in Europe (fays and believes Pcre Amiot) that Egypt had its Mercury Trifmegiflus, (thrice great,) who, by the fweetnefs of his lyre, civilized mankind. It is likewife as well known that Greece had its O-pheus and Amphion, who by their strains stopt the course of rivers, made rocks dance, and even in the infernal regions silenced Cerberus himself; but Europe has still to learn that China has had its philosophical mulician, its Lyng-tun, its Kouci, and its Pin-mou-kia; whose strains have been equally miraculous in taming the most furious wild beafts, and in civilizing mankind, often more ferocious than beafts themselves.

Pere Amiot de la Musique Chinoise.

The first chapter in the history of every great nation is mythological, and never to be literally understood. And to say the truth, there seems at present in the music of China less enchantment than in our own. Yet the vulgar of all nation prefer their old traditional tunes to the finelt compositions, and most exquisite performances that have

ever been heard in an opera-house.

"During the first years of my residence at Peking," says the reverend missionary, "I lost no opportunity of trying to convince the Chinese, that our music was superior to theirs. I was pretty well versed in the art; I performed on the German flute and harpsichord, and those I wished to please were not of an ignorant or mean order, but persons well educated and qualified to compare and judge; in short, persons of the first rank, who, honouring the French missionaries with their benevolence, strequently came to their bloose to converse with them on objects of science, and such

arts as were cultivated in China.

"Les Sauvages, and Les Cyclopes, the most admired harpfichord leffous of the celebrated Rameau, the most beautiful and brilliant folos of Blavet for the German flute, made no impression on the Chinese. I saw in their countenances only a cold and abfent air, which convinced me that nothing I played was at all felt. I asked them one day what they thought of our music, and begged them to speak sincerely. They anfwered with the utmost politeness poslible, that, "our music not being made for their ears, nor their ears for our music, it was not surprising that they did not feel its beauties, as they did those of their own country." "The airs of our music (adds a doctor among them, called Han-lin, and then in the fervice of the emperor) pass from the ear to the heart, and from the heart to the foul." We feel, we understand it : what you have been playing has no effect on us: the airs of our ancient music were still of a higher , order. They were not to be heard without rapture. All

our books abound with the most pompous encomiums of its charms; but at the same time they inform us how much the excellent methods employed by the ancients in producing such marvellous effects were lost, &c."

If Pere Amiot had tried to convert the Chinefe to a love for European music by French singing, we should not have wondered at his failure; but the instrumental pieces of Rameau and Blavet were justly admired in their day; and there have been long a neatness and precision in the execution of instrumental music in France, which has not been exceeded in any other country; so that if Pere Amiot did justice to the touch-stones with which he tried the feelings of the Chinese, it was natural to expect a different result.

But a similar disappointment happened to the English mulicians during lord Macartney's embaffy. His lordship took with him a complete military band of wind instruments, feveral of whom were able occasionally, to perform well on the violin and the violoncello. But the Chinese feemed wholly unmoved by the perfect execution of the best pieces, of the best composers, in Europe. Among the presents which his excellency took to the court of China, was a good barrel organ, made by Gray, as a curious specimen of our mechanism, upon which, besides our best popular tunes, were fet feveral favourite airs of their own country; to some of which a base was added, and others were set on the barrel in their native state, without any accompaniment whatever. The first they did not feel, and the others, perhaps, from not being played in the time and with the expression to which they were accustomed, they would hardly acknowledge. As it was well known that, with all their long cultivation of music, the Chinese had not arrived at counterpoint, or music in parts, the author of this article tried to betray them into a love of harmony, and " the concord of fweet founds."

Being in possession of the melody to the hymn that is annually fung by the Chinese with the utmost pomp, reverence, and solemnity, in honour of their ancestors, in the prefence of the emperor, entitled, "The Son of Heaven," attended on this occasion by his fons, all the princes of the blood, the great officers of state, the Mandarins, the lettrés, men of science, &c. and whose arrival is the fignal for the commencement of the hymn; and the melody to this hymn being, like our pfalmody, entirely composed of flow notes of equal length, it was thought a good foundation on which to build harmony in plain counterpoint; and as there are many stanzas to this hymn, a fundamental base only was added to the melody at first; then a second treble; and, afterwards, a tenor; after which a little motion was given to the base, followed by other additional notes to the tenor and bafe, but always taking care to enforce the principal melody by one of the other parts, either in unifon, or in the octave. But this had no other effect than to try the patience and politeness of the Chinese, who heard it without emotion of any kind. And when it was over, one of the Mandarins, an accomplished man of good sense and good breeding, who attached himse'f to our ambassador, and seemed impressed with a fincere friendship for him, faid, but with the utmost politeness, that " he doubted not but that our music was very fine to ears accustomed to it; but that they were not able to understand it. The additional parts confused and bewildered them; they difguifed the air, and rendered it doubtful which was the principal found, adding that fuch mufic was too complicated for them, and required more attention than they were accustomed to give to their own airs."

Such are the effects which our harmony has on the cars of the most enlightened Chinese, and indeed on those of all nations out of Europe. So that the opinion of Rousseau,

that " our harmony is only a Gothic and barbarous invention. which we should never have thought of, if we had been more fentible to the true beauties of the art, and to mufic truly natural," almost ceases to be a paradox.

We thail now endeavour to give a synopsis of the ancient mufical lyttem of the Chinefe, which, if its chronology is just, must have preceded every other regular fystem upon

earth.

The fystem of Chinese music bears date from the beginning of the monarchy, at least 2637 years before the Christian era; a proof, according to Pere Amiot, that the Chinese are the original authors of the fyllem of mufic, which has been fo long known in their country; and if it has been altered and abridged in later ages, it mult have been from the corruption and decay of the first principles upon which it was founded; and from its being mixed and united with vain and abfurd sciences, such as divination by numbers, and judicial aftrology, that men of true science have abandoned.

The Chinese have had, at every period of their history, en univertal tyttem, united in all its points, to which every thing was connected and referred, as well in politics, as phyfies and morality. To this fystem they have wished, in some way or other, to make the rules of mulic accord as well as those of other sciences, connected with their religious and civil establishments. And Pere Amiot, being pressed to declare what were the peculiar excellencies of the primitive mulic of the Chinese, from which it derived its miraculous powers, and whether he thought they had ever known harmony or music in parts, similar to that of modern times? he answered in the affirmative; and added, that he thought the Chinese were probably the nation in the world that has belt known harmony, and most universally observed its laws. But what is this harmony? " It is that which confilts in the general accord of all things natural, moral, and political, including whatever conditutes religion and government; an accord of which the science of found is only the representation and the image." So that the expressions concerning this divine music, of which the learned missionary and the Abbé Rouffier have laboured fo much to explain the laws, are only allegorical and figurative! even the form of their mufical inflruments was metaphorical.

Their hiltorians tell us that Fohi, the founder of the Chinese empire, 2052 B.C., was likewise the inventor of music; that in framing the instrument called kin, a long instrument ftrung with filken strings; the belly of which was curved to represent the heavens; the back was level to represent the earth; he placed the dragon (the fymbol of China) eight inches from the bridge to represent the eight points of the winds, and gave four inches to the neck of the Foung-Hoang to represent the four seasons of the year. This instrument was furnished with five thrings to represent the five planets and the five elements, and its total length is fixed at feven feet two inches to represent the universality of things. By means of this instrument he began by regulating his own breatt, and confining his passions within just bounds; he afterwards laboured at the civilization of mankind; he rendered them capable of obeying laws, performing actions worthy of recompence, and of peaceably cultivating the earth, which gave birth to the arts. Fohi had patriarchal longevity, having reigned 115 years.

This is all symbolical and imaginary music; all that concerns real mufic that is intelligible is, that (according to Pere Amiot) long before Pythagoras, or any of the ancient fages of Greece, had travelled into Egypt, before the elfablishment of Hierophants, and even before the time of Mercury himself, the Chinese knew the division of the octave into twelve femitones produced by a gammut or feries of fourths

and fifths by the Abhé Rouffier's favourite triple progreffion. Of this feries of perfect fifths, however, the ancient Chinete used only five, beginning at F, the fundamental of their fystem, which produced the following treble scales either way, by beginning at the top or bottom of their great Lu, as each diffinct arrangement of founds is called.



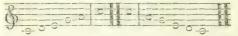
And by giving to thefe founds a regular diatonic progression, they furnish the following scale without semitones:



and which is, in fact, the precise Scots scale, that may be played on the short keys of a harpsichord, or piano forte, in G b or F *, for example:



Beginning in C, the scale would be equally deficient.



Had they purfued the feries of 5ths two degrees further. they would have had E and B; which would have furnished the two femitones necessary to complete the scale in C natu-

The kin (which may be called the lyre of Fo-hi), all agree, had at first but five strings, which were afterwards increased to feven. But in process of time, they were again reduced to five, on which the tunes in prefent use feem chiefly to be formed, as those that are genuine, and not adulterated by Europeans, who write them down by memory, have no femitones.

Pere Amiot's book is crowded with fcales, fystems, calculations, and diagrams, which leave us as much in the dark as ever; as to what this learned mufic was, which ancient fages regarded as the univerfal science, the science of sciences,

whence all other feiences flowed.

Father Amiot did not well know what to do with his Chinese musical discoveries, till he saw the Abbé Roussier's Treatife on the music of the ancients; nor the Abbé how to illustrate his Pythagorean ideas, till he faw the papers of Pere Amiot, of which papers he afterwards became the editor, and published them in the fixth vol. des Memoires concernant l'Histoire, les Sciences, les Arts, Ge. des Chinois. La explaining and commenting the work of Pere Amiot, the Abbé had a good opportunity, which he did not neglect, of harmonizing the Chinese lyttem with his own.

Not a passage of the ancient music is preserved, or the

after all these scales and calculations which seem to imply that real practical music, "which at once delighted the sense and gratified the mind, by the evidence of demonstration;" we find that it was an allegorical music, as inaudible as that of

the fpheres. Father Amiot observing that the Abbé Roussier spoke favourably of the Chinese, in his Memoire fur la Musique des Anciens, fays, the Abbé Roussier might, with the affiltance of the Chinese, have become the flambeau; at once to enlighten men of letters and harmonitts; the first by a research

kind of mufical omnipotence which it formerly enjoyed, and

into ancient usages, and the last in recovering to China that which it has unhappily fince loft. This is another specimen of the wide extent of father

Amiot's musical creed.

But one of his countrymen, a gentleman to whom queries concerning Chinese music had been fent, who had resided many years at Peking, and who feems to have understood the fubject better than Pere Amiot, says, " To hear the Chinese talk of their mufic in ancient times, we should suppose it to be fomething marvellous; they confess, themselves, that not a veftige of it remains, and never ceafe deploring its lofs : but for my part, I can hardly believe that their anceltors had carried the art of music to such a high degree of perfection; if they had, the present Chinese could not fail to have a kind of music at least tolerable, and I am inclined to be of the fame opinion as one of their lettrés, who told me, that what we read in their books concerning the excellence of their ancient music, should not be understood literally, but figuratively, of the good harmony between the prince and people, and the different orders of the state."

The emperor Kan-hi, the grand-father of the late emperor Kien-long, who began his reign in 1662, and reigned 61 years (Eloge de la Ville de Moukden, Poeme par l'Empereur Kien-long, 1770, Svo.), was a true lover of arts and sciences, who tried to procure from the Europeans residing at Peking all the knowledge possible on every fort of subject. With their affistance he had new books written in the Chinese language upon astronomy, mathematics, geography, medicine, &c. which ought to be recorded in our hillories, that if in future times it is faid that excellent books on these subjects have been written in China, it might be known to

whom the best are due.

The ancient Chinese had no notation; but at present they express founds by the characters of their language, in imitation of the Europeans. But they have no modulation, and confequently know not what is meant by a b, *, or half

note.

In the fouthern part of China they have only five notes or tones in the octave; but in the north, bordering on Tartary, feven can be dillinguished. The generation of the 12 lu, or scales, in this MS. tract, differ considerably from those of Pere Amiot. But these scales, in Chinese characters, for which we have no types, though they might gratify curiofity, could convey no more intelligence to the reader concerning the practical music of the Chinese, than those in the treatise of Alypius, in Meibomius, of the practical music of the Greeks, concerning which we know little more than the alphabet.

After the scales and table of the twelve lu, or orders of founds, combined with the five tones, or rather table of the variations of different lus, the very intelligent correspondent of our zealous friend (Mr. R.) concludes thus: "This, fir, is all that I can at prefent communicate concerning the mufic of the Chinese, of which Kan-hi faid with great truth, the more pains were taken to understand it, the more obscure

least idea fuggested of what kind it literally could be; but and perplexing it became, for want of being able to trace it

up to its true principles.

" It was asked, whether cunuchs were employed as fingers on the stage, or in the palace; and the answer was, that some from Europe had been introduced in the palace early in the reign of the late emperor, as mulicians, to fing, play on instruments, and teach others; but that was not of long continuance; and now, as formerly, no other use is made of them than as guardians of the wives and concubines of the emperor and of great personages." This communication bears date. Peking, 1780.

We have a letter, likewise procured by Mr. R. from an Italian missionary, on the same subject, who had been near thirty years in China, and had been admitted into the imperial palace to perform to the emperor, among European muficians, who had been fent for, expressly, for that purpose.

Of the ancient mufic of the Chinese we can have no account but from books, equally fabulous with Egyptian mythology and the Grecian pantheon. But of the modern; we can form an idea, not very wide of the truth, by correspondence and conversation with intelligent persons, judges of European music, who have long resided in China, as well as by drawings of their instruments, and by the instruments themselves in our possession, and by specimens of Chinese melodies (they have had nothing else) current from time immemorial, and they are still current throughout the empire.

But the national airs of China being appropriated to particular times and occasions, are constantly recognized, felt; and understood; so that no Chinese Fontenelle need ask, "Sonate que vent-tu?" the times and the feafons would fave him that trouble. Some of these airs are only publicly performed once a year, others twice, and the rest are usually confined to one particular occasion. In high antiquity the nomoi of the Greeks had all appropriate names and applications; and their ancient modes the fame, which must greatly heighten their popular effects. "God fave great George our King," in turbulent times, and "Rule Britannia" (which has supplanted "Britons strike home") in time of war, are proofs of the effects of appropriate tunes.

But the variety after which musicians and dilletanti are ever craving in Europe, prevents all popular effects from new music, however good the composition and performance. Fine mulic can never have the general effect of familiar and simple airs, which require no science to comprehend. Mr. R.'s friend fays, that Pere Amiot has written a treatife of great length on the music of the Chinese, chiesly the ancient, which has certainly fuffered many changes from time, and which is now very difficult to verify. It is by the Europeans that the notation which the Chinese now have has been furnished, from their own alphabetic characters. given for the inflruments does not correspond with the same European notes as the vocal.

The Chinese, formal and symmetric in every thing, have a specific number of airs for great occasions, which are never

changed or varied.

1. The court airs, performed on the emperor's birth-day, and on days of ceremonial, but always when his imperial majetly is prefent.

2. Airs to inspire true concord and national felicity, performed at the beginning and end of each year, when the emperor

ascends his throne.

3. Airs of incidement to virtue, when an eloge on the emperor is read, and his imperial majetty offers facrifice in a temple to the fouls of his anceftors.

4. Ditto, on another day of facrifice.

5. When his imperial majetty dines in public.

7. Ditto at the foldicial ceremonies, when the emperor

limited to a cutain number, and to inflruments of different

This will account for the torpid state of the art, and the pean music. People must learn to hear music, as well as to perform it. There is no forcing pleasure on any animal,

pulfion, Hal!"

The Chinese began with simplicity, and habit has fixed began their prefent poliphonic music with complication and eternal change of flyle; and effutions of unbounded imagination will preclude fimplicity, and prevent any mufic from living to be superannuated, or becoming venerable for its antiquity.

On the grand annual feall given by the emperor when he receives the homage of governors of provinces, chiefs of tribes, tributary princes, &c. the grand mulic begins. It has nine flrains, or movements, performed between the feveral courses, which are eight in number. The first music precedes the first course, the other seven are severally performed between and after the eight courses. Pere Amiot.

Of all the Chinese instruments which we have seen, or which have been described in books, there is no one which feems likely to please Europeans, except one instrument made of a fonorous stone, and another of small reeds of the bamboo. The instrument formed of the pierre fonore is of the highest antiquity, and mentioned with great encomiums

in their most ancient books.

It is hard to fay whether it was an invention of the original inhabitants, or brought thither by colonial invaders. The instrument is called the king, is made of all shapes and fizes, hanging like a bell, and beat with a covered mallet, like a gong. Its tone is as clear as if of glass or metal. This fonorous stone Pere Amiot believes to be metalline crystallized, of sive different properties; hardness, weight, colour, grain, and tone. It is as hard as agate and precious flones; fo that it relilts the best tempered steel. The harder It is so heavy, that a rude piece of it, such as one man might be thought able to carry, requires four to move it. As to colour, it partakes of yellow, carnation, white, red, cinnabar, and deep brown. It oft refembles marble of five colours.

The principal use made of these pierres sonores, is giving fignals for a concert to begin or end: the entrance or exit of the emperor, or other great personage, as in Europe by a great bell or cannon.

As to the pitch and tuning of these lapidary instruments, the Abbé Roussier tries hard to prove it to be from the

datum F, in the triple progression.

These instruments are suspended by a ring, or rings, to a frame, and the largest give the national pitch, F, to which the rest are proportioned. (See Plates, Music.)

One of the most useful qualities of the King, is, that its pitch is never subject to variation, by heat or cold, like

The Chinese have such a reverence for this instrument, that they hold it profauation to use it on common occasions, as the Germans do an organ; and think the English very profligate in using it any where but in a church.

Pliny I. 3. c. 10. mentions a sonorous stone, under the

6. Airs performed after a grand council has been held, and title Kannoparos. " Calcophonos nigra eft; fed illifa, wis

But the Ching is the only instrument that we have received from China which would please European ears. It is compoled of reeds of different lengths, arranged into columns of organ pipes. See Plate, Music. Its tone is more sweet and delicate than that of any of our wind inftruments. It is not loud enough for a theatre or concert room; but in a small apartment of a manfion, if cultivated by a mufician of taile and feience, it might be made the most exquisite and captivating of instruments. It has from 13 to 19 pipes, which speak either by blowing or inhaling, so that a tone may be continued to any length. It never speaks till a hole is stopt, and as many ventiges as are covered by the fingers, fo many founds will be produced; fo that duets may be played on a fingle individual inftrument, or even chords, which, if harmonically proportioned, like the tones of our inflruments, would greatly delight ears well organized. But no feale has ever been fent to Europe which has come to our knowledge. Pere Amiot evades giving one. The master of the Ching is equivalent to organist or maestro di capella. These regals, as we may call them, are of different fize and compals, and composed of a different number of reeds. small Ching, of which we have three in our own possession, has 13 pipes or reeds, which, fays the Abbé Roussier, give the 12 femitones of the octave above the generator, or principal. But query, how can we reconcile this to there being no semitones in Chinese melodies?

The belly of feveral stringed instruments in China is a

fection of the gourd or pumpkin.

Such is that of the Yee-Yen, which is played with a bow.

and has two strings which are tuned fifths.

But the Ching has fometimes a fection of the cocoa-nut for its basis. This instrument is composed of many pipes; each of its reeds has a different tone, produced by a very narrow, thin, brazen or copper plate, fuch as is used in the reed-work of an European organ,

The feale to this fweet little instrument, remains the

grand desideratum in Chinese music.

The Chinese vocal music is not likely to please any other ears than their own. Most of them, even boys not excepted, fing in falletto, and it feems as if a natural voice was as much difliked by them, as the original shape of a woman's embassy ever hear in China a base or tenor voice. This unnatural method of finging is not improved by the perpetual tumultuous motion of the voice.

The found of a double base they detell; yet, notwithstanding their dislike of low tones, on their feeming to like the baffoon better than any other of our wind instruments, lord Macartney offered to give it them; but they declined the acceptance, and immediately fet a joiner to work, who placing it on the ground, took the exact dimension of its feveral joints, keys, &c. and made one for themselves.

The Chinese have theatrical dramas, with and without mulic. Of the latter kind are their comedies and farces. But their tragic fcenes are generally accompanied with all the noise of drums, gongs, &c., and the screaming and bawling of mandarins, after which they commonly introduce

All the Chinese airs which we have seen or heard, are in common time. " At Canton (fays Mr. Hüttner) we were furprifed by an opera confilling of recitativos and airs that did not want expression. At least I observed that most of our party feemed to be highly pleafed with them, and though ignorant of the Chinese language, to understand in some measure the meaning of the words, which, if I am not miltaken, was

entirely owing to the excellent imitation of the different accents of the passions, and to their adequate movements and gestures. These players, natives of Nanking, reminded me of the famous music of ancient Rome. The instrumental music which constantly accompanied both recitativos and airs, was very pleafing and in excellent time.

" The military music of the Chinese is indeed miserable, and certainly not at all calculated to inspire courage. It has neither melody, expression, nor time. Hauthois and horns together make fuch a continued and jarring noife, as if they vied with each other to imitate the wawling of cats. Their horns, however, have a very good tone, and refemble our

ferpents.

"The best music we heard, was at the presentation of the embassador at Geho. After the emperor had ascended the throne and a religious silence prevailed through the numerous affembly, we were struck with a delightful music from the great tent. The foft found, the fimple melody, the folemn progress of a slow hymn, gave at least to my mind that elevation to which only Handel's music can raise it. For a long time I remained doubtful whether I heard human voices or influments, till the latter were feen by fome that flood nearer; they were flringed instruments, and a fort of bamboo-fyring. The hymn refembled those sung in protestant churches, but had no parts. Between each bar a feemingly metal cymbal founded the tone of the following bar, which had a very good effect; but this was probably a large pierre sonore, and the bamboo syrinx was doubtless a ching.

"What the Chin fe judged of the embaffador's band, I am not able to determine, but our interpreter told me, they liked their own music much better. They took great notice of the construction, neatness, and management of our musical

instruments; as well as of our musical notation.

" For though the missionaries have introduced musical figns in China, they feem to be known only by a few individuals, more as a curiofity, than as the easiest and most accurate method of communicating mufical ideas. All the music we heard was played by rote, yet I have seen several printed Chinese books of music or musical notes.

" The gentlemen in the embassador's suite, who are fond of music, fometimes used to take a part in the concerts performed by the band. At this some of the mandarins were furprised: upon my inquiring the reason, I learnt that they, like the Romans, thought music no proper amusement for a

gentleman."

That the exquisite harmony with which Mr. Hüttner was fo surprifed and pleased on the day of presentation in the great imperial tent, was produced by the Ching, we have no doubt. That instrument, of which the tones are so extremely fweet, has harmony in itself, as every ventage in the swazzuds, or pipes of which it is formed, when stopt by a finger of the player, produce a different tone; and as many holes as are flopt produce an equal number of founds; and though we know not the scale, nor how to find the several notes, so as to form melody or harmony, yet by chance at different trials, we have found 3ds, 5ths, 8ths, and every interval confonant and diffonant in the diatonic scale.

Mr. Barrow's account of the music that was prepared for the embassador and his suite at Canton, is the following:

On the arrival of lord Macartney and his officers at the factory, they found in the midst of a garden prepared for them on the opposite side of the river, " a company of comedians hard at work in the middle of a piece, which it feamed had begun at fun-rife; but the fqualling, and their shrill and harsh music, were so dreadful, that they were prevailed upon, with difficulty, to break off during dinner, merly the refidence of the emperors, and one of the largest VOL. VII.

which was ferved up in a viranda directly opposite the

" Next morning, however, at fun-rife, they fet to work a-fieth, but at the particular request of the embassador, in which he was joined by the whole fuite, they were difcharged, to the no small astonishment of our Chinese conductors, who corcluded, from this circumstance, that the English had very little taste for elegant amusements. Players, it feems, are here hired by the day, and the more inceffantly they labour, the more they are applauded. They are always ready to begin any one piece out of a lift of 20 or 30 that is presented for the principal to make his choice." Travels through China.

But though the music of the Chinese is severely censured by the gentlemen of the embaffy, they all agree that they are excellent actors. The best of those that perform at

Canton generally come from Nanking.
CHINESE Philosophy, Poetry, &c. See CHINA. CHINESE Stoves. See KANG. CHINESE-Wall. See CHINA and WALL.

CHINESE Weights. See CHINA and WEIGHT. CHINESE Wheel. See WHEEL.

CHINEY, or CINEY, in Geography. See CHINY. CHING, a town of China, of the third rank, in the

province of Tche-king; 10 leagues S. of Chao-hing. CHING, OF CHING-TING-FU, a town of China of the first rank, in the province of Pe-tche-li, feated near a fine river, of an oblong figure, and walled, and near 4 miles in circuit. Under this are 32 cities, 5 of the second, and 27 of the third rank. Upon the adjacent mountains N. of it, which produce a great variety of medicinal herbs, are feveral fuperb monuments erected to the heroes of the Chinese, and one in particular, confecrated to the memory of the first emperor of the dynasty of Han.

CHING-CHEW, a city of China of the first rank, in the fouthern district of the province of Hou-quang.

CHINGE, in Zoology, the name given by Molina, who has first described it, (Chili 269,) to the Viverra Chinge, or black weazle, with changeable casts of blue, with a row of white spots from head to tail. In shape and general form, it refembles the Chincha, which fee. It is a native of Chili; and Molina fays, that the smell issuing from it is owing to a certain greenish oil, ejected from a follicle or receptacle near the tail. The Indians are faid to value the skin of this species on account of its beauty, and to use it for various purpofes, quilts, &c. &c. Shaw.

CHING-HAI, in Geography, a town of Asia, in the kingdom of Corea; Co miles E.S.E. of Kang-tcheeu. CHING-HO-ANG, a mountain of China, in the pro-

vince of Tche-kiang, near its capital, Hang-chen, or Hang-tcheou-fou; on which flands a high tower, which, by the help of a large water glass that is made to turn the hand of a dial, shews the hour of the day at a considerable distance; the figures of the hours being gilt, and about 18 inches long.

CHING-KYANG, or TCHING-IANG-FOU, a city of China, of the first rank, in the province of Yun-nan.

CHINGOLEAGUL, a fmall American island, near the

coaft of Virginia. N. lat. 37° 56'. E. long. 75° 26'. CHING-GONGO, a river of Hindooftan, which rifes in the Ellichpour country, and runs into the Godavery, 16 miles S.W. of Neermul.

CHING-NGHAN, or TCHIN-NGAN-FOU, a city of China, of the first rank, in the province of Quang-si.

CHING-TU, or TCHING-TOU-FOU, a city of China, the capital of the province of Se-chwen, or Se-tchuen, forand most beautiful cities of China; but in 1646, it was almost entirely destroyed during the civil wars which preceded the last invasion by the Tartars; its temples, bridges, and the ruins of its ancient palaces, are still objects of admiration to strangers. Father Martini, in his Chinese Atlas, mentions a singular bird that is seen in the neighbourhood of this place, called "tong-hoa-fang," or the bird of the flower; "tong-hoa," from which the vulgar pretend that it is produced, on account of the resemblance of its plumage to the colours of this slower; so that it is called the "living flower." This city has under its jurisdiction 6 cities of the second, and 25 of the third rank.

CHINIAIV, ST., a town of France, in the department of Hérault, and chief place of a canton, in the diltrict of St. Pons. The place contains 2838, and the canton 7105, inhabitants; the territory includes 230 kiliometres, and 10

communes.

CHINIZ, a town of Persia, in the province of Farsistan, situated on the Persian gulf; 140 miles W. of Schiras.

CHIN KIEOU, a town of China, of the third tank, in the province of Ho-nan; 15 leagues N.E. of Yun-hing.

CHIN-LI, a town on the N.W. coast of the island of Hairan, of the third rank; 12 miles W. of Kiong-tchcou. CHIN-MOU, a town of China, of the third rank, in

the province of Chen-si, on the river Kin; 50 miles N.N.W.

of Kia. CHINNA, in Ancient Geography, a town of Europe, in

Dalmatia. Ptolemy. This is named Cinna in Antonine's Itinerary.

CHINNABALABARAM, in Geography, a town of

CHINNABALABARAM, in Geography, a town of Hindooftan, in the Myfore country; 85 miles N.E. of Serioganetam. N. lat. 13° 25′. E. long. 77° 5′′.

Seriogapatam. N. lat. 13° 25'. E. long. 77° 5'. CHINNAPUTTUN, a city of Hindooltan, with a fort of flone, in the Nizam's territories, 37 colles, or about 56½ geographical miles W.N.W. from Sanore-Bancapour.

CHINNOR, an inflrument of mulic among the Hebrews, confilling of thirty-two chords. Kircher has given

a figure of it.

CHINON, in Geography, a town of France, and principal place of a diltrict, in the department of the Indre and Loire; fituated on the Vienne, and defended by a flrong callle. The place contains 6106, and the canton 15,040 inhabitants; the territory includes 247½ killometres, and 13 communes. It is diffant 8 leagues W. S.W. from Tours, and 4½ S.E. from Saumur.

CHINQUIS, in Ornithology, the name given by fome writers to the Tibet peacock, Pavo Tibetanus, which fee. CHINSE, in Sea Language, is used for thrulling oakum

into a feam or chink, with the point of a knife or chiffel.

CHIN-SHAN, or the Golden Mountain, in Geography, an illand of China, fittated in the middle of the river Yang-fie-kiang, which rifes almost perpendicularly out of the river, and is interspersed with gardens and pleasure-houses. Art and nature seem to have combined in giving to this spot the appearance of enchantment. It belongs to the emperor, who has built upon it a large and handsome palace, and on the highest eminence several temples and pagodas. The illand also contains a large monastery of priests, by whom it is chiefly inhabited. In one of the plates annexed to the Embassy to China," we have a view of this island. CHINSURAH, called also Hougly, a town of Hin-

CHINSURAH, called alfo Houghy a town of Hindooflan, in the province of Bengal, fituated on the western bank of the Ganges, 40 kagues from its mouth at Ingellee, about 19 from Patna, and 17 miles N. from Calcutta. The Dutch, who cilablished a fettlement in this place, obtained it by gift, or rather by purchase, from the Mooislis government. It is partly built along the river, and requires three-

quarters of an hour to walk round it. On the land fide it is closed by barrier-gates; within, it is very irregularly built; it has many markets or bazars, which are plentifully supplied with all kinds of goods and provisions: that of the money-changers, which is a long and broad street, is the handsomest. The principal houses are built of brick, with terrace-roofs, in the Moorish style; they confist only of one story, and are whitened on the outfide with lime, which gives them an elegant appearance. Little wood is used in the buildings, because it is liable to be deftroyed by the white ants. Inflead of glass windows, frames of twifted cane are used. The apartments, thus guarded from the extreme heat which prevails for 8 or 9 months in the year, are spacious and airy, and provided on the fouth fide with galleries or porticos, refting upon pillars. On the terrace-roofs the inhabitants take th evening air, and fometimes pals a part of the night with their friends. The houses, or rather the huts, of the poor Bengalees are mostly made of mud and firaw, and receive their light through the entrance. The town has a hand-fome little church with a fleeple. The lodge, formerly belonging to the Dutch Eatl-India company, is an oblong fquare with stone walls, and called Gustavus fort. A batters of 21 pieces of cannon is thrown up, by the river fide, for the purpole of firing falutes. Houghly is a Moorish fort, about half an hour's walk from Chinfurah; but it is not in a very defentible state. The English are now in possession of

CHIN-TCHEN, a town of China, of the third rank, in

the province of Chen fi; 20 miles N. of Torg

CHINY, or Civey, a town of France, in the department of the Sambre and Meufe; and chief place of a canton, in the didrict of Dinant, feated on the Semoy, 9 leagues W. of Luxembourg. The place contains 1055, and the canton 5978 inhabitants; the territory includes 255 killiometres and 18 communes. Before the revolution, this town was the capital of a comté in the duchy of Luxembourg, which was of great extent, and included 13 cities or capital towns, and it was fometimes called imperial. After passing through the possession of several proprietors, fince Bruno, the 27th archbithop of Cologn, and chancelior of the empire, crecked it into a comté, about which that it was surrounded with walls; it was adjudged to the house of Austria, by the treaty of Ryswick.

CHIN-YANG. See CHEN-YANG.

CHIO pear, a name given to a fmall species of pear, called also by some the balkard musk pear, from its resembling the little musk pear in its sweet slavour. Its skin is yellow streaked with red; it is of a roundish shape, and does not

hang in clusters, but fingly on the tree.

CHIOCCO, Andrew, in *Biography*. Of the life of this ingenious and learned phylician, we have few memorials. We only know he was a native of Verona, where he appears to have practified medicine, towards the end of the 17th and the beginning of the 17th centuries, and that he died there on the 3d of April, 1624. From his works it is that we obtain the information that he was well verfed in the learning of the fehools; that is, that he was intimately acquaisted with the writings of Aribotle, and of Galen, whose dogmas he every where defends; and that he was more than moderately imbued with cliffical and polite literature. The following are among the most effected of his productions. "Quellonum Phylicianm et Medicarum Libri tres," 4to. 15-4. He defends the practice of giving antimonial vomits, and infifts that the fource of urrace, calculi is mere frequently in the bladder, than in the kidnles. "Pforecum, see declines," 4to. 1797. Haller gives a get-4

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character of this poem, which we have not feen, as also of native of the Marquefas, Society and Friendly islands in the his defence of the Siphilis of Fracastorius, against the Arictures of Scaliger. " De Aeris Veronentis clementia," 1507, 4to.; from the general longevity of the inhabitants, many of them having attained a great age, he argues for the falubrity of the foil and atmosphere of that city. He also wrote a treatise on contagious severs, and of the utility of bleeding, with the view of removing obstructions: Also " De Collegii Veronentis illustribus Medicis et Philofophis, &c." 1623, 4to. The account of the writings of the perfons commemorated, which should have formed a principal feature in the work, is very imperfectly performed. Haller

CHIOCOCCA, in Botany, (from xizy. fnow, and xozkec, a berry.) Li: n. Gen. 231. Schreb. 305. Gart. 150. Juff. 204. Vent. 2. 551. Chocoque; Lam. Encyc. Class and ord. Pentandria monogynia. Nat. ord. Aggregata, Linn.

Rubiacea, Juff.

Gen. Ch. Cal. Perianth fmall, superior, five-toothed. Cor. monopetalous, funnel thaped; tube long, fpreading; border five-cl-ft; segments equal, acute, reflected. Stam. Friaments five, fl'iform, the length of the corolla; anthers oblong, erect. Pifl. Germ inferior, roundish, compressed; flyle filiform, the length of the stamens; stigma simple, obtufe. Peric. Berry roundish, compressed, crowned with the calyx, one-celled, (two-celled, Gært, and Brown). two, roundith, compressed, distant, (one in each cell, pendu-Ious. Gært.)

Eif. Ch. Corolla funnel-shaped, equal; berry two-

feeded, interior.

Sp. 1. C. racemofa; climbing Snowberry-tree, or David's -root, Lion. Spec. Mart. 2. Lam. 1. Willd, Jacq. Amer. 68. Pict. tab. 69. Brown, Jam. 164. No. 1. 2. Lim. Illust. Pl. 160. (Lonicera, Linn. Spec. Edit. 1. Periclymenum; Plum, tab. 217. fig. 2. Dill. Elth. tab. 228. fig. 295. Jafminum; Sloan. Jam. tab. 188. fig. 3. (The Pandacaqui of Sonnerat Nouv. Guin. tab. 19. quoted by the younger Linuxus as a fynonym of this species, does not belong to the genus, nor even to the natural order of Rubiacea, but is a species of Tabernamontana.) " Somewhat climbing; leaves broad-lanccolate; flowers in loofe, lateral racemes: with one flipular tooth." Linn. jun. Stem fix feet high or more. Branches fmooth, loofe, spreading out horizontally. Leaves petioled, opposite, acuminate, nerved, smooth, shining on the upper surface. Stipules minute, acuminate, within the petioles. Racemes axiliary, oppolite to the branches, simple, or subdivided, scarcely longer than the leaves, many-flowered. Flowers pale yellow, peduncled, usually in pairs, directed one way. Berry snowwhite. There is a variety found in woods (No. 2. Brown) which grows to a much more confiderable height, with long, cylindric, weak branches, which cannot support themselves without the aid of the neighbouring trees or shrubs. Its leaves are faid to be smaller, somewhat convex, a little rigid; the racemes short and simple; the corollas a little larger, pale coloured, but purple at the corners. Justieu feems inclined to regard it as a diffinct species, but La Marck attributes the difference folely to the plant's being drawn up to a greater height in woods. The root has much the fame bitter acrid talle with the feneka fnake root, and is a flrong refolutive and attenuant; a decoction of it is administered with success in obstinate rheumatisms and venercal complaints. A native of Jamaica, St. Domingo, and the neighbourhood of Carthagena. 2. C. barbata, Mart. Willd. Fort. Flor. Auttral. No. 96. " Erect; leaves egg-shaped; peduncles axillary, one-flowered; corollas bearded in the throat." A

CHIOCOCCA noclurna, Jacq. See CESTRUM noclurnum. CHIOCOCCA paniculata, Linn. jun. Lam. See Psycho-

TRIA paniculata.
CHIONANTHUS, (from X127, fnoru, and astor, a fower.) Linn. Gen. 21. Schreb. 26. Willd. 37. Just. 105. Vent. 2. 302. Giert. 2 9. Lam. III. 27. Class and ord. Diandria monogynia. Nat. ord. Sepiaria, Linn. Jafmincæ, Juff.

Gen. Ch. Cal. Perianth one-leaved, four-cleft, erect, acute, permanent. Cor. one-petalled; tube very fhort, the length of the calyx, foreading, fegments of the border four, linear, erect, acute, oblique, very long. Stam. Filaments two, three, or four, very fhort, awl-shaped, inserted into the tube,: anthers heart shaped, erect. Pift. Germ eggshaped; thyles simple, the length of the calyx. Peric. Drupe round, one-celled. Seed, nut striated.

Est. Ch. Corolla quadrisid; divisions extremely long;

drupes with a ffristed nut.

Sp. 1. C. virginica. Virginian fnow-tree or fringe-tree, Linn. Sp. Pl. 1. Mart. 1. Lam. Eneye, 1. Illust. 1. tab. 9. fig. 1. Willd. 1. (C. latifolia and angustifelia; Hort. Kew. 1. 14. Amelanchier, Catel. Car. 1. tab. 68. "Peduncles three-cleft, three-flowered." Linn. "Leaves ovatelanceolate, fomewhat pubefcent underneath; drupes globular." Lam. A shrub from fix to ten feet high. Leaves opposite, petioled, entire, from five to feven inches long, and about three broad. Flowers white, in pendulous panicled racemes; fegments of the corolia eight or nine lines long, whence it has been called fringe-tree. Lam. A native of South Carolina and Virginia, in moift places on the banks of rivers; flowering in June. 2. C. zeylanica, Linn. Sp. Pl. 2. Mart. 2. Lam. Encyc. 2. Illust. 2. tab. 9. fig. 2. (C. cotinifolia, Willd. Arbufcula zeylanica cotini folis, Pluk. Alm. 241. fig. 4.) "Peduncles panieled, manyflowered." Linn. "Leaves egg-shaped, villous underneath; drupes inversely egg-shaped." Lam. Nearly allied to the preceding, but differs in the shape of the leaves; the fegments of the corolla alfo, as figured by Plukenet, are five in number, and shorter in proportion than those of C. virginica. A native of the isle of Ceylon. 3. C. purpurea, Lam. Ill. 2. (C. zeylanica, Willd.? Thouinia nutans, Linn. jun. Sup. 89.) "Leaves elliptical, quite smooth, veined; slowers purple, nodding." Lam. A native of Ceylon. 4. C. domingensis, Lam. 4. "Leaves egg shaped, smooth on both fides; panicle terminal, fomewhat cymofe, calyxes with an even furface." A native of St. Dumingo. Jof. Martin. 5. C. compa@la, Swartz. Prod. Vahl. Symb. Mart. 3. Willd. 3. (C. caribæa, Jacq. Collect. tab. 6. fig. 1. Lam. Illust. 5.) "Panicles trichotomous; the last flowers fomewhat capitate; calyxes villous; leaves lanceolate-ob-long; anthers acuminate." Swartz. " Leaves fmooth on both fides, very acuminate; calyxes ciliated." Jacq. A tree fifteen feet high, with a dulky ash-coloured bark. Leaves about half a foot long, an inch and a half broad, oppolite, on thort petioles, quite entire, thickish, firm, thining. Flowers Inow-white, with long linear fegments; brackes at the divisions of the peduncles, opposite, small, narrow, concave, fharp, fomewhat villous; calyx deeply cleft; fegments egg-shaped, acute, somewhat villous, ciliated at the edge; figles twice as long as the calyx. Jacq. A native of the Caribee illands. 6. C. gbari, Lam. Illust. 6. Gært. Fruêt. tab. 39. fig. 6. "Drupe egg-shaped, attenuated at both ends, angularly furrowed." Fruit described and figured by Gærtner from a specimen belonging to the botanic gar-4 T 2

den at Leyden. Plant unknown. 7. C. ineraffata, Swartz. the father of Alexander the Great, in Macedon:—Theo-Prod. 13. Willd. 5. (C. mayepea, Vahl. Symb. 2. 1. Mart. 4. Ceranthus Schreberi, Gmel. Syft. Veg. 1. 26. Mayepea guianenfis, Aub. Guin. tab. 31. Lam. Eneye. Illuft. tab. a philof pher and physician, and the author of feveral books 72. Juff. 319. Vent. 2. 312.) "Panicles axillary, trichotomous; flowers all didnet; anthers obtufe." A fhrub five or fix feet high, covered with a whitish bitter bark. Leaves feven inches long and two broad, oval-oblong, entire, thin, firm, ending in a point; pritoles short, swollen and hard at the base. Flowers bracteate, small, white, of an agreeable imell Fruit oblong, about the fize of an olive; the fiefly part two lines thick, violet, fucculent, bitter. In deference to the high authority of Swartz and Vahl, we have placed this plant under the prefent genus; although we are fenfible that, if we can rely on the accuracy of Aublet's description, which appears to be the only original one in existence, a very confiderable alteration must be made in the genuine character, before it can be fairly admitted. This alteration, however, we have not ventured to make, much doubting whether it would not be better to follow the French botanists in keeping it dillinet. See MAYEREA. A native of the forelts of Guiana.

CHIONIS, in Ornithology, one of the fynonymous names of the Sheathbell, Vaginalis alba. Forfler, Lath. Sc.

CHIONITÆ, in Antient Geography, a people of Afia, neighbours and allies of the Perlians, according to Ammianus Marcellinus, who inhabited the vicinity of the Cafpian fea, near the Geloni and Albani.

CHIORME, a band or crew of galley-flaves, and of Bonaveglierfors, or volunteers, who pull the oars in a gal-

lev.

CHIOS, now Scio, in Ancient Geography, an illand of the Ægean sea, about 900 leagues in circuit, lying between Lefbos and Samos, and opposite to the peninsula of Ionia, from which it was probably detached, as it is now feparated from the continent only by a canal or firait three leagues wide. To the ancients this island was known by the names of Æthalia, Macris, and Pithuyfa; but the most prevalent name was Chios, which some have derived from the Greek word xian, chion, fignifying flow, the mountains of the island being often covered with snow; but others, as Isidorus, are of opinion, that the name of Chios was borrowed from the Syriac, in which language it fignifies mastich, with which this island abounds. Athenœus calls it a rugged and mountainous country; however, it produced excellent wine, and, on that account, it is highly commended by the ancients. Athenœus fuggefts, on an ancient authority, that the Chians were taught the manner of cultivating the vine by Oenopion, the fon of Bacchus, and that they communieated this art to the reft of mankind. He adds, that the first red wine was made in this island. Strabo mentions the quarries of this island; and Pliny says that here was discovered the first jasper; but its chief produce is mastich. Vitruvius mentions a spring in Chios, the water of which deprived those of their fenses who tasted of it, and therefore passenb gers were warned of the danger by an epigram inferibed over it.

Chias was also the name of the chief town of the island, which was feated on the eastern coast, in the most pleasant and fruitful part, and, according to Strabo, was 40 stadia in circumference. This city pretended to be the birth-place of Homer; however this be, it had the honour of producing several extraordinary persons; such were Lon, who flourished in the eighty-second olympiad, and is celebrated as an elegant writer of tragedies:—Theopompus, the disciple of Isocrates, who, as some have thought, excelled his master, and wrote several books, and who flourished in the reigns of Artaxerxes Ochus in Persa, and Philip

relating to physic, who sourished in the reign of Artaxerxes Mnemon, king of Perfia, and, according to Suidas, was preceptor to Hippocrates and Anaxarchus. This city had a spacious harbour, capable of containing So vessels. Strabo fays that this island was first peopled by the Pelasgians: D'odorus maintains that Macarzus and his followers fettled here, after they had made themselves matters of Leibos; but Herodotus's opinion, that the Ch'ans were Ionians, has been more generally received. Their first government was monarchical; but Hippocles, one of their kings, being murdered by his subjects, for a pretended affront offered to the bride of one of the chief men of the illand, the Chians formed themselves into a republic. In process of time, by the affiltance of Hocrates, they formed their republic on the plan of that of Athens; but they did not long enjoy the bleffings of liberty, being, like the other small states of Greece, brought under subjection by their domestic tyrants. In ancient times, the Chians feem to have been a numerous and powerful people. They affitted the Milefians against the kings of Lydia; but after the defeat of Croefus by Cyrus, they submitted, with the other islanders, to the conqueror; and in recompence for having delivered up Pactyas the Lydian who had excited his countrymen to revolt against the Perlians, Mazares, the Perlian general, conferred upon them the city of Atarneus in Mysia, redeced by the Perfians; they were employed in all their naval expeditions, and they ferved Darius against the Soythians. However, in the Ionian revolt, the Chians readily joined Aristagoras, shook off the Persian yoke, and equipped 100 ships, each of which had 40 chosen citizens on board. In the fea-fight at Lade they dillinguished themselves by their persevering valour; but at length, abandoned by their allies, they were overpowered, and obliged to run their ships aground at Mycale; whence they marched into the territory of Ephelus. Arriving thither in the night, while the women were celebrating the rites of Ceres, the Ephelians supposed them to be robbers, who were come to itrip the women, fallied out of the city with their whole force, and killed them on the fpot. After the defeat of the Ionians, Histiaus, who had been the principal cause of their revolt, availing himself of the affittance of the Lesbians, reduced the whole island. But Hilliaus, unable to maintain possession of it, abandoned it to the Persians, who punished the Chians with the utmost feverity. The most handsome of their youths they made cunuchs, and their daughters they fent to the king of Perlia, after having destroyed their houses and temples, ravaged their territories, and reduced the few inhabitants that remained to a state of slavery. Having for some time continued subject to the Persians, they recovered their liberty, and flourished, according to Thucydides, above all the states of Greece, Lacedamon alone excepted. They were favoured by the Athenians, who obtained the supreme command, above all their other allies, being exempted from tribute, and obliged only to furnish a certain number of ships., After some severe conflicts with the Athenians and with the Lacedæmonians, they returned to their ancient confederacy, in which they continued till the focial war, when, become weary of their alliance with Athens, they joined the Rhodians and others, with a view of emancipating themselves from the Athenian yoke. After a war which lasted three years, they concluded an advantageous peace. Until the deflruction of the Perfian empire, they enjoyed uninterrupted tranquillity, and then they, together with

to the Macedonian princes. Their city was unfuccefsfully befieged by Philip, father of Perfes; and when he had abandoned the fiege, they joined the Æolians in their war against him, and Prusias, king of Bithynia; and, in consequence of this impolitic alliance, their territories were laid waste, and all the open places in the island were utterly destroyed by the troops of the confederate princes. For the affiftance they afforded to the Romans in their wars against Philip and his fon Perfes, and Antiochus the Great, king of Syria, they were not only declared free, but honoured with the appellation of the friends and allies of the people of Rome. Sylla recompensed their persevering attachment to Rome, by restoring them to the possession of all their ancient rights and privileges, which they maintained, without disturbance, living in ease and plenty, till the reign of Vespasian, who reduced Chios, with the other islands of the Æ gean sea, to the state of a Roman province; but at the fame time he allowed the Chians to live according to their own laws, under the superintendance of a Roman prætor, whose province comprehended all the islands in the Ægean fea, from the mouth of the Hellespont to Rhodes. See Scio.

CHIOS, a town of the island of Eubera. Steph. Byz. CHIOURLIC, in Geography, a town of European Turkey, in Romania, the fee of a Greek bishop situated on a river of the fame name; 50 miles N.W. of Cor-

CHIOZ, a town of Poland, in the palatinate of Sando-

mirz; 36 miles N. of Malogocz.

CHIOZZA, a small island of the Adriatic, near the coast of Italy, not far from the mouth of the Brenta, with a town of the same name, the see of a bishop, suffragan of Venice, containing three churches and eight monafteries; 31 miles S. of Venice. N. lat. 45° 15'. E. long. 12° 14'.

CHIPAWAS. See CHEPEWYANS. CHIPEAU, (Buffon), in Ornithology, the anas strepera

of Linnæus.

CHIPEOS, in Geography. See PAMPAS del Sacramento.

CHIPEWYAN. See CHEPEWYANS.

CHIPPENHAM, a market and borough town of Wiltshire, in England, is situated on the banks of the river Avon, and on the great road leading from London to Bath; at the distance of 93 miles west of the former, and 13 east from the latter. It is noted in the Anglo-Saxon annals as a principal place of relidence for the West-Saxon kings, and was bequeathed by the great Alfred to his youngest daughter, Ethelsteda. Of the ancient history of this town we have little on record; the most to be depended on is, that when Alfred, with inferior forces, had conquered the Danes, and made them fign a treaty, by which they engaged to quit the kingdom, they treacherously possessed themselves of this place, and, being strengthened by numbers of their countrymen, foon obliged the Saxons to disperse, and their monarch to feek fecurity in difguife, and take refuge in the cottage of a neatherd.

This town, in the time of Richard II., belonged to the Hungerford family, but reverting to the crown by the death of lord Haltings, was given, by Richard III., to John Howard, duke of Norfolk. It was restored by Henry VII.

to the heirs of its former possessors.

Chippenham was a borough by prescription; but queen Mary, by charter, dated the 2d day of May, in the first year of her reign, ordained, "that the village, town, and borough of Chippenham, should be a free borough, corporate in deed, fact, and name for ever, of one bailiff and twelve burgesses." The charter then states the limits of

the other Greek flates in Europe and Asia, became subject the borough, names of burgesses, manner of appointing them; and for keeping in repair the bridge and causeway, gives to the balliss and burgesses several parcels of grounds, the names and extent of which are specified, and called the borough lands." This, with many other charters of the kingdom, were furrendered into the hands of Charles II. A. D. 1684. Another charter was granted by James II. in the first year o' his reign, by which the same privileges were restored, and the revenues of the corporation were valued at 91. 10s. 8d. The free houses, at this period, amounted to 129 in number; and the fpots then occupied are the only parcels of free-land where burgage houses are still kept up, and the inhabitants of which, with the bailiff and burgesses, have the exclusive privilege of returning two members to parliament. The town is populous, and of confiderable extent; the principal street is about half a mile in length. Chippenham, like many other towns in this part of the country, is celebrated for i's cloathing manufactories. The church is a large pile of building, difplaying fome curious specimens of ancient architecture; but the greatest part of it is modern. On the north of the town there is a handsome free-stone bridge of twenty-one arches, ornamented with balustrades, lamps, &c. and near the middle a road branches off to Bath and Briftol. Close to this is a large modern factory. On the banks of the river are feveral dying-houses. Chippenham has a weekly market on Saturdays, and four annual fairs. By the last returns made to parliament of the population, &c. of the county, here were 683 houses, and 3366 inhabitants, most of whom were employed in manufactures. For more copious particulars relating to the borough history, and manufactures of the town, fee Beauties of Wiltshire, 2 vols.

> CHIPPEWAY, FORT, a small stockaded fort of Lower Canada, fituated on the borders of a creek of the fame name, about 200 yards dillant from Niagara river. The fort occupies about one rood of ground, and confifts of a small block-house, enclosed by a stockade of cedar posts, about 12 feet high, which is merely sufficient to defend the garrison against musket shot. Adjoining to the fort, there are about seven or eight farm houses, and some large storehouses, where goods are deposited preparatory to their being conveyed up the river in bateaux, or across the portage in carts, to Queenstown. A canal from hence to Queenstown would be extremely convenient. About 15 men, under the command of a lieutenant, are usually quartered at fort Chippeway, who are mostly employed in conducting, in bateaux from thence to fort Erie, the stores for the troops in the upper country, and the prefents for the

CHIPPEWAY River, a river of N. America, that runs fouthwestward into Missisppi river, in that part where the confluent wate s form lake Pepin, in N. lat. 44°, and W. long. 03°

CHIPPING, in the Manufactures, a term used by the potters and china-men to express that common accident both of our own ftone and earthen ware, and the porcelain of China, the flying off of small pieces, or breaking at the edges. Our earthen wares are particularly subject to this, and are always spoiled by it before any other flaw appears in them. Our stone wares escape it better than these, but lefs than the porcelain of China, which is lefs subject to it than any other manufacture in the world. The method by which the Chinese defend their ware from this accident, is this: they carefully burn fome finall bamboo canes to a fort of charcoal, which is very light, and very black; this they reduce to a fine powder, and then mix into a thin paile, with

fome of the varnish which they use for their ware: they next take the veffels when dried, and not yet baked, to the wheel, and turning them foftly round, they, with a pencil dipt in this palle, cover the whole circumference with a thin coat of it: after this, the veffel is again dried; and the border made with this paste appears of a pale greyish colour when it is thoroughly dry. They work on it afterwards in the common way, covering both this edge and the roll of the veffel with the common varnish. When the whole is baked on, the colour given by the athes difappears, and the edges are fecond varnishing, we fornetimes find a dusky edge, as in

It may be a great advantage to our English manufactures to attempt something of this kind. The willow is known to make a very light and black charcoal; but the elder, though a thing feldom used, greatly exceeds it. The young green shoots of this shrub, which are almost all pith, make mixes with any liquid, and might be easily used in the same way that the Chinese use the charcoal of the bamboo cane, which is a light hollow vegetable, more refembling the elder shoots than any other English plant. It is no wonder that the fixed falt and oil contained in this charcoal should be able to penetrate the yet raw edges of the ware, and to give them in the subsequent baking a somewhat different degree of vitrification from the other parts of the veffel, which, though if given to the whole, it might take off from the true semivitrified flate of that ware; yet at the edges is not to be regarded, and only ferves to defend them from common accidents, and keep them entire.

The Chinese use two cautions in this application: the first in the preparation; the second in the laying of it on. They prepare the bamboo canes for burning into charcoal, by peeling off the rind. This might easily be done with our elder shoots, which are so succelent, that the bark ftrips off with a touch. The Chinese say that if this is not done with their bamboo, the edges touched with the patte will burft in the baking: this does not feem indeed very probable; but the charcoal will certainly be lighter made from the peeled flicks, and this is a known advantage. The other caution is, never to touch the veffel with hands that have any greafy or fatty substance about them; for if this is done, they always find the veffel crack in that place. Obf.

CHIPPINGAVEL, or CHEAPINGAVEL, in our Old Writers, toll paid for buying and felling.

CHIPPING-NORTON, in Geography. See NORTON.

CHIPPING-ONGAR. See ONGAR. CHIPPING SODBURY. See SODBURY.

CHIPPIONA, a town of Spain, in the country of Seville, feated on a rock near the coast of the Atlantic; 5 miles S.W. of San Lucar de Barremeda.

CHIQUE, in Commerce, a weight in Smyrna, equal to 51b. 70z. 10dr. avoirdupois.

CHIQUITOS, a chain of mountains in South America, lying between 15° and 23° of S. latitude. This chain of primitive mountains unites the Andes of Peru and Chili with the mountains of Brasil and Paraguay, stretching from La Paz, Potofi, and Tucuman, through the provinces of Moxos, Chiquitos, and Chaco, towards the government of the mines, and of St. Paul in Bratil. The highest fumnits appear to be between 15° and 20°; the rivers there passing to that of Amazons, or that of La Plata.

CHIQUITOS, INDIOS, or Little Indians, a name given by the Spaniards to Indians of South America, on account of

the extreme finaliness of the doors of their houses. The country lies between Santa Cruz de la Sierra, a province of the fecond bilhopric in the audience of Charcas, or new viceroyalty of Buenos Ayres, and the lake Xarayes, where the river Paragnay has its rife, and being encreafed by the conflux of others, forms the famous river de la Plata. The Jefuit missionaries are faid to have began their preaching to this nation about the close of the 17th century, and their fuccess is reported to have been so great that, in 1732, they guefe, who used to make incursions, in order to carry off these Indians are muskets, fabres, and poisoned arrows. Though their language is different from that of the other naamong the other Indians. These Chiquitos Lave no regular form of government, or civil life, but in matters of public concern they liften to the advice of their old men, and usually follow it. The dignity of cazique is not hereditary, but coafered according to merit, as the reward of valour in war. union among them is imperfect. Their fociety refembles a republic without any head, in which every man is matter of himself, and upon the least disgust, separates from those with whom he feemed to be connected. The tree which bears the quinquina or jefuit's bark, is frequent among the Chiquitos; and vanilla is also found among them, though

CHIRA, an illand on the N.W. coast of New Mexico, 15 leagues to N.N.W. from Herradura cape; having the town of Landecho, about midway between them, and the river of Cipanfo, two leagues beyond it. Close by Chira is another fuull ifland; and both abound with cattle, espe-

cially sheep and hogs.

CHIRAC, PETER, in Biography, born at Couques, a fmall town in Languedoc, in the year 1650, was at first into Montpellier, to complete his education. As the allowance made for his provision was feanty, he undertook to inflruct the fon of an eminent apothecary at Montpellier in classical literature, and by converting with that family was he mide fuch progress, that Michael Chicovneau, chancellor of the university, placed two of his fons under his tuition. As he had paid particular attention to the fludy of anatomy, he was foon enabled to give lectures in that branch of science. In 1683 he was admitted doctor in medicine, and under the patronage of Burbeyrac, the first physician at 1692 he was appointed by the duke de Noai les, physician to the army of Roussillon, and at the siege of Roles, in which the army was engaged, was fingularly successful in thopping the ravages of the dyfentery, with which the men were feverely afflicted. He was next appointed physician to the port at Rochford, and obtained fimilar credit for his fuccels in treating the difease called " Le Mal de Siam," then epidemic there, and for his management of persons afflicted with the small pox, whom he frequently directed to be blooded, contrary to the generally received opinion, and practice in that complaint. After refiding two years at Rochford, he returned to Montpellier, much elated with the fuccefs, and confequent reputation he had acquired. At Montpellier he continued until the year 1706. In this interval he published his hypotheses on the structure of the hairs. He supposes them to be derived from the tendons of the fkin, and to contain in their bulbs, and to the extent of about two inches, a medulla: Also "De Motu Cordis," which, he contends, depends upon an innate power in its mufcular fibres. These opinions engaged him in controversies with Senac, Vieussens, and other anatomists, which were on his part conducted with great acrimony. In 1706 he accompanied the duke of Orleans, who went with the army, first to Italy, then to Spain. On his return he went to Paris, where he passed the remainder of his life. In 1715, Homberg, the duke's physician, being dead, he was advanced to that honour. He was foon after made honorary member of the Academy of Sciences, and in 1718, on the death of M. Fagan, he was appointed superintendant of the royal garden. Some time after he projected a plan for the improvement of medicine. A fociety was propoled to be formed of thirty or forty phylicians, who were to hold their meetings at Paris. They were to lolicit the correspondence, and observations on the methods found most successful in curing difcases, of physicians and furgeons to public institutions, in all parts of Europe. From these he hoped a code of practical maxims might be drawn, that would have been generally beneficial. A more uleful project, or one promifing more advantage to the public, could not well have been conceived, and it would have succeeded, had it been proposed by a character less haughty and oftentatious. It failed through the want of the concurrence of his brethren, who wished to humble, rather than increase, his importance. His reputation, however, was not diminished by their jealousy and opposition. In 1728 letters of nobility were accorded to him, and in 1730 he was made first physician to the king, though, as he was then 80 years of age, it could fearcely be with the view of using his affilhance. Two years after he died. By his will he left a confiderable legacy to the university of Montpellier, for the foundation of two lectureships, one on comparative anatomy, the other for the explanation of Borelli's doctrine on animal motion. For an account of the remainder of his works, fee Haller Bib. Eloy. Dict. Hilt. Gen. Biography.

CHIRAC, in Geography, a town of France, in the department of the Lozerc, and chief place of a canton in the diftrict of Marvejols: one league S.W. of it. The place contains 2032 and the canton 7987 inhabitants: the territory

comprehends 2221 kiliometres and S communes.

CHIRAGRA, in Medicine, from xug, the hand, and argents, I feize, the gout in the hand. The gout attacks the figaments about the hand and writt occasionally, as well as those of the feet. The local and general fymptoms which accompany it, are the same in both instances, and require similar treatment. See PODAGRA.

CHIRAMAXIUM, in Antiquity, a kind of chariot, or conveyance, which was drawn by men instead of horses. This word is derived from xup, the hand, and auaga, a cha-

CHIRCEES, or CHIRCHEES, a small town of Hindooftan, about 11 league from Amcdabad. It has a great number of the tombs of the kings and princes of Guzerat, which have led the Indians to believe, that it was, in ancient times, the capital of that kingdom; but it is more probable that it was only the burial-place of their kings, and that Amedabad was the capital. The Dutch, in 1620, established a factory in this place for the purchase of indigo; but it was abandoned before the year 1670.

CHIRCHSED. See CHURCH SCOT.

CHIRENS, in Geography, a town of France, in the de-

partment of the Ifere, and diffrist of La Tour-du-pin; 5 leagues N.N.W. of Grenoble.

CHIREZOUR, a town of Affatic Turkey, in the province of Kurcitan : 60 miles S. of Moful.

CHIRIGUANOS, or CHIRIGUANACS, a tribe of Pagan Indians in South America, bordering on the Chiquitos, who have always refused to liften to the missionaries; though the fathers who vifit them, when accompanied with fome Chiquitos for their fecurity, occasionally succeed in making a few converts, who are fent to their towns, and there lead a f cial life. This commonly occurs after some misfortune that happens in the wars continually carried on between them and the Chiquitos; when in order the more eafily to obtain a peace, and to prevent being exterminated by the Chiquitos, they fend for missionaries; but soon dismiss them again, pretending that they cannot bear to fee punishments inslicted on perfons merely for deviating from the rules of reason. This, it is alleged, is a proof that the object of their with and aim is an unbounded licentiousness of manners.

CHIRIPHE, in Ancient Geography, a town of Alia, in Babylonia, according to Ptolemy; lituate near the marshes

of Arabia Del: rta.

CHIRIQUI, or CHIRIQUITA, in Geography, a town of New Mexico, in the province of Veragua, on the coast of the Pacific ocean, with a harbour about a league from the fea, and 8 miles from the town: 30 leagues well of St. Ja-

go. N. lat. 11° 20'. W. long. 83° 36'. CHIRITES, in Natural History, a name given by authors to a flone refembling the human hand. The accounts we have of it fay, that it is of a white colour, and of the nature of gypfum or platter stone; and that it represents the palm of the hand, with the fingers, and their nails on the other fide. This feems to have been a name given to some fingle specimen in a cabinet of some collector; for it is certainly no distinct species of tossil, but a mere lusus natura, in the configuration of some accidental piece of gyp-

CHIRIVICOLA, in Geography, a town of Naples, in the province of Capitanata; nine miles S.W. of Vielta.

CHIROGRAPH, Chirographum, compounded of xest, hand, and yeaps, feribo, I write, q. d. hand-writing, every public instrument or gift of conveyance, attested by the subfeription and croffes of witnesses, so called in the time of the Saxons, which being fomewhat changed in form and manner by the Normans, was by them ftyled "charta." In fucceeding times, for the prevention of frauds and concealments, they made their deeds of mutual covenant in a "feript" and "refeript," or in a part and counterpart; and in the middle, between the two copies, they drew the capital letters of the alphabet, and then tallied or cut afunder, in an indented manner, the sheet or skin of parchment; which being delivered to the two parties concerned, were proved authentic, by matching with and corresponding to one another; and when this prudential custom had for fome time prevailed, then the word "chirogra-phum" was appropriated to fuch writings. When they amicably made a chirograph or deed, which required a counterpart, they engroffed it twice on the same piece of parchment, counterwife; leaving a space between, wherein was wrote chirograph; through the middle whereof the parchment was cut, fometimes traight, fometimes indentedly; and a moiety given to each of the parties. This was afterwards called dividenda and charte divife; and was the fame with what we now call charter-party.

The first use of these chirographs with us, is said to have

occurred in the time of king Henry III.

According

According to fome, a deed was properly a chirograph, as Achilles, whose renown he in some measure shared, and when it was subscribed by the hand writing of the vendor, or debtor, and delivered to the vendor, buyer, or creditor. These authors make the chirograph differ from a "fyngraph," in this; that in the latter, the word fyngraph was wrote in the middle, and out through, in the manner just obferved of chirograph. Those authors therefore make the fyngraph and the chirograph a different thing.

Chirograph was also anciently used for a fine: the manner of ingroffing the fines, and cutting the parchment in two pieces, is still retained in the office called the chirographer's

CHIROGRAPHER of fines, an officer in the common pleas, who ingroffes times, acknowledged in that court, into a perpetual record (after they have been examined and passed by other officers); and writes and delivers the indentures of them to the party. He makes two indentures; one for the buyer, the other for the feller: and a third indented piece, containing the effect of the fine, and called the foot of the fine; and delivers it to the cuftos brevium.

The same officer also, or his deputy, proclaims all fines in court every term, and indorfes the proclamations on the back-fide of the foot; keeping always the writ of covenant and the note of the fine. The chirographer shall take but 4s. for a fine, on pain of forfeiting his office, &c. Stats. 2 Hen. IV. c. 8. 23 Eliz. c. 3. 2 Inft. 468.

CHIROGYLIUM, in Ascient Geography, an island of the Mediterranean, placed by Pliny on the coast of Lycia.

CHIROMANCY, from xsq, hand, and parisia, diviuation, the art of divining the fate, temperament, and disposition, of a person, by the lines and lineaments of the

hand: this is otherwife called palmiftry.

We have a great number of authors on this vain and trifling art; as Artemidorus, Fludd, and Johannes de Indagine. Taifnerus, and M. de le Chambre, are esteemed the best.

CHIRON, in Biography, denominated, by Poutarch, the " wife centaur," was born in the first age after Deucalion's deluge, commonly called the golden age, according to fir Isaac Newton; who adds, that he formed the confiel ations for the use of the Argonauts, when he was 88 years old; for he, as well as his daughter Hippo, are faid to have been practical astronomers. By this account, Chiron must have flourished in the earliest ages of Greece, as he preceded the conquest of the golden sleece and the Trojan war. He is generally called the fon of Saturn and Philyra, and is faid to have been born in Thessaly, among the centaurs, who were the first Greeks that had acquired the art of breaking and riding horses. See CENTAURS.

Chiron was regarded by the ancients, as one of the first inventors of medicine, botany, and furgery, or chirurgery, which some etymologists have derived from his name. He inhabited a grotto, or cave, called "Chironicum Specus," at the foot of Mount Pelion, which, from his wifdom, and univerfal knowledge, became the most famous and frequented school throughout Greece. Almost all the heroes of his time were ambitious of receiving his instructions; and Xenophon classes in the number of his disciples, several of the most illustrious personages of antiquity; and yet he has omitted, in his enumeration, some of his most celebrated scholars. Among thefe we may reckon the Grecian Bacchus, who, as it is pretended, was the favourite scholar of the centaur, and learned of this matter, the revels, orgies, Bacchanalia, and other ceremonies of his worship. Plutarch says, that Hercules studied music, medicine, and justice, at the school of Chiron; but among all the heroes who have been disciples of this centaur, no one reflected fo much honour upon him

to whose education he particularly attended, being his grandfather by his mother's fide. Apollodorus informs us that the fludy of music employed a considerable part of the time, which he bestowed upon his young pupil, as an incitement to virtuous actions, and a bridle to the impetuofity of his temper. One of the best remains of antique painting now subliffing is a picture upon this subject, dug out of Herculaneum, in which Chiron i- teaching the young Achilles to play upon the lyre. See ACHILLES.

The death of this philosphical musician was occasioned, at an extreme old age, by an accidental wound in the knee with a porfoned arrow, that by his fcholar He: cules, at another. After his death he was placed by Museus among the constellations, from respect for his virtues, and gratitude for the great services which he had rendered the people of Greece. Accordingly fir Ifaac Newton alleges, (Chronoly, p. 171) as a proof that the constellations were formed by Chiron and Mufaus for the use and honour of the Argonauts, that nothing later than that expedition was delineated on the original sphere; and the same author intimates, that Chiron lived till after the Argonautic expedition, in which he had two grandfons. The ancients have attributed to Chiron feveral writings; among which, according to Suidas, are precepts, undinens, in verse, composed for the use of Achilles; and a medicinal treatise on the "D feases incidental to Horses," and other quadrupeds, immiargiogos; and the lexicographer even pretends, that it is from this work that Chiron derived his name. Fabricius (Bib. Græc. vol. i.) gives a list of the works ascribed to Chiron, and discusses the claims which have been made for others to the fame writings; and in vol. xiii. he gives him a diffinguished place in his catalogue of ancient physicians. Burney's Hitt. Music, vol. i.

CHIRONIA, in Botany, (so called from Chiron the centaur, physician and tutor to Achilles,) Linn. Gen. 255. Schreb. 349. Willd. 394. Juff. 142. Vent. 2. 416. Gært. 667. Class and Ord. Pentandria monogynia. Nat. Ord.

Rofacea; Linn. Gentiana; Juff.

Gen. Ch. Cal. Perianth one-leafed, five-cleft, erect, permanent; fegments oblong, acute. Cor. monopetalous, falver-shaped, or almost wheel-shaped, regular; tube scarcely longer than the calyx; border five-cleft, spreading; fegments egg-shaped, open. Stam. Filaments five, short, attached to the tip of the tube; anthers oblong, erect, converging, spirally twitted after shedding the pollen. Pift. Germ superior, egg-shaped; style filiform, a little longer than the stamens, declining; stigma capitate, ascending. Pericarp. Capfule or berry egg-shaped, two-celled. Linn. Smith (one-celled; Lam. Gært.) valves inflexed. Smith. Seeds numerous, small, attached to the sides of the receptacle.

Est. Ch. Corolla salver shaped. Stamens inferted into the tube; anthers finally becoming spiral. Style declining. Pericarp superior, two-celled; valves inflexed. Smith.

Obf. In some of the species the anthers have not been

observed to become spiral.

Sp. 1, C. trinervia. Linn. Sp. Pl. 1. Mart. 1. Lam. Encyc. 1. Ill. 1. Willd. 1. (Lylimachia; Burm. Zeyl. tab. 67.) "Stem herbaceous; figments of the calyx membranaccous-keeled." Root annual. Stem smooth, quadrangular. Leaves oppolite, lanceolate, acuminated at each end, quite entire, waved, fmooth, three-nerved. Flowers blue, large, from the upper axils, folitary, peduncled. Fruit an oval capfule. A native of Ceylon. 2. C. jafminoides. Linn. Sp. Pl. 3. Mart. 2. Lam. Encyc. 2. Ill. 2. Willd. 2. "Stem herbaceous, four-cornered; leaves lancolate, thorter

than the internodes." Stem about two feet high, ploffy, with few leaves near the top. Leaves opposite, fessile, erect, fmooth, quite entire. Paniele terminal, dichotomous, erect, few-slowered; bractes opposite, awlfhaped; fegments of the calvx, narrow, lanceolate, very acute, as long as the tube of the corolla; corolla divided half way down; fegments oval-lanceolate, acute, spreading. A native of the Cape of Good Hope. 3. C. ly knoides, Lian. Mant. 207. Mart. 3. Lam. Laves . Ill. 3. Willd. 3. "Stem finple; leaves linear lanceolate, longer than the internodes." Stem a foot high or more, herbaceous, cylindrical, thiff and thraight. Leaves opposite, fessile, somewhat decurrent, smooth, erest. Flowers purple, disposed three or four traether in a terminal panicle; peduncles longer than the leaves; lateral ones with a pair of awl-shaped bractes; fegments of the calvx lanccolate-awl-shaped, keeled; tube of the corolla the length of the calyx; fegments acute, longer than the tube. (Anthers not becoming spiral, Lam). A native of the Cape of Good Hope, at the foot of mountains. 4. C. melampyrifolia, Lam. Illus. 4. " Leaves lanceolite, felfile, decurrent; calve thorter than the tube." Border of the corolla longer than the tube. A native of the Cape of Good Hope. From a specimen in the herbarium of La Marck. 5. C. campanulata, Linn. Sp. Pl. 4. Mart. 4. Lam. Encyc. 4. Illuit. 5. Willd. 5. "Stem herbaceous; leaves nearly linear; calyxes the length of the corolla." Stem a foot high, round, with long branches. Leaves Lunceolate-linear, gloffy. Flowers purple, terminal, folitary, wheel-fnaped, on long peduncles; fegments of the calyx awi-shaped, anthers spirel. A native of Canada. Kaim. 6. C. angularis, Linn. Sp. Pl. 5. Mart. 5. Lam. Energe. 5. Ilins. 6. Willd. 6. "Stem herbaceous, recutely angular: leaves egg-shaped, embracing the stem." In habit extremely limitar to C. centaurium, or the leffer centaury. Stem a foot high, four-cornered, with membranous wings, fmooth, branched and panieled near the top. Leaves opposite, short, fmooth. Flowers red, growing from two to live together at the end of the branches; fegments of the calyx narrow, acute; of the corolla oblong; anthers spiral. A native of Virginia. Kalm. 7. C. cymofa, Lam. III. 7. (C. lanceolata; Walt. flor. Car.) "Stem herbaceous, four-cornered; leaves lanc: olate, feffile; cyme terminal; bractes linear." A native of Carolina. S. C. nudicaulis, Linu. jun. Supp. Mart. 7. Lam. Encyc. 10. Isluft. S. Willd. 4. Thunb. Prod. 35. " Stem herbaceous, quite fimple, one-flawered, with one or two pairs of leaves about the middle. Leaves oblong, rather obtufe; teeth of the calvx brittle-shaped." Stems feveral, elengated. Root-leaves often forming a turf. A native of the Cape of Good Hope. 9. C. uniflora, Lam. Encyc. 10. Id. 9. Pl. 108. fig. 3. "Stem fimple, rod-like, angular; leaves linear-lanceolate, a little fineter than the internodes; flower large, terminal." Stem at least a foot high, very flender. Leaves oppolite, feffile, acute, finooth, about five lines long. Flower feven lines long, erect; fegments of the calyx ercet, acute, with a prominent membranous angle; tube of the corolla the length of the calyxes; border bell-fliaped; fegments oblong, obtufe; anthers not spiral. A native of the Cape of Good Hope, communicated by Sonnerzt, 10. C. chilenfis, Willd. 8. (Gentiana Cachaulatum; Molina Chilenf. 130. Centaurium vulgo cachen; Feuille Peruv. 2. tab. 35. " Stem herbaccous; leaves lanceolate, veinlels; Item dichotomous, corymbofe; fegments of the ealyx close-preffed." In habit much refembling the next species. Rost annual. Branches opposite, spreading. Flowers funnel-thaped. A native of Chili. 11. C. centaurium, Willd. 9. Curt. Flor. Lond. fasc. 4. tab. 22. . Vot. VII.

Snith Flor. Brit. Eng. Bot. Pl. 417. Woodville Med. Bot. tab. 157, Schmidt bohem. 1. n. 130. (Gentiana Centaurium; Linu. Sp. Pl. Mart. Lam.) Common centaury. " Stem herbaceous, dichotomoufly panicled; leaves ovate-lanceolate, three-nerved; calvx shorter than the tube." Root annual, fmall, branched. Stem about a foot high, ercel, folicoloured, proceeding from the forks of the ftem, feffile, erect, expanding only to a bright fun; calyx femiguinthe corolli, and only half as long; border of the corolla equal, foreading, thining; figments elliptical, formewhat concave; stamens declining; authors thrice spiral; stigma capitate; with a transverse notch. Whole plant smooth, and very bitter. A native of dry gravelly passures in Great Britain, and other parts of Europe. Obs. Dr. Bottock, and Mr. Shepherd of Liverpool, have observed two remarkable varieties growing intermixed with the common plant on the fandy shores of that neighbourhood. The first resembles the common plant in its fize, general appearance, and the form of its flowers; but differs in having narrow, spatulate-linear leaves; the segments of its calyx clongated and narrowed, exceeding the tube of the corolla. The other is a much humbler plant; with broad, almost orbicular leaves; finall, clustered flowers; feginents ceding variety. Dr. Smith expresses a doubt whether they may not be diffinet species. See Flor. Brit. vol. iii. p. 1392. 12. C. pulchella, Willd. 7. Swartz. Act. Holm. 1783. p. 85. tab. 3. fig. 8, 9. Smith Flor. Brit. Fing. Bot. pl. 458. (Gentian Centaurium β; Lipo. Sp. Pl. Centaurium minus paluitre; Vaill. Parif. 32. tab. 6, fig. 1.) "Stem herbaceous, fometimes fimple, but generally branched, and often much fo; leaves egg-thaped; fegments of the calyx awifhaped, a little fhorter than the tube." Rost annual, fmail, branched. Stem fearcely two inches high, dichotomous, with four fharp edges. Leaves ovate-elliptical; lower ones very broad; upper ones lanceolate, fhining, three or fivenerved. Flowers pink-coloured, from the forks of the flem, often peduncled, crest; 'calyx five-cleft to the bale; fegments awl-shaped, attenuated, free, about the length of the tube; corolla very flender; fegments of the border elliptic-lanceolate; anthers not twifted fo much as those of the preceding species, scarcely making one turn. A native of dry places about the fea coast in Great Britain and other parts of Europe, flowering in August and September. 13. C. inaperta, Willd. 10. (C. Vaillantii; Schmidt bohem. 1. n. 132. Centaurium paluftre flore inaperto; Vail. Parif. 32. tab. 6. fig. 2.) "Stem herbaceous; much branched, dichotomous; leaves oblong, three-nerved; fegments of the calyx awl-shaped, fomewhat spreading; border of the co-rolla connivent." Allied to C. centaurium, but not a varicty of it. A native of paltures on the continent of Europe. 14. C. Spicata, Willd. 12. (Gentiana spicata; Linn. Mart. Lam. Centaurium minus spicatum; Bauh. pin. 278. Prod. tab. 130.) "Stem herbaceous, bilid; leaves lanceolate, three-nerved; flowers alternate, fessile." Differs from C. centaurium chiefly in the disposition of its flowers. Root annual. Stem from fix to ten inches high, erect, branched, angular. Leaves opposite, smooth, fessile; lower ones eggshaped; middle ones lanceolate; upper ones linear-lanceolate, almost awl shaped. Flowers purple, fometimes white, feffile, alternate, forming a loofe terminal fpike; fegments of the corolla very acute. A native of moist places in Italy and the fouth of France. 15. C. linoides, Linn. Sp. Pl. 2. and the fouth of France. 15. C. Implies, Annual Stem M. 6. Lam. Encyc. 6. Ill. 10. Bot. Mag. 511. "Stem fomewhat

formewhat firmbby; leaves linear, glaucous; calyxes cloven obtufe; fegments of the calyx rather obtufe, keeled." half way down; fegments rather obtufe." Stem a foot high or more, flender, cylindrical, fmooth, branched near the top. Leaves an inch long, narrow, acute, fessile, smooth, rather erect. Flowers pale red, folitary, at the fummit of the upper branches; calyx a little bell-shaped, narrowed at the base; tube of the corolla shorter than the calyx; segments of the border oval-oblong, almost erect; anthers not becoming spiral. A native of the Cape of Good Hope. 16. C. baccifera, Linn. Sp. Pl. 7. Mart. 9. Lam. Encyc. 7. Ill. 11. Willd. 14. Gært. tab. 114. Bot. Mag. 233. (Centaurium pulpiferum, Comm. Rar. tab. 9.) "Stem shrubby at the base, much branched, four-cornered; leaves linear, green; pericarp refembling a berry." Root perennial. Stem two feet high, cylindrical, naked near the bottom, panicled upwards; branches slender, smooth, compound. Leaves near an inch long, opposite, narrow, acute, Imooth, spreading, decurrent. Flowers pale red, small, terminal, on short peduncles; calyx fhort; fegments almost obtuse, keeled; tube of the corolla shorter than the calyx; fegments oval-oblong; anthers not becoming spiral. Lam. Pericarp resembling a berry, succulent, fomewhat transparent, globular, didymous, red, or fasfron-coloured, one-celled; skin very thin; pulp watery; receptacles two, spongy, fixed to the internal side of the berry, corresponding with the external groove; two-lobed within; lobes curved back to the fides. Gart. A native of Africa. Mr. Curtis (Bot. Mag.) observes, that the feed-vessel is by no means a proper berry, for when cut transversely, it is hollow, and divided into two cells, the fides of which are fleshy, and do not appear to fplit in any regular manner for the difcharge of the feeds. 17. C. frulescens, Linn. Sp. Pl. 8. Mart. 10. Lam. Encyc. 8. Ill. 12. Bot. Mag. 37. (Centaurium, Comm. Rar. tab. 8. Burm. Afr. tab. 74. fig. 1.) " Stem shrubby; leaves linear-lanceolate, sleshy, somewhat tomentous; calyxes fomewhat egg-shaped, inflated, pubefcent." Stem a foot and half high, woody; branches upright, cylindrical, pubefcent. Leaves an inch and half long, opposite, obtuse. Flowers bright red, at the summits of the branches; anthers spiral. Gærtner observes, that the feedvessel of this species has somewhat of the appearance of a berry, but less so than the preceding, lying entirely concealed within the calyx. It is egg-shaped, acuminate, red, and finally divides by the future into two valves; fo that it is a proper capfule, and forms the connecting link between C. baccifera and the other species. We are even inclined to conjecture, that the feed-vessel of C. baccifera, if observed in its last stage, may be found to split into regular valves. A native of Africa. 18. C. decuffata, Bot. Mag. 707. Ventenat Hort. Celf. 31. " Stem thrubby, fomewhat tomentous; leaves crowded, decuffated, oblong, obtufe; calyxes globular, five-cleft." According to Ventenat it is diffinguished from the preceding by its simpler stem, its very short branches, its larger flowers, and more globular calyx, deeply divided into five figments, and its broader leaves growing in two ranks. But Dr. Sims observes (Bot. Mag.), that there are fo many intermediate varieties, as to leave it doubtful whether it be a genuine species. It has been long known in the English nurseries by the name of latifolia. 19. C. anguftifolia, Bot. Mag. 818. " Stein shrubby, smooth; leaves linear, fpreading; calvxes egg-fhaped; fegments connivent; fegments of the corolla wedge-shaped, ending abruptly in a remarkable tooth-like point." Whole plant fmooth. Tube of the corolla longer than in the preceding, extending confiderably beyond the calyx. Raifed from Cape feeds by Mr. Whitely of Brompton. 20. C. tetragona, Linn. jun. Sup. 151. Mart. S. Lam. Encyc. 11. Illust. 12. Willd. 16. " Stem shrubby; leaves egg-shaped, three-nerved, rather

Flowers large, yellow. A native of the Cape of Good

CHIRONIA maritima. Willd. Sce GENTIANA maritima. CHIRONIA dodecandria, Linn. Sp. Pl. See CHLORA do.

CHIRONIS, VILLA, in Ancient Geography, a town of Greece, in the Peloponnefus, according to Polybius; who places it near the town of Messena, and says that it was deitroyed by pirates.
CHIRONIUM, in Medicine, is sometimes used to signify

a great ulcer, and of difficult cure.

CHIRONOMI, on the Grecian Stage, were those actors who performed, without using words, by the motions of the

CHIRONOMIA, in Antiquity, the art of reprefenting, by the motions of the hand, and other gestures of the body, any past transactions, whether of true or fabulous history. This made a part of a liberal education among the ancients: it had the approbation of Socrates, and was ranked by Plato among the political virtues.

CHIROPER, in Geography, a bay on the W. coast of New Mexico, fituated in about N. lat. 7°; into which the river of Piara discharges itself, about 40 miles from Payta. This bay being full of shoals. is seldom frequented.

CHIROTHECA. Sec GLOVE.

CHIROTHECA marina, in Natural History, the name under which Rumpfius describes Spongia aculeata, which see.

CHIROTHESIA, the imposition of hands on conferring any prieftly orders. The word comes from χu_{ℓ} , manus, and rigram, pono, which fignifies the laying hands upon an-

CHIROTONIA, the stretching forth, or holding up of hands, in electing any magistrate, &c.

The word comes from xup, manus, and two, tendo, the action of stretching out the hands; and because the ancients gave their fuffrages by firetching out their hands, they gave the name chirotonia to the election of magistrates.

This custom was first established in Greece; as appears from an oration of Demosthenes against Newra, and that of Æschines against Ctesiphon: thence it passed to the Romans. From profane authors it passed to ecclesiastical ones; and was used by them, not only in speaking of elections, but also of ordinations. See Imposition, and

For the difference between chirothesia and chirotonia, see

Harrington's Prer. of Popular Government.

CHIRP, in Ornithology, is the name of the first found which a young bird utters, as a cry for food, and is different in all neftlings, if attentively regarded; fo that the hearer may distinguish the species of the birds, though the nest should hang out of his sight and reach. This cry is weak and querulous; it is dropped entirely as the bird grows stronger, nor is it afterwards intermixed with its fong: the chirp of a nightingale (e. g) being hoarfe and disagreeable. The chirp confits of a single found repeated at very short intervals, and is common to nelllings of both fexes. Phil.

CHIRURGEON, an obfolete word, from xue, the band, and server, work; denoting a manual operator, and now always pronounced, as well as written, Surgeon. The conduct of furgeons was formerly fo much under the guidance and controul of phyticians, that Dr. Samuel Johnson defines a furgeon to be "one whose duty is to act in external maladies by the direction of the physician." See the article

CHIRURGERY, belonging to the practice of a furgeon,

geon, and now univerfally written and pronounced Sur-

CHIRURGICAL, pertaining to furgery, or manual operations.

CHIRURGIEN noir, in Ornithology, the Black Jacana,

PARRA nigra of Gmelin, is fo named by Buffon.

CHIRY, in Geography, a town of France, in the department of the Oife and district of Compiègne, 3 miles S.S.W. of Novon.

CHÍSELY land, in Agriculture, a term appropriated to that fort of land which breaks, when it is turned up by the plough, into pieces like the chips made by the flone-cutter's chiffel in the hewing of flones. It is of a middle nature, between the fandy land that falls off from the plough-flure, like bran or faw-duft, and the clayey, that is raifed in large glebes.

It is of feveral colours, grey, brown, reddift, and blackift, and ufually contains a large quantity of fand, and no

fmall number of pebbles.

CHISHULL, EDMUND, in Biography, a learned divine and antiquary, was born at Eyworth, in Bedfordshire, and educated at Corpus Christi college, Oxford, where he obtained the degree of malter of arts in 1693, and was also chosen a fellow of his college; previously to this he had published a Latin poem, on the battle of La Hogue, and in 1694 he published another ode on the death of the queen, which is preferved in the third volume of the Mufæ Anglicanæ, though it does not display poetical fervour so much as a true classical taste. Four years afterwards Mr. Chishud obtained a traveller's exhibition from his college, and failed for Smyrna. Before he left his native country, he preached a fermon to the Levant company, which was published, and which obtained for him the chaplainship to the English factory at Smyrna, in which station he continued till the spring of 1702. In June 1705 he was admitted to the degree of bachelor of divinity, and foon after he engaged in a controversy with the learned Mr. Dodwell, by publishing "A Charge of Heresy maintained against Mr. Dodwell's Discourfe concerning the Mortality of the Soul," which is reckoned one of the principal books written in this controverfy. In 1707 Mr. Chishull preached a sermon against the absurdities and enthufiasm of the French prophets, which he published in the ensuing year, with an historical appendix, containing collections applicable to all fuch prophecies as were condemned in the fermon. Immediately after this, he was prefented with the vicarage of Walthamilton in Effex, and in 1711 he was appointed one of the chaplains in ordinary to queen Anne. Besides the above, he published several other theological discourses; of which, one was on duelling, preached before the queen, and published by her special command. As an antiquarian, one of his first works was entitled " Inferiptio Sigma antiquissina βουσθεοΦηδον exarata," this was illustrated with a learned commentary; to which he afterwards added "Notarum ad Inferiptionem Sigwam appendicula." These pieces were afterwards incorporated in his "Antiquitates Afiaticae" When Dr. Mead published his Harveian oration in 1724, Mr. Chishull added to it, as an appendix, "Disfertatio de Nummis quibusdam a Smyrnæis in Medicorum honorem percussis." This differtation excited a controverfy concerning the condition of phylicians at ancient Rome. The queltion was whether they were not usually vile and despicable flaves; or, at least, some among them, those who enjoyed the privileges of a free condition. The greatest literary work of Mr. Chishull was entitled " Antiquitates Afiaticæ Christianam aram antecedentes, ex Primariis Monumentis Gracis Descripta, Latine verfa, Notifque et Commentariis islustratæ. Accedit Monumentum Lati-

num Ancyranum." This work was printed by fublcription, to which Dr. Mead contributed fifty-one guineas. The inferiptions contained in it were collected by conful Sherrard. Dr. Picenini, and Dr. Lisle, afterwards bishop of St. Alaph; they were afterwards depolited in the Earl of Oxford's library, and are now preferred in the British Museum. Mr. Chishull added to his "Antiquitates" two small pieces addressed to the Rev. John Horn. He formed a design of publishing a second volume, the printing of which was actually begun, when death put a stop to its progress, and it has never been afcertained in what manner the manufcripts were disposed of. In 1731 Mr. Chishull was presented with the rectory of South-church in Effex, which he did not long eniov. He died at Walthamstow on the 18th of May 1733, fincerely regreted by his friends, and by these who were capable of duly appreciating his learning and talents. One of his contemporaries, Dr. Taylor, styles him "Vir celeberrimus ingenii acumine et literarum peritia, quibus excellebat maxime;" and Dr. Mead has bestowed on him a very high encomium in the preface which introduced Mr. Chishuli's differtation on the Smyrnæan coins; he likewise testified a fincere regard to the memory of his friend, by publishing an account of his travels in Turkey. Mr. Chishull fultained an excellent character as a divine.

CHISOING, or CISOING, in Geography, a town of Flanders, with an abbey; 2 leagues N.N.W. from Orchies.

CHISME, or CISME, a fea-port town of Afiatic Turkey, on the west coast of Natolia; opposite the island of Scio, between which and the continent is a narrow strait, where the Turkish sleet was destroyed by the Russians in the year 1770; 40 miles W. of Smyrna. The ancient name of this town was Cyssis. N. lat. 38° 24'. E. long. 36° 16'.

CHISSAMA, a province of the kingdom of Angola in Africa, fituated under the 9th degree of S. lat. near the mouth of the river Coanza. It is a Portuguese fettlement, consisting of three commanderies, whose despotic governors exercise a tyrranic cruelty over the natives. The foil abounds with a peculiar salt, formed of a briny water, which the inhabitants calt into oblong pieces like bricks, about 5 or 6 inches long, and exchange with the Portuguese for meal, oil, and other commodities. This salt is reckoned of such excellent quality, not only for food, but also for physic, that the merchants convey it through all Ethiopia, and derive from it an extraordinary gain. The province affords likewise since honey and wax; but water is extremely searce, as this province has no rain from May to October, and its mountains are destitute of springs; so that the inhabitants who are near the Coanza supply themselves from that river, at the hazard of being devoured by the wild beasts, which swarm along its banks.

CHISSEL, an intrument much used in sculpture, ma-

fonry, joinery, carpentry, &c.

There are chilfels of different kinds; though their chief difference lies in their different fize and ftrength, as being all made of freel well sharpened and tempered; but they have different names, according to the different uses to which

they are applied.

The chiffels used in carpentry and joinery are, 1. The former, which is used first of all before the paring chiffel, and just after the work is feribed. 2. The paring-chiffel, which has a fine smooth edge, and is used to pare off or smooth the irregularities which the former makes. This is not struck with a mallet, as the former is, but is pressed with the shoulder of the workman.

3. Skew former: this is used for cleansing acute angles with the point, or corner of its narrow edge. 4. The mortife-chiffel, which is narrow, but very thick and strong, to gnowe hard blows; and it is cut to a

very broad bafil: its use is, to cut deep square holes in the ated very finely; the extreme valves lumulated. Found wood, for mortiles. 5. The gouge, which is a chiffel with a round edge; one fide whereof ferves to prepare the way for an augre, and the other to cut fuch wood as is to be rounded, hollowed, &c. 6. Socket chiffels, which are chiefly used by carpenters, &c. to have their shank made with a hollow focket at top, to receive a throng wooden sprig, fitted into it with a shoulder. These chiffels are distinguished, according to the breadth of the blade, into half-inch chiffels, three quarters of an inch chillels, &c. 7. Ripping-chiffel, which is a focket chiffel of an inch broad; having a pieces of wood afunder, by forcing in the blunt edge between

CHISSEL, in Geography, a fort in the state of the Tennesfee, 21 miles from the English ferry on New River, 43 from Abingdon, and 107 from Long island, on Holston.

CHIT, is the name of an inflrument used in cleaving

CHITARONE. A large Spanish guitar.

CHITARRA, Ital. See GUITAR. CHITI, in Geography, a town of the island of Cyprus, near Larnica, much celebrated among the ancients. See

CITIUM.

CHITIQUE, Du, lake, called also Pelican lake, a lake of North America, separated from lake Miron, in N. lat. 55° 7', by a fhort, narrow, and fmall firait. It is not more than 7 miles long, and its course is about N.W. and is succeeded by the lake Des Bois, which runs about 21 miles in a S.S.E. and N.N.W. courfe, and is full of islands; the paffage to it being through an intricate, narrow, winding, and shallow channel for 8 miles.

CHITON, in Conchology, a genus of TESTACEA, or shells, the animal inhabitant of which is a doris (see Doris), and the shell, which is multivalve, confishing of several fegments or valves disposed down the back.

Species.

Hispinus. Shell of fix itriated valves. Schroet.

This is of a moderate fize; the colour blackish-grey, with white fpots and dots, and very finely marked with minute granulated ftrize. A native of America.

TUBERCULATUS. Shell of feven valves; body tuberculated. Gmel. Chiton ofcabrion, Linn. Muf. Ad. Fr. Chi-

Inhabits America. The form is an oblong-oval, narrow, with tubercles above disposed in a quincunx; sides cinereous, mixed with white and marked with brown undulated bands; back greenish, with a broad deep band of black.

ACULEATUS. Shell of eight valves, thriated; body fomewhat aculeated. Linn. Amoen. Acad. Limax marina,

Rumpf.

An Afiatic species. The shell is tuberculated, oval, rough on the upper part, with narrow, subulate, somewhat curved, unequal red prickles.

FASCICULARIS. Shell of eight valves; body with a tuft of hair on each fide of the vilves. Schroet.

Described as a native of the coast of Barbary; the valves are cinereous, fmooth, and flightly carinated; the lateral tufts of hair whitish.

SQUAMOSUS. Shell of eight valves and semi-striated; the margin covered with minute feales. Linn. &c.

and variegated, Chiton feaber variegatus, Chemn. And another smooth and variegated (y) Chilon levis variegatus, Chemn. The ofcabrion gallicum of Argenville, and Chilon fyuamefus, tefta fettemvalvi of Schroeter, are also deemed varieties of this species. The valves are partly granulated, and partly ftrichiefly in America.

RUBER. Shell of eight valves; fomewhat firiated, the ftriæ curved; body red. Linn. Fn. Succ.

This is of an oval and sub-obiong form, with the back carinated or elevated into a keel. Colour tawny, with a darker streak on the back bordered with white; margin of the animal brown or vellow with red fpots and dots.

Inhabits the North feas. Clemnitz deferibes a variety

PUNCTATUS. Shell of eight valves, and imooth; body with excavated dots. Chiton corpore pundato teglis allo, Linn. ant of Europe, Afia, and Africa.

ALBUS. Shell of eight valves, smooth, first emarginate

behind; body white.

This is of an oval shape. It inhabits the North Seas.

CIVERFUS. Shell of eight valves, fm oth, and carinated; body reddith, with a formewhat ciliated border, O. Fabr. Found among the roots of the ulvæ in the mal is alive.

Shell of eight valves, thick; outfide fea green; infide fnowy white, edged with block. Gmel. &c. Native country unknown. The fixe is rather large.

CERASINUS. Shell of eight valves, fmooth, and cherry-

coloured, with fnowy marginal teeth. Chemn. &c. Native place unknown.

MAGELLANICUS. Shell of eight valves, thick, blackbrown; above convex, with a blackish band in the middle

Inhabits the straits of Magellan. This species is of a large fize; fuell fine green, bordered with brown, and black

Fuscus. Shell of eight valves, brown, fmooth; infide and teeth of the margin fnowy; back with triangular black fpots, and obscure yellowish bands on each side. Chemu. &c.

two extreme valves; and the back is more elevated and

MACULATUS. Shell of eight valves, fmooth; within fea-green; margin covered with grevish white scales; anterior part of the middle valves, and fides of fome spotted with brown. Chemn. A rare species. Country unknown.

MARMORATUS. Shell of eight valves, smooth, black and white varied; middle valves greenish within. Gmel. Chemn.

and white, varioutly disposed in alternate blackish and white with alternate whiti.h, fleel blue, and blackish patches. A variety with seven valves is described by Schroeter.

GRANULATUS. Pitchy, above flat, with numerous elevated dots disposed in regular series; border broad, coriace-

A native of the American ocean. Valves usually eight, rarely feven.

Pickus. Shell eight valved, above smooth, pitchy, black varied with white. Chemn.

Inhabits the American and Red feas. This is allied to the preceding species. The inside of the faell is black in

t1.e

the middle, at the fides greenish; and the back is marked with alternate black and white fpots, bands, and veins. Rarely found with only fix or feven valves.

INDUS. Shell of eight valves; whitish ash colour, with the border fealy; middle valves very finely punctured.

Chemn. A native of the American feas.

MINIMUS. Shell of eight valves, smooth black, and sprinkled with farinaceous or powdery patches. Chemn.

Inhabits the Norway feas, near Bergen. Size very fo. Il.

CIMEX. Shell of eight valves, carinated, diaphanous, and banded; each of the extreme valves very finely punctured. Chemn.

This species is of a small size, and inhabits the Norway feas. Within the colour is whitish ash, with alternate

blackith and paler bands.

Asellus Shell of eight valves; deep black; above convex, with a yellowish spot on each of the valves.

Inhabits the North feas, affixed to the large mulcle, mytitus modiolus.

GIGAS. Shell of eight valves, thick, convex, and white; first valve crenated, the middle ones emarginated, and the extreme one armed with teeth. Chemn, &c.

brown. This inhabits the Cape of Good Hope.

green, with a pale line above, in the middle; border thin

and hyaline, Schroet. Native place unknown.

ISLANDICUS. Shell of eight valves, sub-cylindrical, very finely puctured, black with cinereous border. Schroet. &c. This is of a fmall fize, and narrow at each end.

CRIMITUS. Shell of feven valves, and thickly befet with

short hairs. Gmel.

This is described by Grelin; on the authority of Pennant, as a species inhabiting the sea near Aberdeen, Scotland. The fpecies occurs on feveral other of the British coasts, and has commonly eight valves.

MARGINATUS. Shell of eight valves, fmooth, with ferrated reflected margin. Genelin, &c. Found on the feacoult of Scarborough, and on the western coasts, and those

of Scotland.

LEVIS. Shell of eight valves, very gloffy, with elevated

dorfal band. Gmel. Inhabits the Scottilh shores.

AMICULATUS. Shell of eight valves, reniform, very fragile, and covered externally with a coriaceous membrane. Pallas.

Length about fix inches; the valves are imbricated. This inhabits the coult of the Kurile islands.

CHITORE. See CHEITORE.

CHITPOUR, or CHITTIPUR, probably the ancient Supara, in Geography, a town of Hindooftan, in the country of Guzerat; celebrated for its manufacture of chiatfes; 172 miles S.W. of Amedabad. N. lat. 21° 20'. E. long.

75° 30'. CHITRO, a town of European Turkey, in the province of Macedonia, fituated in the bay of Salonichi; 36 miles S.S.E. of Edeffa. N. lat. 40° 30'. E. long. 23° 10'.

CHITSEE, in Botany, the name of a Chinese tree,

called also Setfe.

CHITTAGONG, CHITTIGONG, OF ISLAMABAD, in Geography, the name of a province of the peninfula, which feparates the gulf of Bengal from the Chinese sea, between the Burrampooter river and the borders of Arracan, and the Birman empire. Its chief town of the same name, situated at a considerable diffance from the river Naaf, which bounds the British and Birman territories, is the feat of the pro-

vincial government, and relidence of the English magistrate. The banks of the river are covered with deep jungles, interfperfed with feanty spots of cultivation, and a few wretched villages, inhabited by the poorest class of herdsmen, and the families of roving hunters, whose occupation it is to catch and tame the will elephants, with which the forests abound. Such unfrequented places afforded to perfors, concerned in a lawlefs traffic, an afylum, where they escaped the cognizance of the English officers of justice, and furnished the emperor of the Birmans with occasion for complaint and remonstrance, or rather for aggression on the territories of the English East-India company, which terminated, after a threatened conflict, in compromife and conciliation. The Portuguese made their first settlement in this country. The capital, called affo Islamabad, is 4° 53' E. of Balasore, in N. lat. 22' 20', and E. long. 91' 55'. From this town the coasts of Arracan and Pegu take a S.S.E. course to Cape Negrais, the extreme point of Pegu to the S.W. the latitude of which is under 16 degrees, and distance from Islamabad about 410 geographical miles.

CHITTELDROOG, a town of Hindooftan, and capital of a province of the fame name, in the Myfore country; though which passes the river Hoggry. It is distant 85 miles N.N.W. from Seringapatam, and 95 E. of Beda-

nore. N lat. 13° 50'. E. long. 73°.

CHITTENDEN, a county of America, in the flate of Vermont, fituate on the lake Champlain, between Franklin county on the N. and Add fon S.; the Maille river palles through its N.W. corner, and Onion river divides it nearly in the centre. Its chief town is Burlington. This county contained, by the centus of 1791, 44 townships, and 7301 inhabitants. Since that time the northern counties have been taken from it, fo that neither its fize nor number of inhabitants can now be afcertained .- Alfo, a township in Rutland county, and date of Vermont, containing 159 inhabitants. The road over the mountain palles through this township. It is dillant 7 miles E. from the fort on Otter creek, in Pittsford, and about 60 N. by E. from Ben-

CHITTENENGO, or CANASERAGE, a confiderable ftream, which runs northerly into lake Oneida, in the flate of

New York.

CHITTEPUT, a town of Hindoustan, in the Carnatic; 14 miles N. of Gingee.

CHITTIGONG, or ISLAMABAD. See CHITTAGONG. CHITTIM, in Scripture Geography, denote, according to Bafnage, the Cuthæans, who inhabited Susiana, near Babylon, and who, marching under Nebuchadnezzar, contributed to the fiege of Tyre. Bochart iuppoles the Romans to be meant by Chittim: but as the Cutheans are never called Chittim in Scripture, and the Romans were not concerned in the fiege of Tyre, mentioned by the prophet Ifaiah (ch. xxiii. v. 1, &cc.), Calmet supposes that the appellation of Chittim is applied to the Macadonians, and that the prophet speaks of the country of Macidonia as an ifland, (denominating it the ifles of Chittim,) after the manner of the Hebrews, who thus call penintulas and maritime countries. However, there feems to be no lufficient reason for restraining the term Chittim to Macedonia, which was not particularly a maritime country, but it may include all Greece; and more especially the islands of the Archipelago, and perhaps up the Bolphorus, fince vessels might navigate from thence to Tyre, as they now do to Egypt, &c. The Greek colonies, dispersed about the Mediterranean, might also be comprehended under the denomination; and, confequently, Sicily, Sardinia, and a great part of Italy.

CHITTING.

CHITTOOR, in Geography, a town of Hindooftan, in the Carnatic: 28 miles N.W. of Arcot, and 70 W. of Madras. CHITTRA, a town of Hindooltan, in the Bahar country: 85 miles S. of Patna, and 72 S.S.W. of Bahar.

CHI-TUA, in the Materia Medica, a name used by some authors for a kind of agnum aloes, which is reddish, and of a

CHITWA, in Geography, a town of the peninfula of India, in the province of Cochin, near the coalt of Malabar. N. lat. 10° 33' 15". E. long. 76° 5'. CHIVA, a town of Spain, in the province of Valencia; 15 miles W.N.W. of Valencia.

CHIVAGE. See CHEVAGE. CHIVALRY, in Antiquity, an inflitution which, according to some writers, took its rife from the crufades, but according to others, gave occasion to that enterprise; and which, though founded in caprice, and productive of extravagance, had a very confiderable influence in refining the manners of the European nations, during the 12th, 13th, 14th, and 15th centuries. This institution naturally arose, fays Dr. Robertson, (ubi infra,) from the state of society at that period. The feudal state was a state of perpetual war, rapine, and anarchy; during which the weak and unarmed were exposed to perpetual infults or injuries. The power of the fovereign was too limited to prevent these wrongs; and the administration of justice too feeble to redrefs them. Against violence and oppression there was scarcely any protection, befides that which the valour and generofity of private perfons afforded. The fame spirit of enterprise which had prompted fo many gentlemen to take arms in defence of the oppressed pilgrims in Palestine, incited others to declare themselves the patrons and avengers of injured innocence at home. When the final reduction of the Holy Land under the dominion of Infidels, put an end to these foreign expeditions, the latter was the only employment left for the activity and courage of adventurers. The objects of this institution were to check the insolence of overgrown oppresfors, to succour the distressed, to rescue the helpless from captivity, to protect or to avenge women, orphans, and ecclefialties, who could not bear arms in their own defence, to redrefs wrongs, and to remove grievances. These were confidered as acts of the highest prowess and merit. Valour, gallantry, and religion, were blended in this inflitution; humanity, courtefy, justice, and honour were its characteristic qualities; the enthufiaftic zeal produced by religion ferved to give it fingular energy, and to carry it even to a romantic excefs: men were trained to knighthood by long previous discipline; they were admitted into the order by folemnities no less devout than pompous; every person of noble birth courted the honour; it was deemed a diilinction fuperior to royalty, and monarchs were found to receive it from the hands of private gentlemen. These various circumstances contributed to render a whimsical institution of fubiliantial benefit to mankind.

Another ingenious writer, who traces the origin of chivalry to the crufades, thus reprefents the occasion and manner of its introduction. On the crumbling of the western empire into small states, with regular subordinations of valfals and their chiefs, who looked up to a common fovereign, it was foon found that these chiefs had it in their power to make themselves very formidable to their masters; and just in that criss of European manners and empire, the Saracens having expelled Christianity from the East, the western princes seized the opportunity, and with great craft turned the warlike genius of their feudataries, which would

CHITTING, in Gardening. A feed is faid to chit, when otherwife have preved upon themselves, into the spirit of when, afterwards, the ardour of the crufades was fomewhat abated, though not extinguished, the Gothic princes and their families had fettled into ettablished monarchies. this juncture, when the reftless spirit of their vaffals had little employment abroad, and was rettrained, in a confiderable degree, from exerting itself with success in domettic quarrels, it broke out in all the extravagance of "knighterrantry." Military fame, acquired in the Holy Land, had entitled the adventurers to the infignia of arms, the fource of heraldry; and infpired them with the love of war and the paffion of enterprife. Their late expeditions had given them a turn for roving in quelt of adventures; and their religious zeal had infused high notions of picty, justice, and chaffity. The frene of action being now more confined, they turned themselves from "the world's debate," to private and personal animofities. Chivalry was employed in rescuing humble and faithful vasials from the oppression of petty lords; their women from favage left; and the heavy heads of hermits (a species of eastern monks, much reverenced in the Holy Land) from rapine and outrage. In the mean time the courts of the feudal fovereigns became magnificent and polite; and, as the military conflictation field fubfilled, military merit was to be upheld; but, deflicted of its former objects, it naturally foftened into fictitious images and courtly exercises of war, in "Jults" and " Tournaments;" where the honour of the ladies supplied the place of zeal for the holy sepulchre; and thus the courtefy of elegant love, but of a wild and fanatic species, as being engrafted on spiritual enthusiasm, came to mix itself with the other characters of the knights-errant.

Dr. Hurd, in his " Letters on Chivalry and Romance," observes, that chivalry, properly so called, and under the idea of "a diffinct military order, conferred in the way of investiture, and accompanied with the solemnity of an oath and other ceremonies, as described in the old historians and romances," was of later date than the feats of Charlemagne and our Arthur, and feems to have fprung immediately out of the feudal constitution. This constitution produced a very great change in the politics of Europe; and its first and most fensible effect was the erection of a prodigious number of petty tyrannies, exercised by the great barons over their dependent vallals. These barons, though closely attached to the service of their prince by the conditions of their tenure, became a kind-of absolute sovereigns, at least with regard to one another; and as their aims and interests often interfered, the feudal state was, in a great degree, a state of war; the several combinations of seudal tenants were fo many separate armies under their head or chief; and their cattles were fo many fortreffes, as well as palaces, of thefe puny princes. Hence arofe the peculiar encouragement which was given to the use of arms, under every different form of attack and defence, as the fafety of these different communities, or the ambition of their leaders, might require. This condition of the times is supposed by the ingenious prelate to have given rife to that military inhitution, which we know by the name of "Chivalry." In the intervals of peace, the military discipline of the followers of these independent nobles was not to be relaxed, nor their aidour fuffered to cool, by a total difuse of martial exercites. To this circumstance, he conceives, may be traced the proper origin of "Justs" and "Tournaments:" those images of war, which were kept up in the cattles of the barons, and, by an useful policy, converted into the amusement of the knights, when their arms were employed on no ferious occasion. See Just and Tournament.

From

From the circumstances of the feudal government, which gave rife to chivalry, the author accounts for the various characteristics of this fingular profession. Hence were derived the passion for arms, the spirit of enterprise, the rewards of valour, the splendour of equipage, and, in short, every thing that raises our ideas of the prowess, gallantry, and magnificence of these sons of Mars. Hence also proceeded their romantic ideas of justice, their passion for adventures, their eagerness to run to the succour of the diffrested, and the pride they took in redressing wrongs and removing grievances, which are diftinguishing characteristics of genuine chivalry. Moreover, the courtely, affability, and gallantry, for which these adventurers were so famous, are but the natural effects and confequences of their fituation. The castles of the barons were the courts of those little fovereigns, as well as their fortreffes; and the refort of their vallals thither, in honour of their chiefs, and for their own proper fecurity, would render that civility and politeness, which are feen in courts and infenfibly prevail there, a predominant part in the character of these assemblies. Besides, the preeminence of the ladies, in those courts and circles of the great, would operate fo far on the flurdiest knights, as to give birth to the attentions of gallantry : and as violations of chastity were the most atrocious crimes which they had to charge on their enemies, they would pride themselves in the merit of being its protectors; this virtue furnishing the fairest and strongest claim of the fex itself to fuch protection, it is no wonder that the notions of it were, in time, carried to fo Platonic an elevation. To this purpose the great matter of chivalry expresses his sentiments on the fubject :-

"It hath been thro' all ages ever feen,
That, with the praife of arms and chivalry,
The prize of beauty fill hath joined been;
And that for reafon's special privity:
For either doth on other much rely;
For He meeseems most fit the fair to ferve,
That can her best defend from villany;
And She most fit his service doth deferve,
That fairest is, and from her faith will never swerve."

Spenser, b. iv. c. 5.

As to the character of religion, which was so deeply imprinted on the minds of all knights, and was effential to their institution, infomuch that, it is faid, " the love of God and of the ladies," went hand in hand in the duties and ritual of chivalry, two reasons may be assigned for this fingularity; viz. the superstition of the times in which chivalry arose, which was so great, that no institution of a public nature could have found credit in the world, that was not confecrated by the churchmen, and closely interwoven with religion; and also the condition of the christian flates, which had been haraffed by long wars, and had but just recovered a breathing time from the brutal ravages of the Saracen armies. The remembrance of what they had lately fusfered from these grand enemies of the faith, made it natural and even necessary to engage a new military order on the fide of religion. See RECREANT. The preceding characteristics of chivalry, which Dr. Hurd deduces from the effential properties of a feudal government, are made to refult from the spirit of crusades, by those who trace their origin to these military enterprises; whereas this author confiders the latter as only an accidental effect of the former. He allows, however, what indeed cannot be reafonably contested, that chivalry as it is represented in books of romance, (fo much posterior to the date of that military institution) took its colour and character from the impressions

made on the minds of men by the spirit of crusading into the holy land. Accordingly there are, as he apprehends, two diffinet periods, which ought to be carefully observed in a deduction of the rife and progress of chivalry. The first is that in which the empire was overturned, and the feudal governments were every where introduced on its ruins, by the northern nations. In this era, that new policy fettled itself in the west, and operated so powerfully as to lay the first foundations, and to furnish the remote causes of what we know by the name of chivalry. The other period is, when these causes had taken a fuller effect, and shewed themselves in that fignal enterprise of the crusades; which not only concurred with the spirit of chivalry, already pullulating in the minds of men, but brought a prodigious increase, and gave a fingular vigour and force, to all its operations. In this era, chivalry took deep root, and at the fame time shot up to its full height and fize. From this last period the Romances both in profe and verse, derive all their ideas of chivalry. See ROMANCE. But it was, as our learned prelate conceives, the former period that gave birth to this institution; as he infers not only from the reason of the thing, but from the furer information of authentic history. For there are traces of chivalry, in its most peculiar and characteristic forms, to be found in the ages preceding the crusades; and even justs and tournaments, the image of ferious knight-crraxtry, was certainly of earlier date than that event. Our author, (referring to the "Memoirs of the Academy of Inscriptions and Belles Lettres," T. xx), proceeds to shew that there is a remarkable correspondency between the manners of the old heroic times, as painted by their great romancer, Homer, and those which are represented to us in books of modern knight-errantry: and this is a fact which is accounted for by the affiftance of another, viz. that the political state of Greece, in the earlier periods of its history, was similar in many respects to that of Europe, as broken by the feudal fystem into an infinite number of petty independent governments.

This fimilarity is illustrated in the following particulars. The military enthuliasm of the barons is but of a piece with the fanaticism of the heroes, as they are exhibited by the Gothic romances and by the Greek poet. We also hear much of knights-errant encountering giants and quelling favages, in books of chivalry. These giants were oppressive feudal lords, occupying their strong holds or castles; and their dependents of a lower form, who imitated the violence of their superiors, and though destitute of castles, had their lurking places, were the favages of romance. The greater lord was denominated a giant, for his power; the less, a favage, for his brutality. Another terror of the Gothic ages was monsters, dragons, and ferpents. In all these respects, Greek antiquity very much refembles it. For what are Homer's Læstrigons and Cyclops, but bands of lawless savages, with, each of them, a giant of enormous fize at their head? And what are the Grecian Bacchus and Hercules, but knights-errant, the exact counterparts of Sir Launcelot and Amadis de Gaule? Moreover, the oppressions which it was the glory of the knight to avenge, were frequently carried on, as we are told, by the charms and enchantments of women. Similar to thories of this kind are those of Calypso and Circe, the enchantresses of the Greek poet. Besides, robbery and piracy were honourable in both; fo far were they from reflecting any diferedit on the ancient or modern redreffors of wrongs. To account for this odd circumstance, we ought to recollect, that in the foudal times, and in the early days of Greece, when government was weak, and unable to redrefs the frequent injuries of petty fovereigns, it would be glorious for private adventurers to undertake this work; and if they

could accomplish it in no other way, to pay them in kind by downright plunder and rapine. Their manners, in another respect, were the same. Battardy was in credit with both. Whilit they were extremely watchful over the chaffity of their own women, those whom they could feize upon at any time they transgraffed in this way at home, the heroic ages were complaifant enough to cover the fault by an ingenious fiction. The off-pring was reputed divine. We and courtely were imputed to the heroic ages. Achilles was at once the most relentless, vindistive, implacable, and the friendhest of men. Similar to this is the representation that occurs in the Gothic romances, where it is almost

These contradictions in the characters of ancient and modern men of arms can be reconciled only by observing, that as in these lawless times dangers and diffresses of all forts gentleness, and generous attachment to the unfortunate, and animofity against their enemies. Further, if we advert to the martial games which ancient Greece delighted to cethey had the same origin, and served the same purpose, as the tournaments of the Gothic warriors. And, laftly, the passion for adventures, so natural in their situation, would be as naturally attended with the love of praise and glory. times, to panegyrids and poets: the bards being as welcome to the tables of the feudal lords, as the AOIAOI of old

Warton (Diff. 1. prefixed to the History of English fome time feated on the northern coalls of Africa, entered his "Introduction to the Hiltory of Denmark," followed by Pinkerton (Diff. on the Scythians or Goths) and Percy (on the Ancient Metrical Romances), afcribes to the tales and rites of chivalry a Scandinavian origin. An anonymous writer, however, is of opinion, (Month. Magaz. Feb. 1850) that neither Moorith Spain, nor Gothic Scandinavia gave civilization; but rather Armorica, and the connected provinces of Britain. In support of this opinion it is argued, that all the European nations take their remances of chivalry from t e French; that the French romances originate in the north of France; that the older romences of chivalry have especially celebrated the heroes of Greater or Leffer Britany, and are therefore of Armorican origin; that rime is derived from the language of Arnoriea; and that chivalry, though of obscure origin, is also probably Amorican. Accordingly it is alleged, that chivalry refembles, in the spirit of its operation, a confederacy of country-gentlemen, to ward off from each other the dangers and evils of anarchy. A defensive, not an . Wensive, spirit characterizes the obligations of a knight; and his oath required him to protect the church against heathens, ladies against ravibers, orphans ig infl encroaching guardians, and the conquered equal against infult. An exclusive care for the interests of

gentlemen diffinguishes the practice of the initiated; and whilit the perfonal rights of women of the lower classes were invaded without feruple, these of ladies were respected with superstitious politeness. Such features, it is faid, feem to be rather the relies of a receding than the tokens of a growing civilization. The whole ritual of chivalry, the military Armorica alone, as this anonymous writer maintains, was its long participation of Roman culture, to become the a great influence. See ROMANCE.

Henry III.; but revived under Edward I. This prime was he flourished, and both delighted and excelled in feats of chivalry. As a proof of this, it will be fufficient to alter his father's death, and knew that his prefence was ardently defired in England, he accepted an invitation to a his skill and valour to great advantage, and gained a comand encouraged it both by his example and munincence. enterprifing spirit, and to entice as many valuent foreigners as possible into his fervice. With this view, Lec. 1 brated leveral pompous tournaments, to which he is well ad firaugers first companions were persons samous for their victories at not a little to premete valeur, munificeree, and a iplemoid kind of gailantry among perfors of condition, who afpired to the honours of knighthood, which were then Although this may be regarded as an extravagant affection, it cannot be demed that the spirit and the laws of crivalry tion, he took an oath confiding of 20 articles, in a tich, of the church and clergy, a protector of the ladies, and a

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purpose we may observe, that when Alphonso V. king of Portugal, conferred the honour of knighthood on his fon, he commanded him to kneel down by his fide, and instructed him in the nature and duties of the order into which he was admitted; and, amongst other things, directed him to confider, that as the priefthood was instituted for divine service, so was chivalry for the maintenance of religion and justice. A knight, he adds, ought to be the husband of widows, the father of orphans, the protector of the poor, and the prop of those who have no support; and they who do not act thus, are unworthy to bear that name. Those who acquitted themselves of these obligations in an honourable manner were favoured by the fair and courted by the great; but those who were guilty of base dishonourable actions, were degraded with every possible mark of infamy. (See KNIGHT.) All this could hardly fail to have fome influence on the conduct of those who were invested with that dignity; though, from the rudeness of the times, and the general disfolution of manners which then prevailed, that influence was probably, less than might have been expected. However, the spirit and practice of chivalry did actually produce a very beneficial effect. "I will venture to fay," as lord Lyttelton obferves (Hilt. Hen. II. vol. iii. p. 161, 8vo.) "that from the 9th to the 16th century, the brightest virtues which digpified either the hillory of this nation or that of any other people in the whole Christian world, were chiefly derived from this source. Had it not been for the spirit of chivalry, the corruption of religion, the want of all good learning, the superstition, the ferocity, the barbarism of the times, would have extinguished all virtue and sense of humanity, as well as all generous fentiments of honour, in the hearts of the nobility and gentry of Europe; nor could they have been able to relift the military enthuliasm of the Saracens and the Turks, without the aid of another kind of fanaticism, which was excited and nourished in them by means of that fpirit."

"This fingular institution," fays Dr. Robertson (ubi infra), "in which valour, gallantry, and religion, were fo strangely blended, was wonderfully adapted to the tafte and genius of martial nobles; and its effects were foon visible in their manners. War was carried on with less ferocity, when humanity came to be deemed the ornament of knighthood no less than courage. More gentle and polished manners were introduced, when courtefy was recommended as the most amiable of knightly virtues. Violence and oppression decreased, when it was reckoned meritorious to check and to punish them. A forugulous adherence to truth, with the most religious attention to fulfil every engagement, became the diftinguishing characteristic of a gentleman, because chivalry was regarded as the school of honour, and inculcated the most delicate fensibility with respect to that point. The admiration of these qualities, together with the high diftinctions and prerogatives conferred on knighthood in every part of Europe, inspired persons of noble birth, on some oc-casions, with a species of military sanaticism, and led them to extravagant enterprifes. But they imprinted deeply on their minds the principles of generofity and honour. were strengthened by every thing that can affect the fenses or touch the heart. The wild exploits of those romantic knights who fallied forth in quest of adventures, are well known, and have been treated with proper ridicule. The political and permanent efforts of the spirit of chivalry have been less observed. Perhaps, the humanity which accompanies all the operations of war, the refinements of gallantry, and the point of honour, the three chief circumstances which diffinguish modern from ancient manners, may be ascribed in a great measure to this whimsical institution, VOL. VII.

feemingly of little benefit to mankind. The fentiments which chivalry inspired had a wonderful influence on manners and conduct during the 12th, 13th, 14th, and 15th, centuries. They were fo deeply rooted, that they continued to operate after the vigour and reputation of the inflitution itfelf began to decline." In a word, chivalry, which is now an object of ridicule, was, at the period to which we have above referred, a matter of the greatest moment, and had no little influence on the manners of mankind and the fate of nations. Robertson's Ch. V. vol. i. Henry's Hift, vol. viii. Lyttelton's Hift, vol. iii. Hurd's Moral and Political Dialogues, vol. iii. Memoirs of Ancient Chivalry, &c. tranflated from the French of M. de St. Palaye, by the translator of the Life of Petrarch (Mrs. Dobson), 8vo. 1784.

CHIVALRY, or Chevalry, in Law, a tenure of land by knight-fervice; whereby the tenant was anciently bound to perform fervice in war, to the king, or to the mefne lord of

whom he held by that tenure.

By a statute of 12 Car. 11. cap. 24. all tenures by chivalry, in capite, &c. are abolished. See Court and GUAK-

CHIVALRY, Court of .. See Court.

CHIVAZZO, or CHIVAS, in Geography, a town of Piedmont, fituated near the union of the river Orco with the Po, on a large plain, part of which is converted to tillage, and produces Turkey corn, but towards Zigliano a barren waste in many places, covered with a kind of reddish heath. It is defended with ancient and new walls, baftions, and large fosses filled with water; and well supplied with artillery and a numerous garrifon, especially in time of war. Its fituation is so advantageous, that those who are masters of it are faid to possess the key of the country of Turin, the Canavois, the country of Vercelli, Montferrat, and Lombardy, all which they may enter at pleasure. It has several churches and convents; 11 miles N.E. of Turin, and 12 S. of Ivrea. N. lat. 45° 1'. E. long. 7°43'.

CHIUDENDO, in Italian Music, to conclude; as chiudendo col ritornello, col l'aria, fignifies to end with a ritornello, or fome paffage which has been before fung in fome parts of

CHIVEN, in Ornithology, a name given by some old writers to the fly-catcher, Mufcicapa grifola.

CHIVERNY, in Geography, a town of France, in the department of the Loir and Cher, feated on the fouth fide of the Conon; 3 leagues S.E. of Blois.

CHIVES, or CHIEVES, in Botany, the small knobs growing on the ends of the fine threads, or stamina of flowers: by Ray, and others, called also apices. See An-

Dr. Grew calls the flamina, or threads themselves, on which the apices are fixed, the chives.

CHIVES, a very fmall species of the onion kind, is also

called by this name. See Allium.
CHIUM marmor. See Marble.
Chium winum, Chian wine, or wine of the growth of the island of Chios, now Scio, is commended by Dioscorides, as affording a good nourishment, fit to drink, less disposed to intoxicate, endued with the virtue of reflraining defluxions, and a proper ingredient in ophthalmic medicines. Hence Scribonius Largus directs the dry ingredients in collyria for the eyes, to be made up with Chian wine.

CHIUN, or CHEVAN, in Hebrew Antiquity. We meet with this word in the prophet Amos (ch. v. 26) cited in the Acts of the Apostles, (ch. vii. 43.). St. Luke reads the passage thus: "Ye took up the tabernacle of Moloch, and the star of your god Remphan, sigures which ye made to worthip them." The import of the Hebrew is as sollows: "Ye have borne the tabernacle of your kings, and the pe- vows to the gods, and threw it afide on their return, enterdestal (the chiun) of your images, the star of your gods, which ye made to yourselves." The Septuagint in all probability read repham or revan, instead of chiun or chevan, and

took the pedeifal for a god.

Some fay that the Septuagint, who made their translation in Egypt, changed the word chiun into that of remphan, because they had the same fignification. M. Basnage, in his book entitled Jewish Antiquities, after having discoursed a good deal upon chion or remphan, concludes that Moloch was the fun, chion, chiun, or remphan, the moon.

CHIUREA, in Zoology, a name given by Cardan, Oviedo, and fome others, to the Opossum, DIDELPHIS

confium.
CHIUSA, LA, in Geography, a town of Italy, in the Veronele, belonging to the state of Venice; o miles N.W. of Verona .- Allo, a town of Italy in the Friuli, feated on a fmall river, called the "Fella," which runs into the Tajamento; taken by the French in 1797; 14 miles N. of Friuli.

CHIUSANO, a town of Naples, in the province of Principato Citra; 13 miles S.S.E. of Benevento.
CHIUSELLE, a river of Piedmont, which runs into the

Orco; 1 mile W.S.W. of Foglisso.

CHIUSI, a town of Italy, in the country of Sienna, containing about 1000 inhabitants, the fee of a bishop; 31 miles S.S.E. of Sienna.

CHIUSO, Ital. Close, concealed, locked up: as in Music, canone chiuso, is a canon, not in score, but written entirely on one itaff, fometimes without any indications of clefs, fignals when the feveral parts come in, or information of any kind to point out the folution. See CANON.

CHIUSTENGI, in Geography, a town of European Turkey, in the province of Bulgaria; 70 miles E. of Silistria.

N. lat. 43° 2'. E. long. 27' 30'

CHIUTAYA, KIUTAJA, or CUTAJA, a town of Afiatic Turkey, and capital of a district in Natolia, situated at the foot of a mountain, in a fertile and healthy country, and defended by a castle on a rock. It contains several mosques, and three Armenian churches; 136 miles S.S.E. from Constantinople. N. lat. 39° 14'. E. long. 30° 44'.

CHIZE', a town of France, in the department of the Two Sevres, and diffrict of Niort, fituated near the Bou-

tonne; 31 leagues S. of Niort.

CHIZILARABAD, a town of Asia, in the kingdom

of Kurdistan; 70 miles S.S.E. of Kerkuk.

CHLÆNA, in Antiquity, a kind of thick, shaggy, upper garment; its use was very ancient; for we find Homer their tunics or coats.

CHLAMYDIA, in Botany, Gært. See PHORMIUM. CHLAMYDULA, in Antiquity, a fmall upper gar-

ment worn by children. See CHLAMYS.

CHLAMYS, among the Romans called paludamentum, in Antiquity, a military habit, worn by the ancients over the tunica. Chlamys was the fame, in time of war, that the toga was in time of peace; each belonged to the patricians. It did not cover the whole body, but chiefly the hind-part; though it also came over the shoulders, usually the left shoulder, so as to leave the right arm at liberty, and was fastened with a buckle on the breast. There were four or five kinds of chlamys; that of children, that of women, and that of men, which last was divided

ing the city in the toga.

CHLENN, in Geography, a town of Bohemia, in the circle of Konigingratz; 18 miles S.E. of it.

CHLIASMA, in Medicine, a warm fomentation of the moith kind; as pyria is of the dry kind.

CHLOEIA, in Antiquity, a festival celebrated at Athens, in honour of Ceres, to whom, under the name xxon, i.e. grafs, they facrificed a ram.

CHLOPAN, in Geography, a town of Poland, in the palatinate of Volhynia; 72 E.N.E. of Lucko.
CHLORA, in Botany, (faid to be fo called from 224425.)

pale or greenish yellow, alluding to the colour of the flowers.) Linn. Syft. Nat. 1258. Reich. 519. Schreb. 653. Willd. 752. Just. 142. Vent. 2. 425. (Blackstonia; Huds. Flor. Ang. ed. 1.)

Class and order, ollandria monogynia, Nat. Ord. Rotacez,

Linn. Gentiana, Just. Vent.

Gen. Ch. Cal. Perianth eight-leaved; leaves linear, permanent. Cor. monopetalous, falver-shaped; tube shorter than the calyx, coating the germ; border eight-cleft; fegments lanccolate, longer than the tube. Stam. Filaments eight, very short, feated in the throat; anthers linear, erect, shorter than the segments of the corolla. Pifl. Germ ovateoblong; ftyle filiform; ftigma four-cleft. Peric. capfule ovate-oblong, fomewhat compressed, furrowed, one-celled, two-valved; valves incurved on the fide. Seeds numerous,

Est. Ch. Calyx eight-leaved. Corolla monopetalous, eight-cleft. Capfule one-celled, two-valved, many-feeded.

Stigma four-cleft.

Šp. 1. C. perfoliata. Linn. Syst. Nat. 1. Mart. 1. Lam. Encyc. 1. Willd. 1. (Gentiana perfoliata; Linn. Sp. Fl. Centaureum luteum perfoliatum, Bauh. Pin. 278.) Yellow centaury. "Leaves perfoliate." Root annual, small, twifted. Whole herb glaucous, intenfely bitter. Stem from three inches to three feet high, erect, cylindrical, dichotomous near the top. Leaves quite entire, fmooth, egg-shaped, acute. Flowers from the forks of the stem, folitary, peduncled, of a golden hue; leaves of the calyx generally eight, border of the calyx generally eight-cleft; filaments generally eight; stigma red, two-cleft; segments bisid. A native of a calcareous foil in England, and the fouthern part of the continent of Europe. 2. C. quadrifolia, Linn. Syft. Nat. 2. (Gentiana: Linn, Sp. Plant.) " Leaves growing by fours." Stem about feven inches high, fimple, fomewhat quadrangular, jointed. Leaves in whorls, linear, a little broader towards the top, rather obtuse, the length of makes his heroes first put off their chlana, and afterwards the internodes. Peduncles five, terminal; the fifth intermediate; each with two opposite bractes about the middle; corolla eight-cleft as in the preceding, but the fegments smaller. A native of the fouth of Europe. Linnaus supposed it a hybrid plant produced from Chlora persoliata, and Linum quadrifolium. 3. C. dodecandria. Linn. Sylt. Nat. 3. Mart. 4. Lann. Encyc. 3. Willd. 3. (Chironia; Linn. Sp. Pl. Gentiana; Gron. Virg.) "Leaves opposite; corollas twelve-cleft." Flowers flesh-coloured; calyx twelvecleft; fegments linear, erect; corolla twelve-cleft, longer than the calyx; fegments lanceolate. Stamens twelve; anthers oblong, spiral; germ roundish: style long, twitted; stigma simple. A native of Virginia. 4. C. imperfoliata. Linn. jun. Sup. 218. Mart. 2. Lam. Encyc. 4. Willd. 5. "Corollas fix-cleft." Root annual. Stem about four inches into that of the people, and that of the emperor. The conful and generals, before they fet out for the field, went to opposite, fessile, half-embracing the stem, egg-shaped, the capitol dreffed in this robe, in order to pray and make fmooth, acute, shorter than the internodes. Flower yellow, larger than the leaves, terminal, peduncled; cally one-leafed, campanulate, the length of the corolla, bild beyond the middle, fpreading, permanent; fegments lanceolate; corolla monopetalous, falver-haped: tube fhort, fpreading; border longer, with fix oval fegments; filaments fix, awl-fhaped, a little longer than the tube, and attached to it, anthers roundish; germ oblong; styles two, agglutinated together; stigmas obtuse. A native of Italy. The fruit of this plant is unknown, and nearly all its known parts of fructification are totally at variance with the generic character; it cannot therefore be a chlora, as that genus is at present understood, notwithstanding its agreement in habit with C. persoliata, from which the generic character was originally formed. C. dodecandria is in the same predicament; and, on account of its spiral anthers, had perhaps better have been left with Chironia, where Linnæus once

CHLORANTHUS, (from χλαγο;, pale yellow, and ασθο;, a flower, Mart. Wilid. L. Herit, Sert. Ang. 35. tab. 2. Swartz. Phil. Tranf. Vol. 77. tab. 14. Juf. 423. (Nigrina; Schreb. 212. Lam. Ill. 185. tab. 71, Poiret in Encyc.) Class and order, tetrandria monogynia. Nat. Ord. uncertain; fupposed by Juffieu to have some affinity to Vif-

cum.

Gen. Ch. Cal. none. Cor. monopetalous, fcale-like, three-lobed, concave within, convex outwards, half-fuperior, attached to the outer fide of the germ. Stam. filaments none; anthers four, oval-oblong, feffile, adnate to the petal within towards its edges. Pif. germ half-fuperior, egg-fhaped; ftyle none; fligma capitate, fomewhat two-lobed. Peric. Berry oval, fomewhat mucronate at the tip, transparent at the base, one-celled. Seed single, roundish.

Eff. Ch. calyx none. Petal feale-like, three-lobed, fixed to the fide of the germ. Anthers adnate to the inner fide

of the petal. Berry one-feeded.

Sp. C. inconspicuus. A stoloniserous undershrub. Stems about a foot high, cylindrical, procumbent at the base, throwing out roots from the lower knots. Leaves about two inches long, and opposite, oblong-ovate, revolute, somewhat wrinkled, spreading, stat, permanent; petioles short, opposite, uniting at the base into a kind of ring, which supports two awl-shaped erest stipules. Flowers pale yellow, in a terminal panicle composed of opposite spikes, arranged in pairs on a common receptacle, each accompanied by a small cale-like bracke. The ripe fruit is marked towards the top with the scars of the corolla, and its bracke, which, as Jussieu observes, proves it to be truly inferior. A native of China and Japan, and cultivated by the Chinse in their gardens. It was introduced into the royal garden at Kew, in 1781, by Dr. James Lind.

CHLORAS, in Zoology, one of the synonyms of Simia

Mormon. Breflauer.

CHLOREUS, in Ornithology, a name given by Turner and others to the common yellow-hammer, Emberiza Citrinella; which fee.

CHLOREUS, is also a name affigned by several of the early writers to the golden oriole, Oriolus galbula.

CHLORION, of Gefner, in Ornithology, the golden oriole, Oriolus galbula of Linnaus.

CHLORIS, Chloris ludoviciana vulgo Papa dicia. Briff. See Emberiza ciris.

CHLORIS indica, Briff. the yellow finch. See FRINGILLA Lutyracea.

CHLORIS bahamensis. Briff. See FRINGILLA licolor.

CHLORITE, in Mineralogy, Saint Erde, or pearls of the Cornijh mines, a species of the muriatic genus in the arrangement of Kirwan, (Vol. I.) which he distributes into

3 families. 'The first is in a loose form; colour, grafs-green, or greenish-brown, or dark-green inclining to black; external luftre 0.1; it feels greafy, shews a white streak, and gives an earthy fmell when breathed on. It is found in scales either investing other stones or heaped together. It melts into a dull black compact flag, and then becomes magnetic. By the analysis of Mr. Hæpsner it contains 0.4375 magnetia, 0.375 filex, 0.0417 argill, 0.0166 calx, and 0.1292 iron. 2. Sauls. 133. The fecond family is indurated and cryftallized: colour, dark-green, almost black; form oblong, quadrangular, and acuminated. Lustre, 1; transparency, o. Fracture earthy, but somewhat scaly. Hardness, 6; not remarkably heavy; gives a mountain green streak; feels meagre; does not effervesce with acids. Ferb. Briefe. 43. According to Hæpfner, it contains 0.415 filex, 0.3047 magnefia, 0.0613 argill, 0.015 calx, 0.1015 iron, 0.015 air and water. 1. Chy. Ann. 1750. 56. The third family is flaty. It is faid to abound with garnets and magnetic iron flone. According to Baron Born. (1 Raab. 247.) its colour is greenish grey; according to others, dark-green, inclining to black. Internal luftre, 1.2; transparency, 0; fracture more or less perfectly flaty, sometimes curved flaty, or paffing into the fealy foliated; and then accompanied with more lustre and a darker colour. Fragments flatted. Gives a mountain green streak, feels smooth and somewhat greafy. Hardness, 5.4.

CHLOROPUS, in Ornithology, the common water-hen or moor-hen of Will. Penn. &c. The common gallinule of Latham Syn, and fulica-chloropus of Linnaus and Gmelin,

which fee

CHLOROSIS, in Medicine, the green-fiekmess, from χλαρός, green, or pale, a disase peculiar to young women, about the period of the commencement of mentiruation; the most obvious and characteristic fyunptom of which is an extremely pallid complexion, frequently with a tinge of yellow, fomtimes verging towards green. It has hence been also called occasionally, from the days of Hippocrates,

iderus albus, or white jaundice.

This difease usually commences with languor, lassitude, and indisposition to motion or exertion; and a failure of animation or depression of spirits. The stomach is deranged in its functions, and various symptoms of dyspepsia, such as heartburn, nausea, acid eructations, &c. appear; the appetite for natural food is diminished, and a depraved appetite for indigestible substances, such as chalk, or earth, ensues. The respiration becomes short and difficult, especially upon every flight exertion, fuch as afcending the flairs, or any declivity, and on these occasions the heart is frequently seized with palpitation. The patient complains of considerable pain in the loins and head, and frequently in the whole of the muscles of the limbs. The bowels are often irregular in their evacuations, most frequently inclined to conflipation. The skin over the whole body becomes extremely pallid, fometimes nearly white, more frequently fallow, and in the advanced stages a slight greenish-tinge is occasionally observed; the lips lofe altogether their redness; and the eyes become of an excessive pearly whiteness. As the disease proceeds, the legs and feet become ædematous, especially in the evening, and the ferum flows into the cellular membrane of the eyelids, which are swelled and livid in the morning, and at length into that of the whole body, producing a general anafarca. In this condition of the body, some of the vifcera, as the flomach, liver or spleen, become occasionally affected with some organic disease, the functions generally fail, and the patient dies, tabid or dropfical. This termination, however, is rare; for the chlorofis, in general, is readily removed by medicine and regimen.

It is obvious, from this enumeration of the fymptoms, that the difease is connected with a great debility or atony of the whole fystem, and especially of the circulation. Hence the languor and lassicude, and pains in the muscles, especially on being exerted; hence the imperfect sceretions of the stomach and liver, and intestines, which give rise to indigestion, statulence, constitution, &c; and hence the deficiency of that healthy complexion of the skin, which the free and vigorous circulation of the blood through the cutaneous vessels produces. The pain of the back, which is an almost constant symptom of chlorosis, arises partly from the state of atony in the muscles, as in other diseases where the strength is much impaired, but chiefly perhaps from the

difordered state of the uterus.

The chlorotic condition of the body is fo commonly connected with a partial or complete retention of the mentional difeharge, or amenorrhwa, that the latter is frequently confidered as an almost fynonymous term, and by the females themselves all the symptoms of chlorofis are attributed folely to the amenorrhica. This, however, is undoubtedly an erroneous notion. The general debility of the fyllem is the common cause of the non-appearance of the monthly discharge, and of those other symptoms which constitute chlorosis; both the one and the other are symptoms of the general morbid flate of the habit. Thus all the fymptoms of chlorofis occur occasionally when the mentes continue to appear at the regular periods. Many of the fymptoms are fometimes observed, in which neither the colour of the fkin, which characterizes chlorofis, is prefent, nor are the catamenia suspended. And a suspension of the catamenia, where the chlorotic condition does not take place, is a very common occurrence. Indeed, whatever occasions a considerable reduction of the strength, at any period of life, generally causes a suppression of the menses; such as a want of nutritive food, watching, chronic difeafes, &c. But it is chiefly about the period, when the difeharge of the menfes first appears, or when it has already appeared partially, but not yet attained its regularity, that this debility, which induces chlorofis, is readily excited. Why the body should at that period be thus casily discased, it is very difficult to

The causes which induce chlorosis are more easily ascertained. Whatever contributes to reduce the strength of the fyshem, or greatly to disturb the digestive organs, at the per.od of life just alluded to, tends to produce a chlorotic condition. Hence the occasional causes of chlorofis are as various as the fources of debility. Fatigue, loss of fleep, deficiency of nutritive food, previous difeases, exposure to cold, a sedentary mode of life, grief, and other depressing positions, are frequent causes of this disease. But of all the mental causes, love, which "feeds on the damask check," is faid to be the most common source of chlorosis. The habits, therefore, of all conditions of fociety are favourable to the frequent production of the complaint. The crowded and close fireets, the fmall unventilated tenements, in which And, to of: the words of an intelligent physician, "we canfuffer equally; eight months of the year they fit on thick carriages, and are often too much reflricted in their diet. The weakness and extreme irritability, induced by this mode et living, not only bring on the chlorotic flate, but after the flightest exposure to damp or cold air, render them also liable to be affected with pains and inflammations of the bowels, rheumatism, head-ach, catarrh, phthiss, &c.'' See Willan Dif. of London, p. 105.

With respect to the proximate cause of chlorosis, perhaps little that is fatisfactory can be faid. As the difeafe is most occurs folely, or almost folely, at that period of life, when or attain their mature condition, the general laxity and debility of the fythem, upon which all the fymptoms, even the amenorrhæa, depend, have been attributed to some morbid condition of the everia. Thus a celebrated professor has remarked, that as a certain state of the ovaria in females prepares and disposes them to the exercise of venery, about the very ovaria has a great share in exciting the action of the uterine vellels, and producing the mentirual flux. But analogous to and tention to the whole fyttem; and therefore that, if the ftimulus arifing from the genitals be wanting, the whole fyficm may fall into a torpid and flaccid flate, and from thence the chlorofis and retention of the menfes may arife. Cullen, first lines, 1001. This hypothesis possesses the recommendation of ingenuity, but it does not remove every difficulty. that of the uterine vessels, or of the constitution at large, is not rather a confequence of the general debility, than a cause

It is fortunate, that in this, as in many other diseases, concerning the nature of which phylicians have differed in fentiment, we have a more folid basis than that of hypothesis, on which the cure is accomplished; namely, experience. In the difease in question, as general debility is the apparent fource of all the fymptoms; fo experience has flewn, that those expedients and medicines which reflore the flrength of the conditution, remove all the symptoms of the disease. any organic difeafe, although medicine can do much, yet much is also to be done by regimen and the general conduct ing the frame is regular exercise in the open air. This should, therefore, be sleadily and daily reforted to, according to the condition of the conflitution, increasing the quantity and degree of it in proportion to the increasing powers of try, and hence it is adviseable to refort to it where it is in will also materially aid the general plan. It is, doubtless, from these circumstances principally, that numbers of chlorotic females speedily recover their strength, complexion, and the healthy functions of the uterus, at the wateringplaces, where exercise, temperance, regularity, and good air, contribute to the attainment of health. And among those of medicines are aided in a most important degree by regular

A variety of medicines have been employed by different practitioners for the cure of chlorofis and ameoorthem; fome, with a view of flrengthening the flaccid and languid fyltem, and others, with a view of flimulating the uterine velfels in particular. The latter, from their fupported effect in exciting the flow of the menfes, have been termed emme- failed to produce the menfes, and that, when it did, hamor-

Among the general tonic, or firengthening medicines, iron, or, as it is improperly named, fleel, in its different preparations, is the most valuable and effectual remedy. Some physicians have gone so far as to consider it as a specific in chlorofis; a notion which, though in itself absurd, implies the general fuccels with which they have employed this medicine. It has been administered in almost all its preparations with advantage; most frequently in the form of a fulphate, or faline compound with the fulphuric acid, (ferrum vitriolatum of the Pharmacopæias), or of ruth (ferri rubigo). A mixture, which was administered with confiderable fuccess by Dr. Griffiths, and is now celebrated under his name, has been univerfally employed; it confilts of the ferrum vitriolatum, with the vegetable alkali, and myrrh. It is obvious, however, that the refult of this mixture mult be a decomposition of the sulphate of iron, a formation of a neutral falt (the sulphate of pot-ass) and a precipitation of the oxyd of iron in an impalpable powder. Initead, therefore, of taking the falt of iron, the patient swallows a nauseous mixture of Glauber's falt, with the oxyd of iron, and myrrh. This precipitate, freed from the Glauber's falt, is a carbonated oxyd of iron, and may be collected and given in a more simple form, or combined with other ingredients; it is, perhaps, the least offensive to the stomach, and one of the most efficacious preparations of iron. Being in a more impalpable powder, it may superfede the ruft of iron, which has been long administered with success, as it may be retained on the stomach in a larger dose. In whatever form the iron is given, it contributes greatly, with exercise and good air, to improve the digeltive powers, and to promote a more perfect affimilation of the food, and also, by accelerating the circulation, to restore the impeded fecretions, and the languid action of the uterine, as well as the other parts of the fystem. The small quantity of iron contained in the chalybeate waters is very minute, in comparison with the quantity which may be received into the fyftem in the forms of artificial combination; and the advantages of a watering-place are therefore probably not to be imputed to this fource, as has been already hinted.

With the fame intention of supporting the strength, other tonic medicines may occasionally be employed; such as the various bitters, bark, gentian, &c.; combined with cordials, where the action of the stomach is extremely feeble; or with absorbents, such as magnesia, where there is a prevalence of acidity in that organ. The aromatic gums, or gum-refins, feem to afford a grateful stimulus to the digestive organs, and are often conjoined with the preparations of iron, especially in the form of pills. The cautious application of cold, where there is still sufficient energy in the constitution, has been attended with great benefit, as in the form of a shower-bath: and a bath of the temperature of about 80°, fuch as that of Buxton, has proved efficacious. But on the whole, the practice may be confidered as unfafe, until the patient is in a state of convalescence, and has regained a con-

In the writings of the older physicians many medicines are enumerated under the title of "Emmenagogues," and their specific action on the uterus is contended for; and among the vulgar, at prefent, feveral articles are believed to be possessed of that power, which they administer on every occasion of menstrual stoppage. But the evidence in favour of the exiltence of fuch powers is fo unfatisfactory, that the notion of a specific emmenagogue is now generally discarded. The melampodium, or black hellebore, was recommended in the strongest terms by Dr. Mead; he affirmed that it rarely

rhages occurred from some other part. But subsequent experience has not confirmed this extraordinary encomium. The medicine is a strong general stimulant. Savin is another hot and irritating vegetable, which has been faid to exert powerful effects on the uterus, which it perhaps may fometimes excite, in common with relt of the body, by its diffusible ftimulus. Dr. Home (Clinical Obf. and Exp. p. 385.) confiders it as possessed of emmenagogue qua-

There are two other classes of medicines, which fometimes induce a flow of the menfes, by their action upon the parts adjoining the uterus; thefe are purgatives which flimulate the rectum or lower end of the intestines; and those medicines, which, being carried off in the urine, stimulate the bladder; fuch as cantharides, the balfams, and other terebinthinate fubflances. The powers of the latter are but flight; but an acrid purgative is perhaps one of the most direct promoters of the catamenia in the catalogue of the Materia Medica. The pediluvium is occasionally employed to reftore the menfirual discharge, and frequently with the defired effect, if it be reforted to about the regular period at which the discharge is expected, and when the pains of the back, &c. betoken a disposition in the constitution to perform its healthy function. The strong stimulus of the electric fluid has been fometimes directed to the region of the uterus, by paffing flight shocks across the pelvis, with the effect of bringing on the catamenia. Like the remedies just mentioned, it is very uncertain in its operation, and may be reforted to with the greatest prospect of success at the approach of the regular period.

We have faid nothing of the rubia tinctorum, or madder, and fome other fubitances extolled as emmenagogues; nor of the inspiration of oxygen gas, recommended by Hufeland and Dr. Thornton, because the evidence in favour of

But after all that is faid respecting emmenagogues, it must be remembered, that the amenorrhoa, or retention of the menfes, is not the cause, but one of the symptoms of the chlorotic condition; and, therefore, that a partial stimulus to the uterus can but partially remove the difeafe, which will ceafe only with the removal of the general debility.

It may be added, that the natural flimulus to the uterus is the exercise of venery, and that where marriage is impending, it may be delicately recommended to be accelerated

according to circumstances.

Dr. James Hamilton of Edinburgh, in a valuable treatife on purgative medicines lately published, observes, that chlorofis is often attended with a torpor of the intellines and conflipation, and that the daily use of purgatives, in laxative doses, until the black and feetid thools affume a natural appearance, is followed with great fucceis. It will not be denied, that a fluggish action of the bowels frequently accompanies chlorofis, and that the colour of the stools is dark in confequence of the morbid fecretions of the intestines and the liver, and also that this state of the canal, though perhaps an effect in the first instance, becomes a cause of aggravation to the discase in general. Hence, there is an obvious necessity of preserving a regularity of the intestinal evacuations in this dileafe. And hence, perhaps, Dr. Friend found mercury a good emmenagogue, and Dr. Darwin referred the difease to torpor of the liver. Nevertheless, the general languor and debility oppose the idea of active purgation, and fuggett the propriety of combining the general tonic plan, with a careful relaxation of the bowels.

CHLOROXYLON, in Botany. Brown, Jam. See

LAURUS chloroxylon,

CHLORUS, in Ancient Geography, a river of Afia, placed

CHLUMETZ, in Geography, a town of Bohemia, in the

circle of Konigingratz; 5 miles S. of it.

CHMICLOWKA, a town of Poland, in the palatinate of Braclau; 46 miles E.N.E. of Braclau.

CHNA, in Ancient Geography, a name which, according to Steph. Byz. was formerly given to Phænicia; but according to Bochart, it is the diminutive of Canaan.

CHNIM, in Geography, a strong town of Bosnia, belong-

ing to the Venetians; 15 miles S. of Banjaluka.

CHNUMBMIS, or CHNUMIS, in Ancient Geography, an ancient town of Egypt, placed by Ptolemy in the nome of Thebes.

CHNUS, in Hippocrates, is a fine foft wool, to which he compares an aqueous spleen, on account of its softness.

CHOAKING the luff, in Rigging, denotes placing the bight of the leading part, or fall of a tackle, close up between the nest part and jaw of the block. CHOAM.YU SO, in Geography, a town of China, in the

province of Quang-tong; 16 leagues E.S.E. of Kao-

tcheou.

CHOAN, in Grecian Antiquity, so called from the xon, a libation, an epithet applied among the Athenians to facrifices that were offered for appealing the manes of the deceased. They consisted of honey, wine, and milk.

CHOANA, in Ancient Anatomists, a cavity in the brain

like a funnel, called also pelvis

CHOANA, in Natural History, one of the fynonymous names of MADREPORA infundibulifermis. Gualt. (test. 24.) calls it Choana faxea crifpata rugofa, minimis poris.

CHOANA, or CHOAVA, called Chaona by Diodorus Siculus, in Ancient Geography, an ancient town of Asia, in Media, according to Ptolemy .- Also, an ancient town of Asia, placed by Ptolemy in Bactriana .- Alfo, a town placed by the fame geographer in Parthia.

CHOANI, the name of an ancient people placed by Priny in Arabia Felix .- Alfo, a people placed by Marcian of

Heraclea in Europe, near the Borylthenes and the Alauni CHOAPA, in Geography, a small harbour on the coast of Chili in South America, in about S. lat. 31° 42'.

CHOARA, in Ancient Geography, the name of a country ferta of Asia, placed by Pliny in the western part of Parthia.

CHOARAXES, a river of Afia, which ferved as a boundary between the Colchide territory and Armenia, according to Strabo.

CHOARENA, or CHOARINA, a district of Asia in the country of the Parthians according to Strabo; it was that region of Parthia which was nearest to India.

CHOASPA, a town of Arachofia, according to Pto-

CHOASPES, a river of India, according to Strabo. It discharged itself into the Cophes on the confines of Ara-

chofia.

CHOASPES, or CHOASPIS, the modern Abwaz, a river of Afia, the fource of which is placed by Pliny in Media, and he fays it ran into the Palitigris. According to Strabo, this river had its fource in the country of the Uxians, traverfed Sufiana, and discharged itself into a lake which also received the Eulæus and the Palitigris. This river is faid to have flowed into the Persian gulf by a separate mouth, though it had a communication with the Tigris. Herodotus fays, that the Choaspes washed the walls of Susa, and that the Persian kings drank no other water besides that of this river, which they carriedabout with them in filver vessels, whithersoever they went. Pliny places the city of Sufa on the banks of the Euleus, or the Ulac of the prophet Daniel, and according to this

writer, the Perfians drank no other water: whence it is inferred, that the Choafpes and the Enlaus were the fame river, at least at Susa. From this city they flowed in one Bream, and were afterwards diffinguished, sometimes by one name, fometimes by the other. Although the ancient Sufa decorated the banks of this river, the modern towns of Kiab

CHOASPITES, in Natural History, a name given by the ancients to a species of the chrysoprasius, a gem of a colour between yellow and green. It was called choaspites from the name of a river in which it was frequently found.

CHOATRA, in Ancient Geography, a mountain of Afia, which branched out from the Gordyman mountains on the

CHOBAR, a river which discharged itself into the Eu-

CHOBAT, a town of Africa, in Mauritania Cafariensis, called in the Itinerary of Antonine Coba, reprefented as a municipium, and placed between Musliubium and Igilgilis.

CHOBATA, a town of Afia in Albania, placed by Pto-

lemy between the rivers Albanus and Cafius.

CHOBOLTIVO, in Geography, a town of Poland in the

palatinate of Volhynia; 36 miles W. of Lucko.

CHOBUS, KEMKHAL, in Ancient Geography, a river of Afia in the Colchide territory, between the Charius and Singama, according to Arrian. Pliny calls it Cobus, and adds, that it had its fource in mount Caucasus, and traversed the country of the Suani. It ran from the north to the foutheast, and fell into the Euxine sea to the north of the mouth of

CHOC, SHOCK. This word or term is employed, in Military Language, to express the act of two corps encountering or engaging each other. In speaking also of two hostile corps, who have only had a brush, or some skirmishing, it is faid, that there has been un choc, a shock between them. CHOC Bay, in Geography, a bay on the W. coast of the

island of St. Lucia, a little to the N. of Carenage bay. CHOCCHARMO, a town of Atia in Thibet; 27 miles

N.E. of Tofon-Hotun.

CHOCE, in Ancient Geography, a town of Arabia De-

CHOCHE, a village of Asia, situated near the Tigris, according to Arrian.

CHOCK, in Sea Language, a wedge used to confine a cask, or other heavy body, to prevent it from setching away when the ship is in motion

CHOCK is also a triangular piece of wood fattened occasionally in the flrap at the arfe of the block : on the bale of which wedges are driven to force the block into its place.

CHOCK is also a short mast for boats, by which they are

towed along

CHOCKS, denote, in Mast-Making, pieces made to fashion out some part that is wanting, or to place between the head of a lower-mail and heel of a top-mail.

CHOCO, in Geography, a province of South America, in the vice-royalty of New Granada, bounded on the N. by the province of Darien and Carthagena, on the E. and S. by Popayan, and on the W. by the Pacific Ocean. The foil, climate, products, &c. are fimilar to those of Popa-

CHOCOLATE, a kind of cake or confection, prepared of certain drugs; the basis or principal whereof, is the caeac-

The trees that produce these nuts grow plentifully on the banks of the river Magdalena in South America, and in other fituations where the foil is adapted to them; but those

in the jurisdiction of Carthagena are said to excel those of the Caraccas, Maracaybo, Guayaquil, and other parts, both as to the fize and goodness of the fruit. The Carthagena cacao or chocolate is little known in Spain, being only fent by way of prefents; for, as it is more efteemed than that of other countries, the greater part of it is confumed in this jurifdiction, or fent to other parts of America. It is also imported from the Caraccas, and fent up the country; that of the Magdalena not being sufficient to answer the great de-mand of these parts. The former is mixed with the latter, as it ferves to correct the extreme oiliness of the chocolate when made only with the cacao of the Magdalena. The latter, by way of distinction from the former, is fold at Carthagena by millares, whereas the former is disposed of by the bullel, each weighing 110 pounds: but that of Maracaybo weighs only 96 pounds. The cacao tree abounds in the diffrict of Guayaquil, and is generally not lefs than 18 or 20 feet high. It begins from the ground to separate into four or five stems, according to the vigour of the root from whence they all proceed. They are commonly between four and feven inches in diameter; but they first grow in an oblique direction, so that the branches are expanded and separated from one another. The length of the leaf is between four and fix inches, and its breadth three or four. It is very fmooth, foft, and terminating in a point, like that of the China orange tree, but differing from it in colour: the former being of a dull green, and having no gloss which is observable on the latter; nor is the tree fo full of leaves as that of the orange. The pods, that contain the cacao, grow from the stem, as well as from the branches. The first appearance is a white blossom, whose pittil contains the embryo of the pod, which grows to the length of fix or feven inches, and four or five in breadth, refembling a cucumber in shape; and striated in a longitudinal direction, but deeper than the cucumber. These pods are proportionable in their dimensions to the Rem or branch, to which they adhere in the form of excrefcences, some smaller and others larger. When two happen to grow in contact, one of them attracts all the nutritive juice, and thrives on the decay of the other. The colour of the pod, while growing, is green, like that of the leaf; but when arrived at its full perfection, it gradually changes to a yellow. The shell that covers it is thin, smooth, and clear. When the fruit is arrived at its full growth, it is gathered; and being cut in flices, its pulp appears white and juicy, with small feeds regularly arranged, and at that time of no greater confishence than the rest of the pulp, but whiter, and enclosed by a very fine delicate membrane, full of liquor, refembling milk, but transparent and somewhat viscid: in this state it may be eaten, like any other fruit; its talke being a fweetish acid, but thought in the country to promote fevers. The yellowness of the pod indicates that the cacao begins to feed on its substance, to acquire a greater confifence, and that the buds begin to fill; the colour gradually fading till they are fully completed, when the dark brown colour of the shell, into which the yellow has deviated, indicates that it is a proper time to gather it. The thickness of the shell is now about two lines, and each feed found inclosed in one of the compartments, formed by the transverse membranes of the pod. After gathering the fruit, it is opened, and the feeds taken out and laid in skins kept for that purpole, or more generally on vijahua leaves, and left in the air to dry. When fully dried, they are put into leather bags, fent to market, and fold by the carga or load, which is equal to S1 pounds; bur the price is not fixed, as it is sometimes fold for fix or eight rials per carga, though less than the charge of gathering; but the general

price is between three and four dollars, and at the time of the armadas, when the demand has been very large, rifes in proportion. This tree produces its fruit twice a-year, and in the same plenty and goodness of quality. The quantity gathered through the whole jurisdiction of Guayaquil amounts at least to 50,000 cargas. The cacao trees so much delight in water, that the ground where they are planted must be reduced to a mire; and if not carefully supplied with water, they die. They must also be planted in the shade, or defended from the perpendicular rays of the fun. Accordingly, they are always placed near other larger trees, under the shelter of which they grow and slourish. No soil can be better adapted to the nature of these trees than that of Guayaquil, as it favours them in both respects; in the former, as confilling wholly of favannahs, or wide plains overflowed in winter, and in fummer plentifully watered by canals; and with regard to the latter, it abounds with other trees, which afford them the requilite shelter. The culture of this tree requires no other attention belides that of clearing the ground from the weeds and thrubs that are abundant in so wet a soil. This, indeed, is so necessary, that, if neglected, these vegetables will, in a few years, destroy the caeao plantations, by robbing the foil of all its nourishment. See GUAYAOUIL.

The name chocolate is also given to a drink, prepared from the above-mentioned cake, of a dusky colour, fort, and oily; usually drank hot, and esteemed not only an excellent food, as being very nourishing, but also a good medicine; at least a diet, for keeping up the warmth of the stomach, and af-

filting digeltion.

The Spaniards were the first who brought chocolate into use in Europe; and that, perhaps, as much out of interest, to have the better market for their cacao-nuts, vanilla, and other drugs which their West Indies surnish, and which enter the composition of chocolate, as out of regard to those extraordinary virtues which their authors so amply enumerate in it. The qualities above mentioned are all that the gene-

rality of physicians, and others, allow it.

CHOCOLATE, original manner of making. The method first used by the Spaniards was very simple, and the same with that in use among the Indians: they only used cacaonut, maize, and raw sugar, as expressed from the canes, with a little achiotte, or rocou, to give it a colour: of these four drugs, ground between two stones, and mixed together in a certain proportion, they made a kind of bread, which served them equally for folid food, and for drink; eating it dry when hungry, and steeping it in hot water when thirsty. The Indians, to one pound of the roalted nuts, put half a pound of sugar, dissolved in rose-water, and half a pound of flour of maize.

This drink the Mexicans called chocolate, from chacoc, found; and alte, or atte, water; q. d. water that makes a noise: from the noise which the instrument, used to mill and

prepare the liquor, made in the water.

But the Spaniards, and other nations, afterwards added a great number of other ingredients to the compolition of chocolate; all of which, however, vanilla alone excepted, spoil rather than mend it.

CHOCOLATE, method of making, now in use among the Spaniards of Alexico. The fruit, being gathered from the cacao-tree, is dried in the sun, and the kernel taken out, and roathed at the fire, in an iron pan pierced full of holes; then pounded in a mortar; then ground on a marble stone, with a grinder of the same matter, till it be brought into the consistence of a palle: mixing with it more or less sugar, as it is to be more or less sweet. In proportion as the patte ad-

wances, they add feme long pepper, a little achiette, and, of the nut, they add 2g of fugar, 7 pods of vanilla, or the pods of ep deadrum vanilla, 1g lb. of flour of maize, g lb. dram of ambergris, and 6 ounces of cinnamon.

fition whereof there enter almonds and filberts; but it is ra-

CHOCOLATE, the, made in Spain, differs somewhat from Int, they add two or three kinds of flowers, pods of campeche, and generally almonds and hazel-nuts. The ufual called by the natives vinacaxtlides, or little ears; fix white nuts; with achiotte enough to give it a reddish tineture; the fugar and vanilla are mixed at diferetion; as also the musk and ambergris. They frequently work their paste with orange-water, which they think gives it a greater confiftence and firmness.

The paste is usually made up into cakes, fometimes into long rolls; and fometimes the cakes are made up of pure chocolate, without any admixture; those who use it being to add what quantity they please of fugar, cinnamon, and va-

nilla, when in the water.

Among us, in England, the chocolate is chiefly made thus fimple and unmixed, (though perhaps not unadulterated) of the kernel of the cacao; excepting that fometimes fugar, and fometimes vanilla, is added; any other ingredient being

fearcely known among us.

The mode of preparing the mass into a liquor, with the proportions, are various: ordinarily, the chocolate is boiled mits, in water-gruel: when boiled, it is milled, or agitated with a wooden machine for the purpofe, and boiled again, till it be of the proper confidence for drinking; then fugar-

the water; Laving no grounds or fediment at the bottom of

a man, to be reduced to want chocolate: they are never

intoxicate.

Hoffman, in his "Potus Chocolata," 1765, confiders cho-colate as an aliment; and, in a medicinal view, he recommends it in emaciating difeafes, both as aliment and medicire; and next very firenuously in hypochondriacal cases; and in confirmation, adduces that of cardinal Richelieu,

keeping well above two years, but usually degenerating much

before that time.

It is to be kept in brown paper, put up in a box; and

that in another, in a dry place.

CHOCOLATE, laws relating to. By 43 Geo. III. c. 68. any British colony or plantation in America, and of the 35 Geo. III. c. 118. When taken out of fuch warewith a duty of 2d. per lb. By 43 Geo. III. c. 69. all by the Hall India company, 2s.; for ditto, of all other co-coa nuts imported into Great Britain, 3s. No chocolate ready made, or cocoa palle, shalt be imported, on pain casks, and other package. 10 Gro. c. 10. §. 2. Cocoanut shells or husks may be seized, and destroyed; and the 201. per cwt. 4 Geo. II. c. 14. 6. 12. The excise officers may fearch ships for cocoa-nuts, chocolate, and cocoapalte, and feize, &c. 11 Geo. c. 30. f. 1. Cocoa-nuts shall not be taken out of the warehouses, either for home duties. 21 Geo. III. c. 55. §. 10, 11. Cocoa-nuts for which the duty has been paid, or the chocolate made of fuch nuts, may be exported, on fecurity given that they shall not Geo. III. c. 13. §. 12. Every person, who shall keep a shop, &c. and have in his custody above 6 lbs. of chocolate or cocoa-nuts, shall be deemed a dealer in the faid commodity. 11 Gco. c. 30. f. 4. By 20 Geo. III. c. 35. no person shall trade in chocolate without an annual licence, for which he shall pay (by 43 Geo. III. c. 69.) 5s. 6d. under penalty of 20%. Houses of manufacturing and fale are to be &c." on pain of 2001. 19 Geo. III. c. (9. §. 18. Any having entered his shop, &cc. who shall paint over his door quantity and quality. &c. shall be delivered, on pain of forfeiting the same and treble value. And a permit shall be given to the buyer, &c. 10 Geo. c. 10. §. 11. 15. Onicers shall enter at all times by day warehouses, shops, &c. and furvey, the owner affinting and keeping just weights and which may be feized by the officer. 10 Geo. c. 10. §. 12. Deceiving or obttructing the efficer incurs a forfeiture of rool. 26 Geo. III. c. 77. §. S. Search shall be made for goods concealed, and if any person obliruet the officer. any

any of the faid goods, he shall forfeit the same and treble va-Ine: and if any person shall obstruct the officer in seizing fuch goods, or endeavour to refeue the fame after feizure. he shall forfeit 501. 10 Geo. c. 10. 8. 13. 39, 40. If any article made to refemble cocoa shall be found in the posfession of any dealer, under the name of American cocoa, or English or British cocoa, or any other name of cocoa, it shall be forfeited, and the dealer shall forfeit 100%. 43 Geo. III. c. 129. §. 5. The maker of chocolate, within the bills, sha'l weekly, and elfewhere every 6 weeks, enter in writing at the next office the weight of chocolate made by him, and clear off the duties. on pain of 50/; nor shall he, after default in payment, fell or deliver any out till the duty is paid, on pain of treble value. 10 Geo. c. 10. 6. 17, 18. He shall also produce at the place and time of entry the chocolate made, (on pain of 20s. for every pound not produced), which shall be tied up with thread in papers of Ilb., 10b., or & lb. each, and neither more or less; which shall be marked or stamped by the officers. 32 Geo. II. c. 10. §. 16. Offences against these regulations incur a forfeiture of zel. The counterfeiting of the stamp, or the knowingly felling of any chocolate, or the fixing of any paper with a stamp on fuch chocolate, as has not been entered, and on which the duties have not been paid, incurs the penalty of a forfeiture of 50cl., and of commitment to the next county gaol for 12 months. 10 Geo. c. 10. §. 22. 11 Geo. c. 30. §. 13. Notice shall be given by those who make chocolate for private families, and not for fale, three days before it is begun to be made, specifying the quantity, &c.; and within three days after it is finished, the perfon for whom it is made shall enter the whole quantity on oath, and have it duly flamped, and pay the duty, under penalty of forfeiting the fame and treble value. Nor shall any person be permitted to make into chocolate for their own private use less than half a hundred weight of cocoa-nuts at a time. 10 Geo. C. 10. 0. 23, 24, 25.

Mr. Henly, an ingenious electrician, discovered that chocolate, fresh from the mill, as it cools in the tin pans into which it is received, becomes strongly electrical; and that it retains this property for some time after it has been turned out of the pans, but foon lofes it by handling. The power may be once or twice renewed by melting it again in an iron ladle, and pouring it into the tin pans as at first; but when it becomes dry and powdery, the power is not capable of being revived by fimple melting: but if a fmall quantity of olive-oil be added, and well mixed with the chocolate in the ladle, its electricity will be completely reflored by cooling it in the tin pan as before. From this experiment he conjectures, that there is a great affinity between phlogiston and the electric fluid, if indeed they be not the fame thing.

Phil. Trans. vol. lxvii. part 1. p. 94, &c.

CHOCOLATE Creek, in Geography, a head-water of Tioga river in the flate of New York, whose mouth lies 10 miles S.W. of the Painted Polt.

CHOCOLATE-nut tree, in Botany. See THEOBROMA.

CHOCOLOCO-CA, in Geography, called by the Spaniards Castro Virreyna, a town of Peru, famous for its filver mines, which are at the top of a mountain always covered with fnow, and 2 leagues from the town. Its wine also is

plentiful and good. See CASTRO Virreyna.

CHOCOPE, a town of South America, in the country of Peru, and jurifdiction of Truxillo, 13 or 14 leagues dif-tant from St. Pedro, and 11 leagues from Truxillo, in S. lat. 7° 46' 40". The town confills of between 80 and 90 houles, covered with earth; occupied by between 60 and 70 families, chiefly Spaniards, with fome of the other calls, but not above 20 or 25 Indian families. It has a large and de-VOL. VII.

cent church, built of bricks. In 1726 a rain which continued 40 nights, from 4 or 5 in the evening till about the fame time in the morning, entirely ruined the houses, and even the brick church, so that only some fragments of its walls remained. Two years afterwards a fimilar phenomenon occurred, which lasted 11 or 12 days, but much less violent and destructive. For an account of the adjacent country, fee CHICAMA.

CHOCORUA, a mountain of America, in Grafton county and thate of New Hampshire, on the N. line of Strafford county, N. of Tamworth.

CHOCUITO. See CHUCUITO.

CHOCZIM, or Cokzim, a town of European Turkey in Moldavia, fituated on the fouth fide of the Daiester, near the frontiers of Poland, remarkable for two victories gained here by the Poles over the Turks, one in 1621, and the other in 1683. The fuburbs were deltroyed by fire in 1769; on the 3d of September 1789, the city, after a long flege which reduced it almost to ruins, furrendered to the Russians. Choczim is 12 miles S.S.W. from Kaminieck, and 68 miles W. N.W. from Mogtlov. N. lat. 48° 52'. E. long. 26°

CHODDA, in Ancient Geography, a town or village of

Afia in Carmania, according to Ptolemy.

CHODIVOJA, in Geography, a town of Walachia; 32 miles S.S.W. of Bucharett.

CHODOROSTAU, a town of Poland, in the palatinate of Lemberg; 20 miles S.E. of Lemberg.

CHOENICIS, in the Ancient Surgery, the trepan, fo

called by Galen and Ægineta, and mentioned by Celfus, where he calls it modiolus.

CHOENIX, an Attic dry measure, containing three cotyle, or one fexturius and a half, which is two pounds and a quarter. Its mark was a x with a v over it.

The choenix likewife contained the forty-eighth part of a medimnus, and was otherwife called HEMEROTRO-

Grotius and others have observed, on the authorities of Herodotus (lib. iii. and vii.), Hippocrates, Diogenes Laertius, and Athenæus, that a choenix of corn was a man's daily allowance, as a penny (denarius) was his daily wages; and hence we may infer, (in reference to Rev. vi. 5, 6), that if his daily labour could earn no more than his daily bread, without other provision for himself or his family, corn must necessarily bear a very high price. In another mode of computation, if we reckon the choenix to be about a quart English (which is supposed not to be a full pint and a half), and the Roman penny or denarius to be about 8d. English, the nearest and common estimate of both, without defeending to greater exactness, corn at that price will be above 20s. per English bushel; which, when the common wages of a man's labour was but 8d. a day, shewed a very great scarcity of corn, next to a famine.

But whatever may be the capacity of the choenix, which is difficult to be determined, as it varied in different times and countries, yet such care and such regulations about the necessaries of life imply some want and searcity of them. Scarcity obliges men to be exact in the price and measure of things. In fhort, the intent of the prophecy, to which we now refer, is, that corn should be provided for the people, but that it should be distributed in exact measure and proportion. Accordingly bishop Newton observes, (Diff. on the Prophecies, vol. iii .- fee also Mede on chap. vi. v. 5.) that this third period, to which the cited passage pertains, commenced with Septimius Severus, and continued under Alexander Severus and the Septimian family during 42 years. These two emperors, it is remarked, who enacted just and equal equal laws, and were very fevere and implacable against offences, were no less celebrated for the procuring of corn and oil and other provisions, and for supplying the Romans with them after they had experienced the want of them. The colour of the black horfe, it is faid, befits the feverity of their nature and their name; and the balances are the well-known emblem of justice, as well as an intimation of fearcity.

Lowman (Paraphrase on the Revelations) refers this period of prophecy to that interval, which fucceeded the reigns of Trajan and Hadrian. Antoninus Pius succeeded Hadrian A.D. 138. Antoninus the philosopher, partly with Verus and partly alone, and after them Commodus, governed the Roman empire, till within a few months of the reign of Severus, who began his empire, A.D. 193, a space of about 50 years. The fourth general perfecution was within this period, nearly 60 years after the third general perfecution by Trajan, A.D. 107. Moreover, it appears from the concurring tellimonies of Tertullian (ad Scep. c. 3.), Aurelius Victor, Julius Capitol., Antoninus Pius, and Anton. Philof., and Xiphilin ex Dione, that a scarcity of provisions, approaching to famine, which occurred in every reign of the Antonines, continued to the empire of Severus, who exerted himself in redressing this evil: and thus the reign of Severus appears to be a proper termination to the judgment of this Prediction

CHOERADES, in Ancient Geography, an island of the Ionian fea, on the coast of Italy, near the Japygian promontory, according to Thucydides .- Alfo, illands of the Euxine fea, near the Hellespont, supposed by Ortelius to have been the Cyanean ifles .- Alfo, a name given to the Balearic islands .- Alfo, islands of the Persian gulf .- Alfo, islands on the coast of Eubera, near mount Caphareus, where Ajax is faid to have fullered shipwreck, after having violated Caffandra .- Alfo, a town of Afia, in the country of the Mofy-

næci, inhabited by Greeks. Steph. Byz.

CHOERAGÍA, a place of Thrace, in the vicisity of Constantinople.

CHOEREAS, a place of the island Eubera, according to Herodotus.

CHOEREATÆ, a lake of Peloponnesus in Sicyonia,

according to Herodotus.

CHOERINÆ, in Antiquity, a kind of fea shells, with which the ancient Greeks used to give their suffrage, or

CHOERIUS SALTUS, in Ancient Geography, a forest of Peloponnesus, placed by Pausanias near the town of Gefenia, in Messenia

CHOEROGRYLLUS. See Hedge-Hog.

CHOES, or the Lengans, in Antiquity, an Athenian feftival in honour of Bacchus, celebrated on the 12th of the month Authelterion. It latted only one day; and as the inhabitants of Attica were only permitted to be present at the celebration of this feftival, authors referved their new pieces for the greater Dionysia, which were folemnized a month after, and which attracted from all parts an infinite number of spectators. It was usual at the festivals of Bacchus, to prefent tragedies and comedies to the public, and the authors thus contended for victory. See DIONYSIA.

CHOES, in Ancient Geography. See COPHENES and COW

CHŒUR, French, a chorus, or a musical composition of never lefs than three or four vocal parts, in which the harmony is complete, and performed fimultaneously by all the voices, enforced by the orchestra. See TENOR, and

CHOHAN, in Geography, a circar of Hindoostan, in choir.

the country of Allahabad.

CHOHREN, or KOHREN, a town of Germany, is the circle of Upper Saxony, and territory of Leipsic, 20 miles S.S.E. of Leipfic.

CHOIR, that part of a church, cathedral, &c. where

the clergy and chorifters, or fingers, are placed.

The word, according to Isidore, is derived à coronis circumfiantium; because, anciently, the chorifters were disposed round the altar to fing; which is still the manner of building altars among the Grecks. Others derive the term choir from xopos, a dancer, or a company of dancers, alleging that dancing was one of the religious ceremonies of the church, although numerous anathemas against it occur in the works of the fathers, among the primitive Christians, as well as the Hebrews and Pagans. The following paffage from St. Augustine's eighth sermon is cited to prove that the early Christians made dancing a part of their Sunday's amusement, and that they accompanied their facred fongs with inflrements. " It is better to dig or to plough on the Lord's day than to dance. Initead of finging plalms to the pfaltery or lyre, as virgins and matrons were wont to do, they now waste their time in dancing, and even employ masters in that arc." The above derivation is remarkable, and not one of those that can be suspected of proceeding from fancy, and accidental similitude of found. One of the acceptations of the term xogos given by Suidas, is, 70 συς ημα των εν ται; εκκλησιας αδούλων, a company of tingers in a church, that is, a choir. It feems to have been fometimes used, like our word choir, in the local sense: xogo;, says Suidas, και οι χοςτοίαι, και ο τοπος, &c. that is, dancers, and the place in which they danced. It is so used by Homer, (Od. viii. 260.) Auman de xogon; they made fmooth or level the place appointed for dancing. Father Mencitrier (Des Ballets, anc. et mod. Paris, 1682), after speaking of the religious dances of the Hebrews and Pagans, observes, that the name of choir is still retained in our churches for that part of a cathedral where the canons and priefts fing and perform the ceremonies of religion. The choir was formerly separated from the altar, and elevated in the form of a theatre, inclosed on all sides with a balustrade. It had a pulpit on each fide, in which the epittle and gospel were fung, as may be itill feen at Rome in the churches of St. Clement and St. Pancratius, the only two that remain in this antique form. Spain, continues this author, has preferved in the church, and in folemn processions, the ule of dancing to this day. France feems to have had the fame custom till the 12th century, when it was abolished by the fynodical constitutions of Oco, bishop of Paris. The same author, however, in his preface, informs us, that he himfelf had feen, in some churches, the canons, on Easter-funday, take the choristers by the hand and dance in the choir, while hymns of jubilation were performing. Burney's Hift. Music, Vol. ii. See Dancing.

The choir with us is diftinguished from the chancel, or fanctuary, where the communion is celebrated: as also from the nave, or body of the church, where the people are

The patron is faid to be obliged to repair the choir of a

The choir was not separated from the nave, till the time of Conflantine: from that time the choir was railed in with a balustrade, with curtains drawn over, not to be opened till after the confecration. In the twelfth century they began to inclose the choir with walls; but the ancient balustrades have been since restored; out of a view to the beauty of the architecture. The chantor is matter of the

In nunnerics, the choir is a large hall, adjoining to the

body of the church, separated by a grate, where the relification for the past, and the most terrible ap-

CHOIR mufic, music sung in a chorus, as in churches. It is sometimes used for musica piena, canto fermo, or what we call plain chant, or fong. See CHANT and CHORAL Service.

CHOIROS, in Hithyology, a name given by Ariitotle, and others of the old Greek writers to the Ceruua or Aceria of the Latins. This fifth has been called by a variety of names, but it is a species of perch, the Perca ceruua of modern naturalists, and the pope or russe, of the English sishermen. It is by no means so abundant as the common perch, neither is it of the same family, for it has only one dorsal fin, while the common perch has two; it is also a smaller fish, seldom exceeding the length of six or seven inches. The body is more elongated, and the back less prominent and arched. The colour is olivaceous green on the back, yellowish on the sides, and spotted with black; belly whitish. Donov. Brit. Fishes. See Perca ceruua.

CHOISEUL, in Geography, a town of France, in the department of the Upper Marne; 4 leagues N.E. of Lan-

Choiseul Bay, a bay that lies on the N.W. coast of the silands of the Arfacides, W. of Port Prassin. The ancient inhabitants, like those of Port Prassin, powder their hair with lime, which burns it and gives it a red appearance.

CHOISEUL Bay, a bay that lies on the S. fide of Maghellan Straits, between Swallow Harbour and the channel of

St. Barbara.

CHOISY, FRANCIS-TIMOLEON DE, in Biography, was born at Paris in the year 1644. He is reckoned among the celebrated writers and extraordinary characters that have flourished in France. In his infancy he was taught to pay the greatest deference to persons of rank, and to endeavour to attach himself to those who might hereafter promote his interests. He was intended for the church, but the habits of his youthful years were irregular, and he afforded opportunity for feandal to the decent part of fociety, by appearing perpetually in public in female habiliments. He was handfome and delicate, and having been accultomed by his mother, from his childhood, to appear in this difguife, the habit of it had grown into a kind of passion. He passed fome years under the name of the countefs des Barras, indulging in gallantries which were inspired or facilitated by his affumed character. Such, indeed, were the manners of the higher ranks in France, that he was admitted at court in this masquerade, and sew were found in that circle who did not encourage a character which they ought to have fourned at with indignation. Of thefe few was the duke de Montausier, who meeting him one day in the queen's drawingroom, faid in a tone of angry contempt, "Sir, or madam, I know not how to address you, you ought to die of shame for appearing dreffed like a woman, when God has done you the favour to make you a man : Go, hide yourfelf." While he lived in this state he had been inducted to the office of abbé, and it was not till he was thirty years of age, that he thought it expedient to change his course of life, and to obliterate the remembrance of the scenes that he had exhibited, from his own mind, as well as from the minds of others. He went to Italy in 1676, and took an active part in promoting the election of Innocent XI. and was so far beneficial to the interests of the pontist, that he was employed to draw up a letter from the French cardinals to Louis XIV. for the purpose of engaging him in his favour, who had been devoted to his enemies. De Choify fucceeded, but gained nothing by it but the honour of being the first to kiss the toe of the new pope. On his return to

France he was attacked with a fevere illnefs, which excited in him compunction for the path, and the most terrible apprehensions for the future. He at length recovered, and during his convalescence he held religious conversations with the abbé Dangeau, the result of these were published in four dialogues: On the Immortality of the Soul; On the Existence of God; On Religious Worship; and On Providence.

From this period, 1684, de Choify engaged in a new career: in the following year he went on an embassy from the fovereign of France to the king of Siam, whom the Jefuits had reprefented as willing to become a convert to Christianity. But on arriving at Siam, he found that the royal conversion was no more than a comedy planned by the Jesuits, in order to procure an embassy that might be ferviceable to their commercial plans, and that the embaffador and himself were intended to act parts in their favour. He was refolved that the voyage should not, with regard to himself, be without its uses: he took priest's orders, and he was apparently very much impressed with the sacredness of his, new character. He would not venture to fay mass till he had been a month on board the ship which brought the mission back to France. He then became a zealous preacher to the crew, who were much edified by his pious exhorta-

He brought home with him a complimentary message from the king of Siam to his patron the cardinal de Bouillon, who unfortunately was not in favour at court. Louis was therefore displeased that this mark of distinction should have been obtained for his difgraced minister. Choify, finding himself slighted, retired to a religious feminary, and employed himself in writing a life of David, and a translation of the Pfalms. These he was allowed to present to his fovereige, whose smiles now abundantly repaid him for palt neglect. He was immediately elected a member of the French academy; and his eulogy on the death of cardinal de Richelieu in 1687 was greatly admired. He was indeed a very useful member of that society, and drew up a fort of journal of all that passed at its meetings, which on account of the anecdotes that were interwoven with it, was not published by the academy, though it was printed in the Opus. cules of the abbé d'Olivet in the year 1754. De Choify was chofen in 1697 dean of the cathedral of Bayeux, which was the highest post he ever obtained in the church. His early adventures, of which himself was ashamed, precluded him from any diffinguished ecclesiastical preferment. Besides the life of David, he published lives of Solomon, St. Louis, and of feveral of the French monarchs; but his most confiderable work was an Ecclefiattical History, in cleven volumes, which was undertaken at the defire of Boffuet; and it comprised the most interesting facts of general history, written on a pleafing and popular plan. His last work, which did not appear till after his death, was Memoirs of Louis XIV. in 2 vols. 12mo. This has been reckoned the most agreeable of his writings. His style and manner were particularly adapted to the composition of memoirs; yet in all the biographical pieces which he drew up, he has been charged with having paid too little regard to truth. He published a translation of the celebrated " Imitation of Jesus Christ;" to the first edition of which he prefixed a print of Madame de Maintenon on her knees before a crucifix, with the following infcription: " Hearken, O daughter, and co. fider and incline thine ear: forget also thine own people, and thy father's house; fo shall the king greatly defire thy beauty." The text was in the subsequent editions omitted. To this writer has been afcribed a licentious work, in which his own gallantries are supposed to have been pourtrayed: it is entitled Memoirs of the Countefs des Barras. This was not printed till the year 1736; but the abbé de Choify died in 1724, after completing his eightieth year. His character could not command the respect of the really wife, nor the estimation of the truly virtuous. After he had reformed the manners of his youth, which cannot be too feverely reprobated, he exhibited those symptoms of frivolity which were highly unbecoming his rank and station in life. He was nevertheless beloved, on account of his disposition, which was kind, and of his manners, which were gentle, eafy, and very infinuating. Gen. Biog. Du Frefnoy.

CHOISY, in Geography, a town of France, in the department of the Seine and Marne : 4 leagues N. of Provins.

CHOISY-Bellegarde, a town of France, in the department of the Loiret; 4 leagues W. of Montargis.

CHOISY le Roy, or CHOISY-fur-Seine, a town of France, in the department of the Seine, and district of Paris; 6 miles S. of Paris.

CHOIX, Port a, lies on the N.W. fide of Newfoundland, N. by W. from the bay of Highgournachat, and S.E.

CHOIX, Old Port a, a femicircular bay on the N.W. fide the N.W. point of which is called Point Ferrol. Within this point are feveral islands; but the interior bay is

CHO-KE', a town of Asia, in Thibet; 145 miles E.S.E.

of Laffa.

CHOKE-Weed, in Botany, See Ordbanche. CHOLAGOGUE, in Medicine, from xonn. Ule, and ауы, I impel, a term applied by the older writers to those purgative drugs, which they imagined to possels the property of acting specifically on the liver, and expelling bile. These were aloes, feammony, black hellebore, &c. Any acrid or draftic cathartic will, by its flrong flimulus, necessarily excite the biliary ducts, as well as those of the pancreas and the mucous follicles, which line the intestines, to pour out their fluids. See CATHARTIC. If the term be applicable to any medicine, it is to calomel, which appears to have the power of exciting the action of the whole apparatus of the liver, and of increasing its production of bile, as well as of emulging the biliary ducts.

CHOLALLAN, in Geography, one of the most con-This, and the state Haexotzinco, having, with the affidance of the Tlascalans, shaken off the Mexican yoke, re-etta-

blished their former aristocratical government.

tide tribe, according to Steph. Byz. and Suidas. CHOLAWIA, in Geography, a town of Lithuania, in

CHOLARGUS, or Colargos, in Ancient Geography, a

the palatinate of Minsk; 42 miles S.E. of Minsk.

CHOLBESINA, in Ancient Geography, a town of Afia,

CHOLEDOCHUS, in Anatomy, a term derived from χολη, bile, and δεχομαι, I receive. The hepatic duct, having been joined by the cyflic, takes the name of dullus communis choledochus, and proceeds to open into the duodenum. For a further account of this duct, fee LIVER.

CHOLELITHUS, in Medicine, from your, bile, and 2,605, a flone, a term applied to the concretions, which occur in the gall-bladder and biliary ducts. See GALL-flone.

CHÖLER. Sce BILE.

CHOLERA, χολέρα, fometimes written with the addithe leading character of the difease being a copious evacuation of bilious matter both by vomiting and by ftool.

The phenomena of cholera, as well as the fuccefeful mode of treating it, have been well known, and described, in very fimilar terms, by physicians from the earliest dawn to the prefent times. In the writings of Hippocrates, Arctæus, Celfus, Sydenham, and Cullen, we trace the fame opinions respecting the disorder, and the same precepts as to its cure. The attack of this complaint is generally sudden. The bowels are feized with griping pains, and the stoo s, which are at first thin and watery, as in a common diarrhoza, are passed frequently: the stomach is seized with sickness, difcharges its contents, and rejects what is swallowed. In the course of a few hours the matter vomited, as well as that which is discharged by stool, appears to be pure bile, and passes off both ways in confiderable quantities. The griping pains of the intellines now become more fevere, in confequence of the extraordinary irritation of the passing bile, which excites them to partial and irregular spalmodic contractions. These spalms are often communicated to the abdominal mufcles, and generally to the mufcles of the lower extremities; fo that the cramps in the legs become very diffreffing. The flomach is also affected with confiderable pain, and a fenfe of great heat, in confequence of the same vere head-ach, from the sympathy of the head with the ftomach. The pulle becomes finall and frequent, and the heat of the ikin is increased. A great degree of debuity, languor, and faintness, amounting even to lyncope, speedily tion of the fluids; fometimes attended with a colliquative toms," Sydenham fays, " as frighten the by-llanders, and kill the patient in 24 hours." Syd. feet. iv. chap. 2. In this climate, however, though the powers of life are often fo rapidly reduced by an attack of cholera, as to excite confiderable alarm for the fafety of the patient, yet it feldom terminates fatally. Though both the pulle and respiration are hurried and irregular during the course of the discuse, yet, it is remarked by Dr. Cullen, that there is no proper tyrexia, but merely a feverifiness from irritation, as these fymptoms are generally removed entirely by those remedies which quiet the spafmodic affections attendant on the dif-

It is fearcely necessary to point out the diagnosis of chofince the discharge of almost pure bile by vomiting and stool, fimultaneously or alternately, is not observed in any other difeafe. Vomiting and purging do, indeed, frequently occur at the same time, as after a surfeit, or taking a large quantity of indigestible food, or from other causes; but the matter discharged is not bilious. The practice, however, must be fimilar in both; the object being to get rid of an irritating matter from the intellinal canal in both cases, which, in the true cholera, is bile, in the other inflances a mass

The true cholera occurs, in temperate climates, only durcertainly in the month of August, as swallows in the early fpring, or cuckows at the approach of fummer; and that it very feldom continues longer than the month in which it began. This observation, however, does not accord with the experience of the present times. Cholera is now seen cases occasionally occur, though it be not epidemical, confruits as the general crufe of cho.era; although the observa-

that notion. " For though the fame causes," he remarks, " wholly remain, fo that many should be seized with this difease, as well in September as in August, by reason of eating too much fruit, yet we fee the same effect does not follow." Probably this notion, which is still adopted by many practitioners, originated merely from the concurrence of the feafon of the difeafe, with that of the ripening of fruit. But when it is confidered that the hot feafon is also coincident: that in all hot countries the bilious fecretion is ufually increased, and thus gives rife to this and fimilar difeafes; that in this climate cholera attacks those who procure much fruit, and those who are unable to procure it, indifcriminately; and that the diforder ceafed, even while the fruit remained abundant, according to Sydenham; there can remain little doubt that it is the heat of the atmosphere which produces cholera. Hence it is, that cholera is sometimes most prevalent in August, sometimes in September, according to the earlier or later occurrence of a high temperature; and that after a few hot days, even in May or June, a few cases of the disease are fometimes observed to ensue. It has been remarked, however, that, both in hot climates, and in the hot feafons of mild climates, occasional falls of rain have been particularly followed by an epidemic cholera. In some cases, indeed, it is probable that the heat of the feafon may give only a predifpolition, and that certain ingella, fudden change of temperature, or other caufes in this state, readily excite the disease. Hence various circumflances are enumerated by authors, as having produced cholera; fuch as cold drink, draftic purgatives, acids, fear, &c. But it is certain that the disease constantly appears during a hot feafon, of fleady temperature, and often without any obvious change or error in the diet or manner of life.

In the cure of cholera, which confilts in the production of a large quantity of bile by the liver, and its necessary passage through the alimentary canal, the experience of all ages wholly concurs. A fummary of this experience is given by Dr. Cullen in such confprences terms, that we

shall prefer transcribing it.

"In the beginning of the difease the evacuation of the redundant bile is to be savoured by the plentiful exhibition of mild diluents, both given by the mouth and injected by the acus; and all evacuant medicines, employed in either way, are not only superfluous, but commonly hurtful.

When the redundant bile appears to be fufficiently washed out, and even before that, if the spatuodic affections of the alimentary canal become very violent, and are communicated in a considerable degree to other parts of the body, or when a dangerous debility seems to be induced, the irritation is to be immediately obviated by opiates, in sufficiently large doses, but in small bulk, and given either

by the mouth or by glyfter.

"Though the patient be in this manner relieved, it frequently happens, that when the operation of the opium is over, the difeafe shews a tendency to return; and, for at least some days after the first attack, the irritability of the intestines, and their disposition to fast into painful spasmodic contractions, seem to continue. In this situation, the repetition of the opiates, for perhaps several days, may come to be necessary; and as the debility commonly induced by the disease savours the disposition to spasmodic affections, it is often useful and necessary, together with the opiates, to employ the tonic powers of the Peruvian bark." First Lines, § 1462.

Thus, by commencing the cure with the free use of diluents, we partly contribute to the expulsion of the bilious matter, and partly correct its acrimony. To employ eva-

cuants, as Sydenham quaintly observes, is to increase the disturbance, and, as it were, to endeavour to quench fire by oil; and, on the other hand, to commence with opiates, is

shutting up the enemy in the bowels.

Although this simple and rational practice has stood the test of experience from the earliest date, yet other modes have been occasionally reforted to as auxiliary, or superfeding it. The Columbo root has been employed, it is faid, with confiderable efficacy in the cure of cholera. Dr. Percival, fpeaking of this root, fays, " in the cholera morbus it alleviates the violent tormina, checks the purging and vomiting, corrects the putrid tendency of the bile, quiets the inordinate motions of the bowels, and speedily recruits the exhausted strength of the patient." In confirmation of this, he adds, that an eminent furgeon, who, in 1756, had the care of an hospital-ship in the East Indies, gave the Columbo-root in that climate (in the dofe of half a drachm or more), to a great number of patients, often twenty in a day, attacked with this difeafe. " He feldom employed any means to promote the discharge of the bile, or to cleanse the itomach and bowels, previous to its exhibition; and he generally found that it foon stopped the vomiting, which was the most fatal symptom, and that the purging and remaining complaints quickly yielded to the fame remedy. The mortality on board his ship, after he used this medicine, was remarkably less than in the other ships of the same sleet." Percival's Essays Med. and Exp. vol. ii. p. 7. We have feen the Columbo-root remain on the flomach, when almost every thing else was rejected in this disorder; but we think also that we have observed the mischiefs suspected by Sydenham from stopping the evacuation; the purging has assumed the form of dyfentery.

Dr. Douglas (fee Edin. Med. Effays, vol. v. part ii. p. 646.) recommends a fimple, but, he affirms, an efficacious remedy, after the bile has been confiderably thrown off; namely, a decoction of oat-bread, toafted as brown as coffee, but not burnt. A copious draught of this is extremely powerful, he fays, in fettling the naufea and vomiting. If the patient is greatly exhausted, he renders it more cordial by an admixture of wine. This, Dr. Douglas remarks, is nearly the practice of Cellus, who recommends, first, repeated draughts of warm water to clear the stomach, and a little after that, he advices the patient to take wine and water mixed with polenta. Now this was, according to Pliny, barley, fried or toasted brown, and ground to powder; it was an aftringent, and good for a diarrheca. Dr. Douglas supposes that wheaten bread, or meal, treated in

the fame manner, would answer every purpose.

The warm bath, or warm fomentations, have been used with advantage, when the spasmodic affections of the bowels were severe. And in other instances cold drink has been given with beneficial effects. Dr. Cleghorn observes, (Obf. on Diseases of Minorca, p. 224.) "the Spanish physicians have often affured me, that they found nothing more beneficial in violent deplorable choicras than drinking of cold water: which practice is recommended by many of the ancients." Thus Aretzuus remarks, "Sin autem omnia antiqua stercora dejecta surint, et biliosi humores transserint, biliosinsque vomitus et distentio assis, fassisium, anxietas, virium labefactio, tune frigidæ aquæ cyathi duo aut tres propinandi sunt ad ventris assirictionem, ut retrogradus humorum cursus cohibeatur, atque stomachus ardens refrigeretur"

CHOLET, in Geography, a town of France, in the department of the Maine and Loire, and chief place of a canton in the district of Beaupréau, 9 leagues S.S.W. of An-

gers. The place contains 4700 and the canton 15,000 inhabitants: the territory includes 347½ kiliometres and 12 communes. N. lat. 47° 3'. W. long. 0° 59'. CHOLIMMA, in Ancient Geography, a town of Asia,

placed by Ptolemy in Greater Armenia. CHOLLE', a town of Afia, in the Palmyrene. Ptolemy.

-Alfo, a town of Africa, according to Appian

CHOLLE, Cape de la, in Geography, the most prominent part of the coast, on the N.W. part of the island of Corlica, between the gulf of Fiorenzo to the S.E. and the harbour of Calvi to the S.W.

CHOLLIDÆ, in Ancient Geography, a people of Greece, in Attica, belonging to the Leontide tribe. Steph. Byz.

CHOLM, or KHOLM, in Geography, a town of Rusha, in the government of Pikof, feated on the river Lovat, and also one of the 9 districts included in this government; 180 miles S. of Petersburg. N. lat. 57°. E. long.

CHOLMADARA, in Ancient Geography, a town of Asia, in the Comagene, seated on the right bank of the

Euphrates, N.E. of Samofata and near it.

CHOLMOGORI, or KOLMOGORI, in Geography, a town and diffrict of Ruffia in the government of Archangel, feated on the west side of the Dwina; 28 miles S. of Archangel.

CHOLOBAPHIS, in Natural History, a name given by some of the ancient Greeks to a peculiar kind of emerald which was inferior to many others, and was of a colour tend-

ing to yellow.

It is plain that the Romans called all the green crystals found in copper-mines by the name of emeralds; for they express in their descriptions all the defects we find in these eryftals, fuch as their having hairs, or fubthances like hairs, within, as also falts, and the like.

CHOLOBETANA, in Ancient Geography, a country of

Afia, in Armenia.

CHOLOE, an ancient town of Pontus Galaticus, in Cap-

padocia.

CHOLOMA, or Cholosis, fignifies, according to Ga-Ien, any diffortion of a member or depravation of it with refpect to motion. It is taken also, in a particular fense, for halting or lameness of a leg, arising from luxation.

CHOLONG, in Geography, a town of Afia, in Thibet;

57 miles N.N.W. of Chao-mahing-Hotun.

CHOLTITZ, a town of Bohemia, in the circle of Chrudim; 6 miles N. W. of Chrudim.

CHOLUA, in zincient Geography, a town of Alia, in Greater Armenia.

CHOLULA, in Geography, a 'town of Mexico, in the province of Tlafcala, which formerly formed an independent state. It was held by the people of Mexico as a facred fpot, and the fanctuary of the gods, with a temple, in which they offered more victims than in that of Mexico: 5 leagues from Thiscala. The treachery of the Cholulans was very severely punished by Cortes, when he took possesfion of this place in 1519. The Spaniards and Tlafcalans, under the direction of their commander, fell upon the multitude, and filled the streets with bloodshed and death. The temples which afforded a retreat to the priefts, and fome of the leading men, were fet on fire, and they perithed in the flames. This scene of horror continued two days; during which, the wretched inhabitants fuffered all that the deftructive rage of the Spaniards, or the implacable revenge of their Indian allies, could inflict. At length the carnage ceafed, after the flaughter of 6000 Cholulans, without the loss of

a fingle Spaniard. Cortes then releafed the magifirates, whom he had previously seized, and reproaching them bitterly for their intended treachery, declared, that as jultice was now appealed, he forgave the offence, but required them to recal the citizens who had fled, and re-establish order in the town. Barthol, de las Cafas fays, there was no occasion for this maffacre, and that it was an act of wanton crucity, perpetrated merely to firike terror into the people of New Spain. But the zeal of Las Cafas often leads him to exaggerate. On the other hand Bern. Diaz afferts that the first millionaries fent into New Spain by the emperor, made a indicial inquiry into this transaction; and having examined the priests and elders of Cholula, found that there was a real conspiracy to cut off the Spaniards, and that the account given by Cortes was exactly true. However this be, the feverity of the punishment was certainly excessive and atro-Robertson's Amer. vol. ii.

CHOMA, in Ancient Geography, a town of Asia Minor in Licia, according to Ptolemy; which had been epifcopal.—Alfo, the name of a place of Peloponnefus, in Arcadia,

according to Paulanias.

CHOMARA, a town of Alia, in Bactriana. Ptol. CHOMASI, a people of Bactriana, mentioned by Mela

and Pliny

CHOMEL, JAMES FRANCIS, in Biography, born at Paris, towards the end of the 17th century, fludied medicine at Montpellier, where he took his degree of doctor, in 1708. Returning to his native city, he foon fo far dillinguished himself as to be appointed physician and counsellor to the king. The following year he published, " Universa Medicinæ Theoricæ pars prima, feu Physiologia, ad usum feholæ accommodata," 12mo.; and in 1734, " Traite des Eaux Minerales, Bains et Douches de Vichi, 12mo." This work passed through several editions. To that of the year 1738 the author added a preliminary discourse on mineral waters in general, with accounts of the principal of the medicinal waters found in France. His elder brother,

CHOMEL, PETER, JOHN BAPTISTE, studied medicine at Paris, and was admitted to the degree of doctor there in 1697. Applying himself more particularly to the study of botany, while making his co'lection, he fent his observations to the Royal Academy of Sciences, who elected him one of their members. He was also chosen, in November 1738, dean of the faculty of medicine, and the following year, was re-elected but died in June 1740. Belides his "Memoirs" fent to the Academy of Sciences and his "Defence of Tourns-"Abrege de l'Hittoire des Plantes usuelles," Paris, 1712, 12mo. This was, in the year 1715, increased to two, and in 17.30, to three volumes in 12mo., and is effected an

CHOMEL, JOHN BAPTISTE, LEWIS, his fon, educated died in 1765. He published in 1745, "An Account of the Difeafe then epidemic among cattle," and boasts of great succefs in the cure, which was effected, he fays, by using fetons, imbued with white hellebore; " Differtation hiltorique, fur la Mal de Gorge Gangreneaux, qui a regne parme les Enfans, en 1748:" the mangnant fore throat, first treated of in this country by Dr. Fothergil, about ten years later than this period. Chomel recommends bleeding, vomiting, and blifters, and had then recourse to cordials. " Essai historique sur la Medicine en France," 12mo. 1762. He also wrote, " Vie de M. Morin," and " Eloge historique de M. Louis Duret," which were published in 1765. Eloy. Dict. Hist. Haller where it unaccountably appears under the name of juncea to

CHOMELIS, in Geography, a town of France, in the department of the Upper Loire; 41 leagues N. of Le Puy.

CHOMER. See Corus.

CHOMERAC, in Geography, a town of France, in the department of the Ardeche, and chief place of a canton, in the district of Privas; 3 miles S.E. of Privas. The place contains 1566 and the canton 6423 inhabitants: the territory includes 110 kiliometres and 9 communes.

CHOMONCHOUAN, a lake of Canada; 73 leagues N.W. of Quebec. N. lat. 40° 20′. W. long. 75° 40′. CHOMSK, a town of Lithuania, in the palatinate of

Brzesc; 56 miles E. of Brzesc.

CHONAD, a town of Hungary, feated on the Marosch, the see of a bishop, suffragan of Colocza; 25 miles N. of Temesvar.

CHONÆ, in Ancient Geography, a town of Alia Minor. in Phrygia. It had been episcopal and metropolitan.

CHONAS, in Geography, a town of France, in the department of the Isere, and district of Vienne; 13 miles S. of Vienne.

CHOND, a town of Arabia; 190 miles S.W. of Amen-

zirifdin.

CHONDRILLA, in Botany, (Xovapilan, Dioscor.) Linn. Gen. 910. Schreb. 1235. Willd. 1405. Juff. 169. Vent. 2. 464. Gært. 913. Condrille; Lam. Encyc. Class and order, fyngenesia polygamia aqualis. Nat. ord. Composita semisloscu-Syngenesia polygamia aqualis.

lofe, Linn. Cichoraces, Just. Gen. Ch. Calyx common calycled, cylindrical; scales of the cylinder numerous, parallel, linear, equal; those of the base few, very short. Corolla compound uniform; florets all strap-shaped, linear, truncated, four or five-toothed; hermaphrodite ones very numerous, in feveral ranks. Stam. Filaments five, capillary, very short; anthers forming a hollow cylinder. Pill. Germ fomewhat egg-shaped; style filiform, the length of the stamens; stigmas two, reflexed. Peric. none, except the permanent common calyx. Seeds ovate, faligna. compressed, muricated; down capillary. Rec. naked.

Est. Ch. Calyx calycled. Florets in many ranks. Seeds pin. See Sonchus perennis.

muricated; down fimple.

Sp. 1. C. juncea, Rushy gum-succory. Linn. Sp. Pl. Gært. tab. 158. fig. 6. Jacq. Aust. 5. tab. 427. Bauh. pin. 130. (C. viminea; Bauh. hist. 2. 1021. fig. 1. Rai. hist. 223.) "Root-leaves runcinate; stem-leaves linear, entire." Root perennial. Stem two or three feet high, branched, erect, hard, villous near the bottom, fmooth and ftriated above. Flowers yellow, flender, like those of lettuce, folitary or in bunches, feffile or on short peduncles; stipes of the down long, attenuated above. A native of the fouthern parts of Europe, flowering in July and ripening its feeds in September. 2. C. erepioides, Murray Svit. Veg. 713. Mart. Lam. Willd. (C. juncea; Linn. Syft. Nat. 52.) " Leaves arrow-shaped, embracing the stem; stem simple; flowers nearly feffile, lateral." Root annual. Stem a foot and half high, striated, purple at the base, besprinkled with a few white briftles. Leaves refembling those of turritis, undivided, oblong, rough about the edge, and especially about the keel, with white hairs, gloffy on the upper furface; lower ones with finall teeth. Flowers yellow, purplish underneath, alternate, on a peduncle scarcely longer than the calyx, with one or two bractes; calyx striated, befet with black tubercles and a white brittle; calycle very short, with awl-shaped permanent leaslets. It may perhaps be associated with the genus crepis. Native country unknown. Such is the description of this plant copied verbatim by all recent botanists from the Systema Nature of Linnaus,

the total exclusion of the well-known original juncea of the Species Plantarum. No one fince Linnæus appears to have feen even a dried specimen; and as it is not known whence it came, or whither it is gone, it must furely be considered as a vagabond of very dubious character. 3. C. nudicaulis, Linn. Mant. 2. Mart. Lam. Willd. (Lactuca nudicaulis; Murr. in Comment. gott. 1772. tab. 4.) "Stem nearly naked; flowers panieled." Stems few, a foot high, panicled, straight, cylindrical, glossy, furnished with a small leaf or two. Root leaves runcinate, obtuse at the end, ciliated with small teeth. Flowers pale yellow; calyx eight-leaved, gloffy, imbricated below with a few caducous leaflets; ray confisting of about twenty-four florets; disk composed of thyles refembling the florets in colour; down fessile. Seeds black. A native of the East Indies, and not of North America or of Egypt, as Linnaus supposed.
Obs. La Marck has included in his chondrilla the whole

Linnæan genus prenanthes, and has divided it into two fections. 1. With florets in feveral ranks, comprehending the three preceding species with the crepis pulchra of Linnæus, which, he fays, cannot be a crepis, as its calycle confifts of close scales. 2. With florets in a single rank, the prenanthes of Linnæus. The only point at iffue is, therefore, whether a difference in the number of ranks in the florets of the ray be sufficient to constitute a generic character; for it is evidently of no confequence whether the down be flipitated or feffile. We shall adhere to the Linnæan distribution.

See PRENANTHES.

CHONDRILLA, ficula tragonopoides; Bocc. Sic. See Scor-ZONERA refedifolia, Linn. Sonchus chrondrilloides, Willd. CHONDRILLA tingitana; Herm. Lugbd. See SCORZONE-RA tingitana, Linn, Sonchus, Lam.

CHONDRILLA palustris longifolia; Rai Supp. See Son-

CHUS maritima.

CHONDRILLA lutea; Baul, hift. See Sonchus tenuissimus. CHONDRILLA viscosa humilis; Bauh. pin. See LACTUCA

CHONDRILLA carulea latifolia, and carulea altera; Bauh.

CHONDRILLA angustissimo folio; Just. A&. 1709. Sec

PRENANTHES tenuifolia. CHONDRILLA viminea viscosa monspeliaca; Bauh. pin. and viscosa caule foliis obducto. See Prenanthes viminea. Chondrilla bulbosa; Bauh. pin. —— altera, Dioscorides,

Colphyt. — pufilla marina, Lob. ic. See Leontodon bul-bofum. Hieracium bulbofum, Willd.

CHONDRILLA bieracii folio annua; Tourn. See CREPIS. pulchra, Linn. Prenanthes hieracifolia, Willd.

CHONDRILLA minima repens; Shaw's Travels. See PRE-

NANTHES farmentofa. CHRONDRILLA orientalis cichorii fylvestris folio; Tourn.

See PRENANTHES chryfunifolia. CHRONDRILLA purpurascens fatida; Bauh. pin.

CREPIS fatida.

CHONDRILLA verrucaria; Bauh, pin. See Lapsana zacintha, Linn. Zacintha verrucofa, Gært. CHONDRILLA carulea cyani capitulo; Bauh. pin. See

CATANANCHE carulea. CHONDRILLA cyanoides lutea; Bocc. mus. Bar. ic. See

CATANANCHE lutea CHONDRILLA zeylanica; Burm. zeyl. See CACALIA fon-

chifolia. CHONDRILLA bulbofa fyriaca; Bauh. pin. See ERIGERON

CHONDRILLA foliis angustis ad oras pundatis; Plum. Sp.

See Pectis punctata.

CHONDRILLA

CHONDRILLA foliis laciniatis; Bauh. pin. See CENTAU-

CHONDRILLE species elegans; Clus. hist. See Cichorium

fpinofum.

CHONDRILLA creticæ nomine missa; Bauh. hist. See Tracopogon picrioides, Linn. Arnopogon picrioides, Willd. Chondrilla species tertia; Dod. pomp. See Cata-

NANCHE carulea.

CHONDROGLOSSUS, in Anatomy, a name applied, by Albinus, and fome other anatomits, to a few fibres of the hyogloffus murcles which arife from the cornus minus of the

os hvoides. See Tongue.

CHONDROPTERYGII, in Ichthyology, the fixth, or last order of fishes, in the Linnæan fystem. All fishes that have the gills cartilaginous are comprehended under this order; as acipenfer (sturgeon), chimera figualus (shark), priftis (faw.fish), raja (ray), and petromyzon (samprey). See article Іситичолооу.

The word is derived, by Artedi and others, from x202125, a cartilage, and messive, a carge or fin, and may therefore be understood as comprehending all fifthes that have a cartilaginous instead of bony skeleton. The French term chondropterygiens applies precisely to this description of fishes in

the latter fenfe

CHONDROS, in Ancient Medical Writers, the fame as alica. It figuifies also some grumous concretion, as of mastich, or frankincense. It is, besides, the Greek word for a cartilage.

CHONDROSYNDESMUS, fignifies a cartileginous ligament. The word is derived from xordisa, a cartilege, and

συνδισμος, a ligament.

CHONE, or Chonis, in Ancient Geography, a town of the Oenotrians in Italy, the capital of a country of the fame

name, near the territory of Crotona.

CHONG, the name of a spirituous liquor, similar to whitky, extracted in Bootan from grain. It is flightly acid and spirituous, and extemporaneously prepared by the infution of a mass of grain in a state of sermentation. Capt. Turner, in his Embassy to Tibet (p. 24, &c.) has detailed the process employed in the preparation of it. Wheat, rice, barley, and other kinds of grain are indifcriminately made ufe of for this purpole. To a given quantity of grain is added rather more water than will completely cover it, and the mixture is placed over a flow fire till it begins to boil; it is then taken up, and the water drained from the grain, which is spread abroad upon mats, or coarse cloths, to cool. When it is cold, a ball of the composition, here called "Bakka," (which is the bloffom of the Cacalia faracenica Linnæi, collected and rolled together in fmall balls), is crumbled, and ftrewed over the grain, and both are well mixed together. The usual proportion is a ball of the fize of a nutmeg to two pounds of grain. The grain thus prepared is put into baskets lined with leaves, and pressed down with the hand flightly, to draw off the superfluous moisture. It is then covered with leaves and cloths, to defend it from the external air, and put in a place of moderate warmth, where it is fuffered to fland three days. It is afterwards deposited in dry earthen jars; a little cold water is sprinkled upon the top in the proportion of about a tea-cup full to a gallon of grain; the veffel is then covered close, and the case fortified with fome strong compost, or stiff clay. It remains thus at least 10 days, before it is fit for use; and, if it be suffered to continue longer, it always improves by age.

To make the chong, when required, they put a quantity of the fermented mass into some capacious vessel, pouring boiling water upon it, sufficient completely to cover it, and thring the whole well together. A short time is sufficient

for it to digelt; a small wicker basket is then thrust down in the centre, and the infusion, called Chong, immediately drains through, and occupies the vacant space. This liquor is, at entertainments, expeditiously distributed to the guests; the segment of a gourd, sastened upon a staff, serving the purpose of a lade. Each person holds a shallow wooden cup upon the points of his singers, for its reception, and is feldom satisfied with one supply. This liquor, which is slightly acid, and without any powerful spirit, surnishes a grateful beverage; and it is usually drank warm. From chong an ardent spirit is obtained by distillation; this spirit is denominated "Arra;" it is stery, and powerfully inebriating.

CHONG-TCHEOU, in Geography, a town of Afia, in the kingdom of Corea; 25 miles S.W. of Ou-tcheou.

CHÖNNAMAGARÁ, or CHONNABARARA, in Ancient Geography, a town of India, on this fide of the Ganges. Ptolemy.

CHONOS gulf of, in Geography, or the archipelago of Guayteeas, lies towards the fouthern extremity of the continent of Chili, in the fouthern Pacific Ocean. The most remarkable island in it is that of Chiloe, which fee. The islands, called Chonos, are inhabited by Indians, who use the falted flesh of the species of seal, called the sea-wolf, as common sood. To the fouth of Chiloe and the archipelago of Chonos is the peninsula of the three mountains, followed by three considerable islands, that of Campana, lat. 45° to 45° 20′, explored by Malesperia; that of Madre de Dios; and that of St. Francis, by some called Roca-Partida. The rigour of the climate renders these islands of little importance.

CHOOK-TCHOO, in Geography, one of the Ladrone islands, under the lee of which the ships of the embally to China came to anchor, in 12 fathoms water, on a muddy bottom. N. lat. 21° 55'. E. long. 113° 44'. See La-

RONES.

CHOOZ, a town of France, in the department of the

Ardennes, and district of Rocroy.

CHOP-CHURCH, or CHURCH-CHOPPER, in Lacu, a name, or rather nick-name, given to parfons, who make a practice of exchanging benefices.

Chop-church occurs in an ancient flatute of King Henry VI, as a lawful trade, or occupation; and fome of the judges fay, it was a good addition. Brook holds, that it was no occupation, but only a thing permiffible by law.

CHOPER, or KHOPER, in Geography, a river of Afiatic Russia, which runs into the Don, near Chopenskaia.

CHOPERSK, or Khopersk, formerly Navekk persk, a town of Afiatic Ruffia, in the government of Saratoff, feated on the Choper; and one of the 11 diffricts of the government; 140 miles W. of Saratof, and 648 S.S.E. of Peterlburg.

CHOPERSKAIA, a town of Russian Tartary, in the country of the Cossacs, on the Don: 191 miles N.E. of

Aloph, and 60 fouth well of Archadinfkaia

CHOPIN, René, in *Biography*, an eminent French lawyer, born in Aujou, in 15,37. He was for a confiderable time a pleader before the parliament of Paris, and at length retired, when he was consulted in every difficult case in the law. He published many works, which have been collected in fix volumes folio. His Latin flyle is concise, but often obscure. The best of his productions was on the "Custom of Anjou," on account of which the city of Angers granted him the honours and title of shurff of their city. In the year 1504 he was sentenced to bambment for his adherence to the league, but the sentence was not executed on him. The day on which Hearty IV, entered Paris, Chopin's wife went mad through party rage. He commonly studied lying on the ground with his books about him. He was afflisted with the stone, and died under an operation in 1606.

CHOPIN, or CHOPINE, a French and Scotch liquid

measure, containing half their pint

CHOPS, The, in Geography. See Swan Island. CHOPTANK, a large navigable river of America, on

the eastern shore of Maryland, which discharges itself into Chesapeak bay.

CHOQUE-BAY, lies on the W. fide of the island of St. Lucia, between Gros Islet bay on the N. and Carenage

CHORA, in Ancient Geography, a place of Thrace on the Euxine fea, at a fmall diffance N.E. of Mauron-Tichos and near Ganos .- Also, a place of Gaul, on a river of the fame name, (la Cure) betwen Avalon and Auxerre. The abbé le Beuf supposed it to be Grevant: but M. d'Anville places it on the confines of the diocese of Auxerre, on the fide of Autun, in the fituation of a farm which now bears this name. Sanfon has confounded it with Corbeil. It is mentioned in the Notitia Imperii in the following terms: " præfectus Sarmatorum gentilium a Chorâ Parisios usque." CHORAGIUM, in Antiquity, was used to denote the funeral of a young unmarried woman.

Some think it should be written coragium, from xoen, puella, and ayo, duco. But Pitifeus chooses rather to derive it from chorus; because a chorus or company of virgins always at-

tended fuch funerals.

CHORAGIUM fignified also the tiring or dreffing-room belonging to the stage; and fometimes was taken for the drefs itself.

CHORAGUS, in Antiquity, he who had the superintendance of the chorus, whose business it was to take care they observed the rules of the music, and performed their parts with decorum.

It was the province of the master of the chorus, in the absence of the poet, to exercise the actors for a long time before the representation of the piece. He beat the meafure with his feet, his hands, or by other means which might give the movement to the performers in the chorus, who were attentive to his gestures. It was also his duty, not only to guide the voices of those who were under his direction; but he gave them lessons in the two kinds of dances which were adapted to the theatre. See DANCE.

Choragi were likewise certain Athenian citizens chosen annually, who were obliged to be at the expence of players, fingers, dancers, and mulicians, as often as there was occasion, at the celebration of their public festivals on occasion of the greater Dionysia, or festivals of Bacchus, which were celebrated with extraordinary magnificence, when tragedies and comedies were exhibited in the theatre; and hymns in honour of Bacchus, accompanied with flutes, were chaunted by the chorus in the Odeum. Each of the ten Athenian tribes appointed a choragus to lead his chorus, who was to be at least 40 years of age, and whose province it was to choose the performance and to prepare them for the exhibition by previous instruction. With this view the choragus for fome months previous to the feftivals took the performers, that they might be duly instructed, into his house, and provided for their support; fo that it was an office of great expence. At the festival he appeared, as well as his followers, with a gilt crown, and a magnificent robe. functions, confecrated by religion, were ftill farther ennobled by the example of Ariflides, Epaminondas, and the greatest men, who deemed it an honour to discharge them; but they were fo expensive, that many citizens declined the dangerous honour of facrificing part of their fortunes to the precarious hope of rifing by this means, to the first offi-VOL. VII.

ces of magistracy. Sometimes a tribe was unable to find a choragus; and in this cafe the flate took upon itself the expence, ordered two citizens conjointly to support the burthen, or permitted the choragus of one tribe to conduct the chorus of another. When the fellival drew near, an emulous contention arose among the choragi, which sometimes proceeded to great violence, each striving to excel his competitors; and even intrigues and corruption were fometimes employed in order to obtain the victory. Judges were appointed to decree the prize, which fometimes was a tripod carefully confecrated by the victorious tribe, either in a temple, or in an edifice erected on the occasion. The people waited the decision of the contest with the same anxiety, and the same tumult, as if their most important interests were the objects of discussion. The glory resulting from the victory was fliared between the triumphant chorus, the tribe to which it belonged, the choragus who was at its head, and the masters who, under his direction, had given the preparatory lessons. During the feltivals the laws declared the persons of the choragi and the actors inviolable. To the expence that preceded the contest, were added the difburfements that followed the victory; there still remained for the choragus the charge of dedicating the tripod he had won, and probably of erecting a little edifice, or temple, in which it was to be placed. The tripod, thus won and preferved, and dedicated, became a family honour, and was appealed to as an authentic testimony of the merit and virtue of the person who obtained it. The choragic temples and tripods were numerous at Athens.

CHORAIC music, a fort of music proper for dancing,

by the variety of its different motions.

CHORAL, fignifies any person that, by virtue of any of the orders of the clergy, was in ancient times admitted to fit and ferve God in the choir.

Dugdale in his History of St. Paul's Church, fays, that there were with the chorus formerly fix vicars choral belong-

ing to that church.

CHORAL fervice. The difference between cathedral or choral fervice and parochial, confifts in the choir of cathedrals chanting the pfalms, accompanied by the organ, in 4 parts, antiphonally, instead of the minister and the clerk and congregation, as in parish churches, reading them verse for verse without music. The responses are chanted in cathedrals, and the Te Deum, Jubilate, Magnificat, and Nunc dimittis, are either chanted like the pfalms, or fung to meafured and elaborate music, under the title of Choral Service. See CA-THEDRAL SERVICE, Choral SERVICE and CHAPEL Effa-

CHORAMNEI, in Ancient Geography, a favage people of Afia, in Perfia, who, according to a pailage of Ctefias, cited by Steph. Byz., ran fo swiftly that they were able to overtake a stag

CHORAN-KIAMEN, in Geography, a port of Chinese

Tartary; 20 miles W. S. W. of Nimgouta.

CHORASAN. See KORASAN.

CHORASMEI, in Ancient Geography, a people mentioned by Athenæus and placed in Afia. They occupied the territory to the north and east of Parthia, and extended themselves, according to Ptolemy, to Sogdiana. Accordingly they were found in the vicinity of the river Aces, and of the plain through which this river flowed. They chiefly inhabited the mountains, and, according to Strabo, they were not very remote from the Bactrians and Sogdians.

CHORASMENI, a people of Afia, mentioned by Arrian, who places them in the neighbourhood of the country

of the Amazons and of the Colchide territory

CHORASMIA, a country of Afia, in Sogdiana, according cording to Ptolemy, whose situation he assigns near to that assuming three points in the periphery, or are, of any circle, of the Massaget -Alfo, a town of Asia, E. of the Parthians. Steph. Byz.

CHORAULES, Lat. A minstrel.

CHORAULISTRIA, Lat. A female minstrel.

CHORAZIN, in Ancient Geography, a town of Palestine, in Galilee, which our bleffed Lord deplores for increduity, (Matth. xii. 22.) Dr. Lightfoot expresses his surprize how fuch a woe flould be denounced against it, when we do not read, in the whole New Tellament, that our Lord had ever been there; however we read that he had frequently been at Bethfaida and Capernaum. Now, Chorazia being placed by Dr. Lightfoot between these two towns, and being, according to St. Ierome, but two miles diffant from Capernaum, and in many maps at a small distance from Bethsaida, and it being expressly faid " that mighty works were done in her," Christ must, without doubt, have been often there.

CHORD, or CORD, primarily denotes a flender rope or cordage. The word is formed of chorda, and that from

xopôn, a gut; whereof ftrings may be made.

CHORD, CHORDA, in Anatomy. See CHORDA.

CHORD, CHORDA, in Geometry, a right line connecting the two extremes of an arc. Or, it is a right line, termiout passing through the centre; and dividing the circle into two unequal parts, called fegments. Such is the line AB, Plate III. Geometry, fig. 43.

CHORD of the complement of an are is the chord that subtends the rest of the arc; or so much as makes up the arc a

The chord is perpendicular to a line drawn from the centre of the circle to the middle of the arc, as CE; and has the same disposition to it, as the chord, or string of a bow, has to the arrow: which occasioned the ancient geometricians to call this line the chord of the arc, and the other the fagitta, or arrow, the former of which names is still continued, though the latter is difused. What the ancients called fagitta, is now termed the verfed fine.

Half the chord of the double are BD, is what we now call the right fine; and the excefs of the radius beyond the

chord DE, the versed sine.

The chord of an angle, and the chord of its complement to a whole circle, are the fame thing; the chord of fifty de-

grees is also the chord of 310.

It is demonstrated, in geometry, that the radius CE, bifeeting the chord BA in D, does also bifeet the arc in E, and is perpendicular to the chord AB, and vice verfit: and again, if the right line NE bifect the chord AB, and be perpendicular to it; that it passes through the centre, and does bifect both the arch AEB, and the circle ANB.

Hence we derive feveral ufeful corollaries: as, 1. To divide a given arc AB into two equal parts; draw a perpendicular to the middle point D of the chord AB; this bifects

the given arc AB.

2. To describe a circle, that shall pass through any three points, A, B, C, fg. 44. From A and C deferibe arcs interfecting in D and E; and also others. G and H, from C and B: draw the right lines DE and GH; the point of in-, terfection I, is the centre of the circle to be described through A, B, and C

Demonstration. For the points A, B, and C, are in the periphery of fome circle; and therefore the lines AC and CB are chords, but ED is perpendicular to AC, and GH to BC; ED bisects AC, and GH bisects BC; whereof each passes through the centre. Now as DE and GH only interfect in I; I will be the centre of a circle, puffing through the given points, A, C, and B. Hence,

the centre may be found, and the given arc completed: hence, also, if three points of one periphery do agree or coincide with three points of another; the whole periphe-

And hence, lastly, every triangle may be inscribed in a circle. The chord of an are AB (fig. 13.) and the radius CE, being given; to find the chord of the half-are AE. From the iquare of the radius CE, subtract the square of half the given chord A D, the remainder is the square of DC; from which, extract the square root; and then DC subtracted from the radius EC, leaves DE. Add the fguares of A D, and EO; the fum is the fguare of AE:

CHORDS, line of, is one of the lines of the fector and plain teale. See its description and use under Sector and

PLAIN SCALE. See also SINE

CHORDS, or CORDS, in Myle, denote the ftrings, or lines, by whose vibrations the fensation of found is excited; and by whose divisions the several degrees of tune are dexordn, a name which the phylicians give to the intellines; in regard the strings of musical instruments are ordinarily made of guts: though others are made of brass or iron wire; as those of spinets, harpsichords, &c. See STRING.

Chords of gold wire in harpfichords, yield a found almost yield a feebler found than those of brass; as being both less

Mr. Periault observes, that of late they have invented a way of changing the chords, to render the found ftronger, without altering the tone.

The fixth chord of bass viols, and the tenth of large theorbos, confilt of fifty threads, or guts; there are some of them a hundred feet long twifted and polified with equife-

CHORDS, for the division of, so as to conflitute any given interval, the rules are as follow: 1. To assign such part of a chord A B, as skell constitute any concord, v. g. a fifth, or any

Divide A B into as many parts, as the greatest number of

the interval has units; v. g. the 2=AC; then is A.C the part

fought; that is, two lines, whose lengths are to each other as A B to A C, make a fifth.

Hence, if it be required to find several different sections of the line AB, v.g. fuch as shall be Sve, fifth, and 3d g: reduce the given ratios 1:2, 2:3, and 4:5, to one fundamental; the feries becomes 30, 24, 20: 15. The fundamental is 30, and the fections tought are 24, the third 2;

20, the fifth; and 15. the octave. 2. To find feveral fections of a line AB, that from the leaft, gredually to the rubsle, shall contain a given series of intervals in any given order; viz. so that the least to the next greater contains a third g; that to the next greater, a fifth; and

that to the whole, an octave.

Reduce the three ratios 4: 5, 2: 3, 1: 2, to one feries; hence we have 8: 10:

A — | S 10 15 — | C D E 15:30: divide the line of the greatest extreme of the feries; viz. 30,

we have the fections fought at the points of division, anfwering.

fwering to the feveral numbers of the feries, viz. at the points C, D, and E; fo that AC to AD is a third, AD to AE a fifth, and AE to AB octave.

3. To divide a line AB into two parts, to contain betweent

them any interval, v.g. a fourth.

Add together the numbers containing the ratio of the in-

terval, v. g. 3:4; and the line divided into as many parts as the fum contains, v. g. 7; taken to any of the given numbers, v. g. 4, or C, gives the thing fought.

4. For the harmonical division of Chorns. To find two fedions of a line, which with the whole shall be in harmonical

proportion, with regard to their quantity.

Take any three numbers in harmonical proportion, as 3, 4, 6; and divide the whole line into as many parts as the greatest of these three numbers, v.g. 6; and at the points of division answering to the other two numbers, v.g. 3 and 4, you have the sections sought.

5. To find two fections of a line, which together with the whole

Skall be harmonical, with respect to quality or tune.

Take any three numbers, concords with each other, v. g. 2, 3, and 8, and divide the line by the greatest; the points of division answering to the other two, give the sections fought.

6. To divide a CHORD, A B, in the most simple manner, fo

as to exhibit all the original concords.

Divide the line into two equal parts at C, and fubdivide

the part CB into two equal parts at D; and CED again, the part CD into

two equal parts at E.

Here AC to AB is an octave; AC to AD a fifth; AD to AB a fourth; AC to AE a third g: AE to AD a fifth; AC to AB a fourth; AC to AE a third f; AE to AB a fixth g; and AE to AB a fixth I.

Malcolm's Treat. of Music, ch. 6. feet. 1, 2, 3.

To find the number of vibrations made by a mufical chord or ftring, in a given time, its weight, length, and tenfion

being given.

Before we proceed to the folution of this problem, we shall premise and demonstrate the principle on which it is sounded; and, with this view, we shall adopt the method of demonstration presented to the Royal Society by Dr. B. Taylor, and published in the Philosophical Transactions, No 337; or Jones's Abr. vol. iv. p. 391.

Lemma 1. Let A D F B, A $\triangle \Phi$ B, (Plate III. Geometry, 45.) be two curves, the relation of which is such, that the ordinates C \triangle D, E Φ F, being drawn, it may be C Λ : C D:: E Φ : E F. Then the ordinates being diminished adinfinitum, so that the curves may coincide with the axis

curvature in D, as C A to C D.

Demonfl. Draw the ordinate $c \wr d$ very near to C D, and an D and Δ draw the tangents D I and $\Delta \theta$, meeting the ordinate $c \wr d$ in I and S. Then because of $c \wr t : c \wr d :: C \Delta :: C D$ (by hypothesis), the tangents being produced will meet one another, and the axis, in the same point P. Whence, because of similar triangles C D P and $c \wr P$, $C \Delta P$ and $c \wr S$, it will be $c \nmid \theta :: c \nmid t :: C \Delta :: C D :: c \nmid s :: c \nmid d$ (by hypoth.) :: $\delta \nmid \theta :: (c \nmid \theta - c \nmid \delta) :: d \nmid (ct - c \nmid d)$. But the curvatures in Δ and Δ are as the angles of contact $\ell \mid \Delta \mid \delta$ and $\ell \mid D \mid d$; and because $\ell \mid \Delta \mid \delta$ and $\ell \mid D \mid d$; and because $\ell \mid \Delta \mid \delta$ and $\ell \mid D \mid d$; that is, by the proportion above, as $\ell \mid \Delta \mid \delta$. Therefore, &c. $\ell \mid \Delta \mid S$. E. D.

CA, CD. Therefore, &c. Q. E. D.

Lemma 2. In fome inflant of its vibration, let a ftring,

fretched between the points A and B, fg. 46. put on the

form of any curve $A p \pi B$; then the increment of the velocity of any point o, or the acceleration arising from the force of the tension of the string, is as the curvature of the string

in the fame point.

Demonfs. Conceive the string to consist of equal rigid particles, which are infinitely little, as p, o, σ, ∞ . S.c. and at the point o erect a perpendicular o R, equal to the radius of the curvature at o, which let the tangents p, t, π, t , meet in t, the parallels to them $\pi s, ps$, in s, the chord p = in c. Then by the principles of mechanics, the absolute force by which the two particles po and o π are urged towards R, will be to the force of tention of the string, as s + t to tp; and half this force by which one particle po is urged, will be to the tention of the string, as c + t to tp; that is (because of similar triangles c + tp, tp R) as tp or o p to t R, or σ R. Wherefore, because of the force of tension being given, the absolute accelerating

force will be as $\frac{\sigma p}{\sigma R}$. But the acceleration generated is in a

compound ratio of the ratios of the absolute force directly, and of the matter to be moved inversely; and the matter to be moved is the particle itself op. Wherefore the accelera-

tion is as $\frac{1}{o R}$; that is, as the curvature in o. For the curvature is reciprocally as the radius of curvature in that point.

O. E. D.

Prob. 1. To determine the motion of a stretched string. In this and the following problem, we suppose the string to move from the axis of motion through an indefinitely little space; that the increment of tension from the increase of the length, also the obliquity of the radii of curvature, may safely be neglected.

Therefore let the firing be ftretched between the points A and B, fig. 47, and with a bow let the point z be drawn to the diffance Cz. from the axis A B. Then taking away the bow, because of the flexure in the point C alone, that will first begin to move (by Lem. 2.). But no sooner will the firing be bent in the nearest points a and d, but these points also will begin to move; and then E and e; and so on. Also because of the great flexure in C, that point will first move very swiftly; and hence the curvature being increafed in the next points D, E, &c. they will immediately be accelerated more fwifily, and at the same time the curvature in C being diminished, that point in its turn will be accelerated more flowly. And, in general, those points which are flower than they should be, being accelerated more, and the quicker less, it will be brought about at last, that the forces being duly attempered one with another, all the motions will confpire together, and all the points will at the fame time approach to the axis, going and returning alternately, ad infinitum.

Now, that this may be done, the firing must always put on the form of the curve A C D E B, the curvature of which, in any point E, is as the distance of the same E n from the axis; the velocities of the points C, D, E, &c. being also in the ratio of the distances from the axis $C \infty$, $D \Im$, E n, &c. For in this case the spaces $C \times$, $D \Im$, E n, &c. For in this case the spaces $C \times$, $D \Im$, E n, &c. $E \times n$ as the spaces described $E \times n$, $E \times n$,

Wherefore the remaining fpaces $\times z$, $\delta \vartheta$, $\epsilon \eta$, &c. will be to each other in the fame ratio. Also (by Leon. 2.) the accelerations will be to one another in the fame ratio. By which means the ratio of the velocities always continuing the fame with the ratio of the fpaces to be described, all the points will arrive at the axis at the same time, and always depart from it at the same time. And therefore the curve ACDEB will be rightly determined. Q. E. D.

Moreover the two curves ACDEB and AxdeB, being compared together, by Lemma 1. the curvatures in D and & will be as the distances from the axis D 9 and & 9; and therefore, by Lemma 2. the acceleration of any given point in the string will be as its distance from the axis. Whence (by Sect. 10. Prop. 51. of Newton's Principia), all the vibrations, both great and fmall, will be performed in the same periodical time, and the motion of any point will be fimilar to the ofcillation of a body vibrating in a cy-

cloid. Q. E. I.

Cor. Curvatures are reciprocally as the radii of circles of the fame degree of curvature. Therefore let a be a given line, and the radius of curvature in E will be equal to

En

Prob. 2. The length and weight of a string being given, together with the weight that stretches the string, to find the

time of a fingle vibration.

Let the string be stretched between the points A and B, fig. 48. by the force of the weight P, and let the weight of the string itself be N, and its length L. Also let the string be put in the position A F & C B, and at the middle point C, let CS, a perpendicular, be raifed, equal to the radius of the curvature in C, and meeting the axis AB in D; and taking a point p near to C, draw the perpendicular p c and the tan-

gent pt.

Therefore it appears, as in Lemma 2, that the absolute force by which the particle p C is accelerated, is to the force of the weight P, as ct topt; that is, as p C to CS. But the weight P is to the weight of the particle ρ C, in a ratio compounded of the ratios of P to N, and of N to the weight of the particle p C, or of L to p C; that is, as P x L to N x p C. Therefore, compounding these ratios, the accelerating force is to the force of gravity, as P x L to N x CS. Let therefore a pendulum be constructed, whose length is CD; then (by fect. x. prop. 52. of Newton's Principia) the periodical time of the firing will be to the periodical time of that pendulum as N X CS to V P X L. But by the same proposition, the force of gravity being given, the longitudes of the pendula are in a duplicate ratio of the periodical

pendulum, the vibrations of which are ifochronous to the vibrations of the string.

To find the line a, let the absciss of the curve be A E = z, and the ordinate EF = x, and the curve itself AF = v, and CD = b. Then (by Cor. Prob. 1.) the radius of curvature in F will be $\frac{aa}{v}$. But \hat{v} being given, the radius of curvature is $\frac{\dot{v}\dot{x}}{z}$. Whence $\frac{aa}{x} = \frac{\dot{v}\dot{x}}{z}$, and therefore $aa\ddot{z} = {}^{*}x\dot{x}$; and taking the fluents $aa\dot{z} = \frac{\dot{v}\dot{x}^{2}}{z} - \frac{\dot{v}\dot{b}^{2}}{2} + \dot{v}\dot{a}^{2}$. Here the given quantity $-\frac{\dot{v}\dot{b}^{2}}{z} + \dot{v}\dot{a}^{2}$ is added, that it may be $\dot{z} = \dot{v}$ in the middle point C. And hence the calculus being completed, it will be $\dot{z} = \dot{z}$. And hence the calculus being completed, it will be a $a^{*}\dot{x} - \frac{1}{2}b^{*}x + \frac{1}{6}x^{*}\dot{x}$ Now let b and $a^{*}\dot{x} - a^{*}\dot{x}^{2} - a^{*}\dot{x}^{2} - \frac{1}{4}x^{4} - \frac{1}{4}b^{4} + \frac{1}{2}b^{2}x^{2}$. Now let b and $a^{*}\dot{x}$ vanish in replect to a, that the curve may coincide with the expansion in representation in the second s centre C, and radius D C = b, fg.49, a quadrant of a

circle D P E being deferibed, and making CQ = x, and erecting the perpendicular QP; then the arc DP being

Whence $y = \frac{b}{-z}$, and $z = \frac{a}{b}y$. And making x = b =

= y, it will be
$$\dot{y} = \frac{b \dot{x}}{\sqrt{b b - x x}} = \frac{b}{a} \dot{z}$$
.

C.D, in which case it is also y = quadrantal arc DPE, and $z = AD = \frac{1}{2}L$; it will be $\frac{1}{2}L = a \times \frac{DE}{CD}$, and $a = \frac{DE}{CD}$ = I, × CD Let it be therefore CD: 2 DE:: diameter of a circle: circumference :: d: e; and it will be a a = L L $\times \frac{dd}{ds}$. Therefore this value being subflituted for

 $aa = \frac{N}{P} \times L \times \frac{dd}{cc}$ will be the length of a pendulum, which will be ifochronous to the firing. Therefore let D be the length, whose periodical time is 1, and $\frac{d}{c} \sqrt{\frac{N}{P}} \times \frac{1}{D}$ will be the periodical time of the string. Q. E. I.

For the periodical times of pendulums are as the fquare

roots of their lengths.

Cor. 1. The number of vibrations of the ftring in the time of one vibration of the pendulum D, is

$$\sqrt{\frac{P}{N} \times \frac{D}{L}}$$
.

Cer. 2. Because $\frac{d}{c} \times \sqrt{\frac{1}{D}}$ is given, the periodical time of the string is as $\sqrt{\frac{N}{P} \times L}$. And the weight P

being given, the time is as N x L. And the strings being made of the fame thread, in which case it is N as L, the time

If we take L for the number of inches and decimals con-

tained in the length of the chord, and the proportion of the tension to the weight of the chord as n to 1, then will the number of vibrations of the chord in one second be (by Cor 1.) $\frac{355}{113} \sqrt{\frac{39.12 \text{ n}}{\text{L}}}$. Where $\frac{355}{113}$ denotes the proportion of the circumference to the diameter of the circle; and 39.12 the length of a pendulum vibrating feconds, in inches and decimals of an inch, English measure. This latt expression coincides with Mr. Euler's rule (Tentam. Nov. Theor. Mus. p. 6, 7.), only we here express in English what he gives in Rhinland measure. To illustrate this rule by an example: suppose the length of the chord to be 18.7 inches, its weight 6; grains, and the tension or weight extending this chord to be 8th. troy, or 46080 grains. Then L=18.7, and $n=\frac{6080}{6.2}=743^2$. The number of vibrations

therefore by the rule will be $\frac{355}{113}\sqrt{\frac{39.12 \times 743^2}{18.7}}$ 391.4. See Taylor's Method. Increm. Prop. 29. Maclaurin's Fluxions, § 929. Smith's Harmonics, Prop. 23 and 24. Malcolm's Mulic, ch. ii. § 2.

By logarithms the rule may be thus expressed L + W C = V. Where L is the logarithm of the ratio of a pendulum, vibrating seconds, to the length of the given tring; W the logarithm of the ratio of the tension to the weight of the string; C the logarithm of the ratio of the circum-

ierenca

ference of a circle to its diameter, or 0.4972500; and laftly, V = logarithm of the required number of vibrations in one

From what has been above laid down, we may eafily deduce the following particulars relative to firetched chords or

firings. (See Cavallo's Philosophy, vol. ii.)

1. If a stretched cylindrical chord be struck, and then be left to vibrate by itself, it will perform its vibrations, whether large or narrow, in equal times, and, of course, the found, though decaying gradually, yet continues in the fame pitch; excepting, however, when the ftring is ftruck violently; for in that case its found is a I ttle higher at first, viz. its vibra-

tions are a little more frequent at first.

2. If various strings be equally stretched, and be of the fame substance; or, in short, if they be equal in every respect, excepting in their lengths; then the duration of a fingle vibration of each string will be as the length of the string; or (which is the fame thing) the number of vibrations performed by each string in a given time will be inverfely as the length; for instance, if a string be four feet long, and another string, ceteris paribus, be one foot long; then the latter will vibrate four times whilft the former vibrates once. Or if the length of the former be to that of the latter as 10 to 3; then the vibrations performed by the latter will be to those that are performed by the former, as 3 to 10; and fo on. Also, the same thing must be understood of the parts of the fame string; for instance, if a certain string perform 8 vibrations in a second; then, if that string be stopped in the middle, and one half of it only be caused to found, then that half will perform 16 vibrations in a fecond .- One-third part of the fame flring will perform 24 vibrations in a fecond: and fo on.

The length of the string is reckoned from one bridge to the other, or from one relling place to the other. The tenfion of the string is measured by the weight which is sufpended to one end of it. If instead of stretching a string by suspending a weight to it, the string be twisted round a peg, after the manner commonly used in musical instruments, then the tension still must be expressed by a weight; meaning a weight which may be capable of fretching the firing as much as it is firetched by turning

3. If various chords differ in tension only; then the number of vibrations which each of them performs in a given time, is as the square root of the stretching weight. Thus, if a chord be ilretched by a weight of 10 pounds, and another chord be firetched by a weight of 9 pounds; then the former will perform 4 vibrations in the fame time that the

latter performs 3 vibrations.

4. If cylindrical chords differ in thickness only; then the number of vibrations which they perform will be inverfely as the diameters, viz. if the diameter of a chord be equal to twice the diameter of another chord; then the former will perform one vibration in the same time that the latter performs two vibrations.

5. By a proper adjustment of the lengths, thicknesses, and stretching weights, diffimilar chords may be caused to perform any required number of vibrations; which is evi-

dently derived from the preceding paragraphs.

6. The actual number of vibrations, which are performed by a given stretched cord, may be determined, without any great error, by using the following rule; provided the length and weight of the vibrating part of the chord, and likewife the stretching weight be known .- Rule. Multiply the itretching weight by 39.12 inches (which is nearly the length of the pendulum that vibrates (econds). Also multiply the weight of the chord by its length in inches; divide the first product by the fecond; extract the fquare root of the quotient; multiply this square root by 3.1416, and this last product is the number of vibrations that are performed in one second of time by the given chord .- The resistance of the air, as also some other fluctuating causes of obstruction, not being noticed in this rule; it is most probable that the real vibrations are not quite so numerous as they are given by the rule.

The pitch in music is denoted by the number of vibrations that are performed in a given time, or by the length of the thring which emits each of those founds; for it has been already shewn that, when stretched strings are alike in all other respects, excepting in their lengths, then the duration of a fingle vibration of each string is proportionate to the length of the ftring; or (which amounts to the fame thing) that the number of vibrations performed by each ftring in a given time, is inverfely as the length of the ftring.

If you take feveral ftrings, or chords, precifely of the fame substance, the same form, and the same thickness, and stretch them equally by suspending equal weights at their extremities or otherwise; and their respective lengths be made of the due proportions; then these strings, when struck, will express the proper inusical founds or tones, and the whole set is called "the Scale of Music." See SCALE, STRING, and

Mr. Euler informs us, that he found the chord, making 392 vibrations in a fecond, to be at unifon with the key called a in instruments, that is, an octave and fixth major above the lowest C in our harpsichords or violoncellos. Consequently the note C, being to a as 3 to 10, will make 118 vibrations in one second. And the highest C, or c", as Mr. Euler calls it, being four octaves above the lowest c, will vibrate 1888 times in one second of time. Mr. Euler supposes the limits of the human ear to be, with respect to gravity, two octaves lower than C; and with respect to acuteness, two octaves higher than c". See INTERVAL and VIBRATION.

CHORD, is sometimes also used for accord. Thus we say, the common chords to fuch a bass note, meaning its third,

fifth, and octave. See Accord.

CHORD is also used, in Music, for the note or string to be touched or founded, in which fense it is applicable to all the intervals of mutic.

CHORD is also a technical term in music, implying a combination of not less than three founds, as the third and fifth to any base, or the

which compose what, in practice, is called a common chord;

which may be written and played three feveral ways, as

The first of these is called the common chord; the second, the chord of the 6th; the third, the chord of the 4th; yet still each of these is but the common chord to C, the fun-damental or principal base, reversed. See Common chord, FUNDAMENTAL BASE, ACCOMPANIMENT, and THOROUGH-

CHORDA TYMPANI, in Anatomy, a very flender nervous twig, forming a communication between the facial nerve, (portio dura of the 7th pair) and the lingual branch of the inferior maxillary. In its course it crosses the cavity of the tympanum. See Nerves and EAR.

CHORDA, Lat. the ftring of a lute, harp, violin, &c.

CHORDE Mobiles, Lat. in Ancient Music. flrings in the tetrachords which were changeable in the chromatic and enharmonic genera.

CHORDE flabiles, strings at the top and bottom of tetrachords of the ancient lyre, of which the tuning was never al-

tered by change of genus.

CHÓRDÁPSUS, in Medicine, a term used by some of the ancient physicians, to denote a violent pain in the abdomen. There is a difference among them as to the precise signification of the term; some applying it only to spasmodic allections of the bowels, and others to inflammatory pains, or to both. Ceifus (lib. iv. cap. 13.) observes, that Diocles Carystius denominated the acute disease of the small intestines ebordapsus; and that of the large intestines, which is sometimes chronic, ileus; but he adds, that by most physicians the former is called ileus, and the latter colic. Ceilius Aurelianus remarks, that some physicians denominate the acute disease (or ileus) chordapsus, because the intestines apply the term to pains of the bowels in general, among whom are Hippocrates, Proxagoras, and Euriphon the Gnidine. De Acut Mush, iii. 12

By fome the word is derived from χορὸν and ἄπτοραι, tango, because the bowels feel hard and stretched like a cord to the hand, applied to the abdomen; by others, probably with more correctness, from χορὸν and ἀπτω, neεδο, I bind, from the tension and constriction of the bowels during these pains. For Culius Aurelianus observes, the ancient Greeks used the term χορὸς for intelline. See Court and ENTRELIES.

used the term χορδα for intelline. See Colic and ENTERITIS. CHORDEE, in Surgery, (from χορδα, the string of a mussical instrument.) denotes a painful, involuntary, and fometimes distorted, erection of the penis, happening at all times, but more commonly when the patient is warm in bed; under which circumstance the penis becomes hard and painful to the touch, and is most frequently curved downwards in a considerable degree. It sometimes remains, after the heat of urine, and other symptoms of gonorrhoma, are gone off; but is usually more severe during the continuance of the instantance, and becomes more or less violent, according to the greater or less urgency of that symptom.

Mr. Benjamin Bell states, 'that chordee is the effect of inflammation, arising from irritation, communicated from the nerves of the urethra to those of the contiguous muscles, whereby those unequal degrees of contraction are produced over the whole substance of the penis, which universally take

place in this difeafe.

Mr. Hunter favs, the chordee appears to be inflammatory in fome cases, and spasmodic in others. Speaking of the inflammatory, he fays, "When the inflammation is not confined merely to the furface of the urethra and its glands, but goes deeper and affects the reticular membrane; it produces flammation, which, uniting the cells together, deftroys the power of differtion of the corpus spongiosum urethræ, and makes it unequal in this respect to the corpora cavernosa penis, and therefore a curvature on that fide takes place in the The curvature is generally in the lower part of the penis, arifing from the cells of the corpus cavernofum penis of that fide, having their fides united by adhesions, fometimes, as it were spontaneously, at other times, in consequence of the inflammation attending bad chancres. Befides this effect of inflammation, when the chordee is violent the inner membrane is prebably fo much upon the stretch, as to be in some degree torn, which frequently causes a profuse bleeding from the urethra, that often relieves, and even foractimes cures. As chordee arises from a greater degree of inflammation than common, it is an effect which may, and often does, remain after all infection is gone, being merely a confequence of the adhelive inflammation."

The spasmodic chordee, Mr. Hunter says, arises from spasm; at least it cannot proceed from the same cause as the other, if his idea of that complaint be well founded. The spasmodic comes and goes, but at no stated times; at one time there will be an erection entirely free from it, at another it will be severely felt, and this will often happen at short intervals.

In the beginning of this complaint, Mr. Hunter sometimes advised bleeding from the arm, but, he says, it is of more immediate service to take away blood from the part itself by leeches; for we often find, by a wessel accidentally giving way in the urethra, and a considerable homorrhage ensuing, that the patient is greatly relieved.—"Fomenting the penis by holding it over the steam of warm water, will give ease, as will also positives; and if camphor be added to the somentation and positives, it will, in many cases, affilt in taking off the inflammation.

"Opium given internally is of fingular fervice, and if joined with camphor, the effect will be still greater; but opium, in such cases, acts rather by lessening the pain that by removing the inflammation, though by preventing erections, it may be said to obviate the immediate case of the

complaint.

For a chordee, continuing after all other fymptoms are gone, Mr. Hunter thinks evacuation feldom necessary, the inflammation being gone, and a confequence of it only remaining, which, he says, will go off gradually by the absorption of the extravastated coagulable lymph. Rubbing the parts, however, with mercurial ointments will promote the absorption of the extravastated coagulable lymph, for we find that mercury has considerable powers in exciting absorption; and the friction will also be of use. In one case Mr. Hunter thought he saw considerable benefit from giving cicuta, aster he had tried the common methods of cure to no purpose. Bark and electricity may also be of use in such cases; but evacuations, whether from the part, or from the consistiution, generally do harm rather than good.

A chordee is often longer in going off than either the difcharge or the pain; but its declention is generally gradual and uniform, as is the case with most of the consequences of

nflammation

CHORDIRAZA, in Ancient Geography, a town of Asia in McGopotamia, fituated in the environs of Carrha, according to Straho.

ing to Strabo.

CHORDYLA, or CORDULA, a town of Asia in the Colchide, in the country of the Lazi, on the left bank and near the mouth of the Acinasis. According to Ptolemy it was situated about 6 or 7 leagues to the south of Gyganeum.

CHOREA, Gr. xopuz, a dance, falture cum cantu. See

BALLAD, BALLATA.

CHOREA, in Medicine, more commonly written Chorea Santi Viti, or Saint Vitus's Dance, from χοςία, a dance, a fightnodic or convultive difease, in which the muscles of the extremities and other parts are thrown into various involuntary motions, and perform in an irregular manner

those motions which are dictated by the will.

It is remarkable, that of a difease so singular and formidable in its appearance, so obtlinate in its continuance, and which reduces the patient to such a distrassful state, no satisfactory history is to be collected from the writings of physicians, except of those of our own country, and those of the later continental writers, who appeal to Sydenham as their authority. From the nature of its symptoms it would feem probable that the disease is not of modern origin, but must have been occasionally observed from the earliest times. The ancients, however, have either not described it, or described it indistinctly, and consounded it with some other

nervous

nervous disorders, with which it exhibits only a few symp- gether sabulous; in one of which, a woman danced vehetoms in common.

The difease, anciently denominated σχελοτυ; En, scelotyrbe, (quasi cruris perturbatio,) appears to resemble chorea in leveral circumstances, infomuch that fome modern authors have confidered the terms as lynonymous. Sauvages treats of chorea under the appellation of fchelotyrbe chorea viti. Nofol. Method. Class IV. See Langius, Epist. Med .- But the definitions of feelotyrbe, left us by the ancients, fearcely ap. ply to chorea, as it has been understood since the time of Sydenham. Galen describes it as a fort of paralysis of the legs, which renders the patient unable to walk in a thraight direction; he turns from one fide to the other, croffing the left foot over the right, or the right foot over the left, or both alternately; and fometimes elevates the feet as if ascending a great acclivity. This description will also apply to a partial or incipient palfy of the lower extremities : and indeed the term itself excludes the notion of any affection of the muscles of the arm, or superior parts of the body. Piny mentions the feelotyrbe, as a difeafe which necurred togeencamped near the Rhine, in confequence of drinking for a confiderable time the waters of a certain spring. He defignates it in a few words; "compages in genibus folveren-Nat. Hilt. lib. xxv. cap. 3.

The difease, of which we now treat, is widely differ-Sancti Viti, Saltus Viti, &c. imply that it has been first diftinguished from other affections in modern times. The writers, however, who have adopted these appellations, have by no means agreed in the congeries of symptoms to which they apply them. The connection of the name of this faint (Vitus) with a convultive difease seems to have fanaticism and superstition in the seventeenth century. worship the images of the saints, that by prefenting gifts, and dancing before the image of St. Vitus, on his feltival in the month of May, they should live in health and safety during the enfuing year; and that for this purpose they repaired to a chapel dedicated to this faint, where they danced night and day, until they were feized with a delirium, and fell down in a fort of trance. They then returned home, having undergone a supposed renovation. But on the return of May, in the following year, they began to perceive a restlessness and agitation of their limbs, as if a fresh regeneration were become necessary, and were compelled to asfemble again in the chapel, on the festival of the faint. This Juncker attributes to the force of imagination and habit! There were two chapels facred to St. Vitus, the one annual affemblies of dancing fanatics. Gregorius Horstius affirms that he had converfed with feveral persons, who reof them had paid the annual visit for the space of 24, and another for 30 years. Greg. Horst. Opera Med. tom. ii. lib. ii. obf. 45. Juncker Confpect. Patholog.

Such is the origin of the appellation given to this difeafe. It was applied, it would feem, in the first instance, chiefly to cases of infanity, in which there was an extraordinary difposition to violent exercise, whether of running, dancing, or otherwise; and as well to the temporary delirium of the fa-Such were two cases related by Platerus, if they are not alto- ease has subsisted for some time, fatuity, to a certain extent,

mently, night and day, until the skin was worn off her feet. Observ. Med. lib. i. p. 88. Tulpius records the history of a man feized with a fimilar infanity, who ran about night and day, until he suffered the most profuse perspirations, and was unable to cease from his exertions, except when overpowered by fleep. Ohf. Phyf. lib. i. ohf. 16. See also Jo. Rud. Camerar. Sylloge Mem. cent xi. obi. 84-88.

Our countryman, Sydenham, was the first writer, we believe. who described the scries of symptoms, which is now comprehended under the term, chorea, or Saint Vitus's Dance; and he has been copied or followed, in this description, by most of the subsequent writers on the subject. Sydenham, however, speaks of it as a disease, which was vulyarly called chorea sancti Viti in his time. Dr. James Hamilton, in a late excellent treatife, on the utility of purgative medicines. has, from a more extensive experience in the disorder, given a more correct and ample view of chorea. It is characterized by the following symptoms.

The approach of the difease is commonly flow, and is ther with the feurvy (flomacace) among the Roman foldiers indicated by a lofs of the usual vivacity and playfulness, by a variable and often ravenous appetite, a fwelling and hardness in the lower belly in most cases, in some a lank and foft belly, and, in general, a constipated state of the bowelstur;" which feem to imply a fimple paralysis of the legs. which is aggravated as the disease advances. Slight irref gular involuntary motions are fron observed, especially o, the muscles of the face, which are thought to be the effect ent in its nature: and the appellations of Chorea of irritation, and are the harbingers of the more violent convulfive motions, which now attract the attention of the

friends of the patient.

These convulsive motions vary considerably. The muscles of the extremities, and of the face; those moving the lower jaw, the head and the trunk of the body, are, at different times, and in different instances, affected by it. In originated among the continental writers, during the days of this state the patient does not walk steadily; his gait refembles a jumping or starting; he fometimes can-Gregorius Hortlius and Juncker relate, that a superstitious not walk, and seems palsied, nor can be perform the belief prevailed in Germany, among the people addicted to common and necessary motions with the affected arms. In a word, when the patient wishes to be at rest, the muscles are perpetually moving, and difforting the limbs, face, and trunk; and when any motion is attempted by the will, it is performed irregularly, and with difficulty, after feveral ufeless efforts. "Thus if the patient take a cup of drink in his hand, he performs," as Sydenham has remarked, " a thoufand ludicrous gesticulations, before he is able to bring it to his mouth; for he cannot direct it in a ftraight line, his hand being drawn hither and thither by the convultions, but is compelled to move it about for fome time, till at length, reaching his lips, he flings the liquor fuddenly into his mouth, and drinks it greedily, as if the poor creature defigned only to excite the laughter of the spectators."

These convultive motions are more or less violent, and near Ulm, the other near Ravensberg; both famous for the are constant, except during sleep, when, in most instances, they cease altogether: but sometimes they continue, and, when the disease is greatly aggravated, even severe, infoforted to this superstitious dance, as a preservative from dif- much that the sleep becomes unsound and disturbed by eafe, and who were strenuous advocates of its efficacy; one the incessant motions. Although different muscles are fometimes fucceffively convulted, yet, in general, the muscles affected in the early part of the disease, remain so during the course of it. The disease advancing, articulation becomes impeded, and is frequently completely fuspended. Deglutition is also occasionally performed with difficulty. The eye loses its lustre and intelligence; the countenance is pale and expressive of vacancy and languor. These circumstances give the patient an appearance of fanatic, as to the more permanent derangement of the maniac. tuity; and indeed there is little doubt, that, when the difinterrupts the exercife of the mental faculties. Fever, fuch as aifes in marainus, is not a necessary attendant on chorea; an evertheless, in the advanced periods of the difease, flaccidity and waiting of the muscular fielh take place, the confequence of constant irritation, of abating appetite, and impaired digestion, the common attendants of protracted chorea; and which, doubtless, may, in some instances, have been the forerunners of death; although no fatal instances of chorea have been recorded.

Chorea attacks the male and female fex indifcriminately; and those chiefly who are of a weak constitution, or whose natural good health and vigour have been impaired by confinement, or by the use of scanty or improper nourithment. It appears most commonly from the eighth to the fourteenth year of age; but sometimes, especially in semales, it has been observed at the age of fixteen or eighteen years. Sydenham Schedul, Monitor, de nov. sebris ingress.—Hamilton Obs. on Purgative Med.—Biflet Med. Essays and Obs.

Although chorea, in the precise form above described, feldom, if ever, attacks adults, yet a feries of irregular, diftrefling, and unfightly motions in the mufcles of the extremities, abdomen, neck, and face, occasionally occur in adults, which bear a great resemblance to the motions of the chorea' of children. This diforder is fometimes connected with a derangement of the biliary fystem and the organs of digeftion; fometimes with anxiety or diffress of mind; fometimes it is combined with fymptoms of hysteria; and we have feen it succeed to a state of mental irregularity and depression, bordering on melancholy. Dr. Darwin has attempted to diffinguish these motions from those of chorea; but he has obviously mistaken the nature of the latter. He has termed the difease of adults, convulsio dolorifica, (painful convulsion,) because the exertion of the muscles, he affirms, is made to relieve some uneasy sensation, especially the pains left after rheumatism in young and delicate people: but in chorea, " the undue motions only occur when the patient endeayours to exert the natural ones; are not attended with pain; and cease when he lies down without trying to move." See Zoonomia, Class IV. 2. 3. and Class III. 1. 1. This statement, however, is incorrect; fince, as we have before mentioned, the motions of chorea are almost incessant, and that even during fleep, in inveterate cases. An intelligent young man, who now labours under this convultion, expressed his conviction, that Dr. Darwin's conjecture is correct, and affirmed, that he could, by a ftrong exertion of the will, prevent the motions from taking place at any time, but that that exertion was extremely painful, and was followed by languor and diffressful sensations. Whether this be also the case in the chorea of children, we know not, fince their immature understanding precludes the possibility of making the experiment.

Many causes have been affigned to chorea. It is often attributed to the presence of worms in the alimentary canal, and to the repulsion, or drying up of cutaneous eruptions: Dr. Darwin seems to have conceived that its most common cause was the repulsion of the itch. Rheumatism, acute severs, diseases of the stomach, the use of mercury, terror, and other strong mental impressions, are also enumerated among the occasional causes of chorea; but these relate chiefly to those convulsive affections which occur in adults. Dr. Monro, the son, used to assim, in his lectures, that he had several times observed the disease to occur in children about the period of the second dentition, when the former set of teeth remained, or when the new set were shining through the gums; and that he had speedily cured the disease, by drawing the first teeth, or lancing the gums. Dr. Ha-

milton believes that chorea is connected with a fluggish action and contlipation of the bowels, and the confequent large accumulation of freecs in the cenal. He observes, with regard to one of his patients; "This boy was emaciated and exceedingly puny, and his abdomen was lank; yet, from the 15th day of December, when the commencement of his recovery was observable, to the 25th day of the same month, the quantity of frees discharged was not wonderful, such as I had never seen before. It appeared to me; during the above period, to have nearly equalled in weight, that of the whole body of the extenuated patient." Page 68.

The cure of chorea has been variously attempted, according to the particular notion entertained by the practitioner, of the nature and cause of the disease. All the remedies, however, which have been adopted, may be considered as belonging to two classes, tonics and evacuasts; such as tend, on the one hand, to support the thrength of the consistency and to diminish the susceptibility of irritation; or such, on the other, as evacuate the bowels, or lessen the quantity of the circulating shids. The two plans of cure have been combined with success.

The fyllems of modern medicine, and more particularly the dogmatic doctrines of Brown, have led their followers to confider every spasmodic disease as a disease of debility, to the cure of which tonics and stimulant medicines are alone adequate, and to which the flightest evacuation is greatly detrimental. Numerous examples of chorea, among the rest, are recited in the periodical journals, in which a cure was obtained under the employment of medicines of this nature. Thus we find cures attributed to the use of asasoctida, valerian, musk, camphor, the flowers of cardamine, and belladonna; to electricity and the cold bath; to Peruvian bank and other vegetable bitters; and, of late years, more particularly to the virtues of the metaliic tonics, especially the oxyd of lime, and sulphate of zinc, the ammoniated copper, and nitrate of filver. See Biffet loc. cit. Edinburgh Med. Com. vol. x. and xii. Memoirs of the Lond, Med. Soc. vol. iii. Fothergill, Phil. Tranf. 1779, &c. Under the administration of remedies of this class, the disease unquestionably occasionally disappears; fometimes in confequence of the cafual ceffation or removal of the irritation which excited it; and fometimes, no doubt, from the direct effects of the medicines, in rendering the body lefs susceptible of the ill effects of the existing irritation, in flight cases. It is certain, however, that the fymptoms of chorea have often continued with unremitting feverity, under the employment of the most powerful of these tonic and anti-spalmodic medicines, during many months, nay even for years; terminating only, on fome occations, about the age of puberty, and even leaving the unconquerable remains of its grotefuee and irregular motions imposed on the young fufferer for life.

To the opposite mode of employing evacuants, especially purgatives, different physicians have been led by some peculiar notion of the disease which they entertained; which, however different, conducted them to the same conclusion. Sydenham ascribed the convultions of chorea to a humour falling upon the nerves, (humor aliquis in nervos irruens,) and thirulating them to extraordinary action: hence he inferred, that the indications of cure were to diminish or remove this supposed humour by blood-letting and purgaing; and to strengthen the nerves, by administering tonics and anti-spashodies in the intervening days. He cured five cases, the only ones that he had seen, by this method. It is probable in ever, that the purgatives were the only useful evacuants that Sydenham employed, and the protracted cures may be attributed partly to the interruption of the use of

them.

them, and partly to the debilitating effects of blood letting, which appears to be decidedly prejudicial, and is no longer recommended. But the general difuse of purgatives is chiefly to be attributed to the theories of modern systematics, especially to the opinion of Dr. Cullen, and the more dog matic doctrines of Dr. John Brown, which inculcate that all spalmodic diseases are diseases of debility; and, consequently, that all evacuations are hurtful, and firengthening or flimu-

lating medicines are required.

But Dr. Hamilton, in a late excellent treatife " On the Utility of Purgative Medicines," has brought forward the refult of a long experience in the infirmary at Edinburgh, which establishes the propriety of the purgative plan in the cure of chorea. He has feen twenty cales of the difeafe, and has generally found it connected with a date of irregularity in the action of the bowels, frequently with a tumid abdomen, and has effected many and comparatively speedy cures by the regular administration of purgative med cines. It appears that, fo far from increasing the state of debility, the evacuation of the intellines contributes to reflore the strength, by rettoring the functions of the viscera. He particularly recommends the inspection of the fieces of the patient, as a guide to the practitioner in the administration of his medicines, and in forming a prognostic of the difeafe.

The usual practice of Dr. Hamilton is, to administer three grains of calomel, with fix or eight of jalap daily, till the fæces begin to assume a natural appearance, and the fpalmodic fymptoms to abate, which are generally observed at the fame time. By this plan, he affirms, that "chorea is spedily cured, generally in ten days or a fortnight, from the commencement of the course of purgative medicines." The torpor of the intestines in this discase is, however, sometimes extremely great, and, in fuch instances, more active purgatives must be reforted to, and repeated until the end is accomplished. In the early stage of the disease, while the intestines yet retain their fensibility, and before the accumulation of faces is great, gentle purgatives, repeated as occasion may require, will readily effect a cure, or rather prevent the full formation of the difease. But " in the confirmed stage more sedulous attention is necessary. Powerful purgatives must be given in successive doses, in such a manner that the latter dofes may support the effect of the former, till the movement and expulsion of the accumulated matter are effected, when fymptoms of returning health appear. Whoever undertakes the cure of chorea by purgatives must be decided, and firm to his purpole. The confidence which he assumes is necessary to carry home, to the friends of the patient, conviction of ultimate fuccels. Their prejudices will otherwise throw infurmountable obliacles in the way. Half meatures, in inflances of this kind, will prove unfuccefsful; and were it not for perfeverance in unloading the alimentary canal the difease would be prolonged, and, recurring, would place the patient in danger, and thus bring into discredit a practice which promifes certain

"Here, as in all other cases of extreme debility induced by difeafe, the recovery is at first flow and gradual. A regu'ar appetite for food, a more intelligent eye, and lightened c untenance, cheerfulness, and playfulness of temper, increaling aptitude for firmer motions, the reftoration of articulation, and of the power of deglutition, a renovation of flesh and strength succeed each other, and being more and confirmed, are, ere long, followed by complete recovery.

" For some time after these falutary changes take place, the state of the bowels must continue an object of attention. Support their regular action, and to reflore their healthy it as too mechanical, and incapable of expressing the grace of Vol. VII.

tone; the only fecurity against the recurring accumulation of fieces, and of a confequent relapse. About this time also, remedies, possessed of tonic and stimulant powers, may be used with propriety and effect; they restore energy to the torpid bowels, aid the purgative medicines in obviating collivenels, and thus confirm a recovery already advanced. Vegetable bitters, or the preparations of steel, may perhaps be most useful for accomplishing these ends. I have not felt the necessity of having recourse to medicines of this kind: under a proper regimen of light and nourishing food, and of exercise in the open air, my patients, in general, quickly recover their strength. But many practitioners set a value upon tonic medicines; and the usual routine of practice demands them." Page 99, et feq.

This tone of confident experience from a cautious and fagacious practitioner, supported by the successful practice of Sydenham, De Haen, Stoll, &c. will, doubtlefs, have its due influence on the general practice. For a detail of cafes treated in this way, the reader may confult the appendix to Dr. Hamilton's treatife, the Edinburgh Medical and Surgical Journal, No 1. vol. i. 1805, and Maximilian Stoll.

Ratio. Medendi, pars 3t12.

From five cases described in the Edin. Journal, the writer observes that the following facts appear to be established:

1ft. From the exhibition of even two or three cathartics, the involuntary motions and other fymptoms were much

2d. Although the cathartics were continued daily for a confiderable length of time, the patient, inflead of becoming more debilitated, became stronger, and walked with a firmer pace.

3d. During the progress of the cure, if at any time the cathartics did not produce an evacuation, the involuntary motions recurred, and all the symptoms were aggravated.

4th. The fæces, before the exhibition of the cathartics, were fmall in quantity, and, in every instance, black and

And, laftly, when the difease was cured, the appearance of the fæces became natural.

Thus the connection of the disease with the state of the alimentary canal and its contents appears very conspicuously, and the difappearance of the symptoms was proportionate to the obvious effects of the remedies; affording a degree of evidence in favour of the practice, fuch as is feldom obtained in medicine.

CHOREGRAPHY, as defined by Noverre, is the art of exprelling a dance in writing, by means of different characters or notes in a limilar manner to mulic; with this difference, that a good musician will read 200 bars in an instant, and an excellent choregraphilt will not be able to decipher

200 bars of a dance in two hours.

Thoinet Arbeau, canon of Langres, was the first who acquired reputation by a treatife in 1588, which he entitled "Orchefographia." He wrote below the notes of the air fuch movements and steps of the dance as he thought fuitable. Beauchamps afterwards gave a new form to choregraphy, and perfeeted the sketch of the ingenious Thoinet Arbeau: he found the means of writing the fleps by figns to which he affigned a different fignification and value; fo that he was declared the inventor of this art by a decree of the French parliament. Feuillet applied himfelf entirely to this art, and has left feveral works on the subject.

It was much used in France by the ballet-masters till about the year 1754, when it was censured by Cahusac " Traité Hilt. de la Dance anc. et mod." and by the admirable An occasional stimulus from purgatives will be requisite to Noverre in his "Lettres sur la Dance, 1760," who regarded the countenance of the performers. "I learned choregraphy, (lays Noverre,) and have forgotten it; if I thought it ufeful to my plans, I would learn it again. The best dancers and most renowned ballet-masters distain it, because it seems to be of no real use. If all the figures and steps of the great dancers were to be recorded, it would reduce the art to fervile imitation; like modern Latin, where no expression or word must be used for which elassical authority during the Augustan age cannot be produced." Mr. Steel published an estay in 1775, towards establishing the mesody and measure of speech to be expressed and perpetuated by peculiar symbols.

By means of a great number of new characters, the author undertook to record in his notation not only how Garrick played his principal parts in general, but any particular night, how, from different degrees of animation and feeling, he varied from himfelf. But we believe this ingenious book was not only never well underflood by the public, but never ca-

tirely read by any individual purchater.

The choregraphic art, we believe, is now wholly laid aside in France, and we have heard nothing of it in England for a long time. In 1710, however, Mr. Effex, a celebrated English dancing-master in London, applied the choregraphic art to country dances, and published a little book engraved on copper, in which beneath a line of music he delineates, on the fame page, the steps and movements in characters. Mr. Weaver, a ballet-mafter, who wrote at fir Richard Steele's request, the three spectators on dancing, Nos. 67, 334, and 370, translated, at the request of Mr. Isaac, another eminent dancing-mafter, from the original of M. Feuillet, this then new art of dancing by notation, to which all the dancingmatters of eminence fubfcribed; and we remember it in general use even in the country, among the professors of the Art. Mr. Weaver, befides his professional knowledge, was a man of infinite wit and confiderable learning, who, after retiring from the capital, ended his days at Shrewfbury, where he had established a boarding-school of great reputation, and continued teaching to dance till he was 90 years of age. At his balls the children, befides the minuet, rigadon, and louvre, performed figure dances, fuch as the wooden-shoe dance, Mars and Venus, with Vulcan's discovery and imprisonment of the lovers in a cage, in Pantomines &c. in which our own juvenile vanity was highly exalted by being honoured with a part. See DANCE: CHOREPISCOPUS, in Ecclefiaftical History, rural or

CHOREPISCOPUS, in Ecclefiaftical History, rural or country bishop, an officer in the ancient church, about whose function the learned are extremely divided. The word comes from xxpox, a region or little country, and enterco-

nos, a bishop, or overseer.

The chorepifcopi were fuffragan or local bifhops, holding a middle rank between bifhops and prefbyters, and delegated to exercife epifcopal jurification within certain diffricts, when the boundaries of particular churches, over which feparate bifhops prefided, were confiderably

enlarged

It is not certain when this office was first introduced: some trace it to the close of the first century; others tell us, that chorepiscopi were not known in the East till the beginning of the fourth century; and in the West, about the year 439. In a council held at Antioch, in 341, they were forbidden to ordain priests or denous, and had only the power of appointing persons to inserior offices in the church. They ceased, both in the East and West, in the tenth century; when rural deans and arch-priests were instituted in their places. After this the system of diocesan episcopacy was fully established.

CHOREPISCOPUS is also the name of a dignity hill subsid-

ing in some cathedrals, particularly in Germany; fignifying the same with chori episcopus, or bishop of the choir. The word, in this sense, does not come from $\chi = 0.00$, sec. In the church of Cologne, &c. the little charter is called charepiscopus.

CHOREUS, a foot in the ancient poetry, more com-

monly called trocheus, or trochee.

CHORFAKAN, or CERFUCAN, in Geography, a town of Arabia, in the country of Oman, pillaged by the

Portuguele in 1508; 64 miles S.E. of Julfar.

CHORGES, a town of France, in the department of the Higher Alps, and chief place of a canton in the diltrict of Embrun; 10 miles W. of it. The place, which was burnt by the duke of Savoy in 1692, contains 1547 and the canton 4242 inhabitants; the territory includes 147½ kilometres and 8 communes.

CHORIAMBUS, in the Latin Poetry, a foot compound-

ed of a choreus, or trecheus, and an iambu.

It confilts of four fyllables; of which the first and last are

long, and the two middle ones short: as filiolum.

CHORIER, Nicholas, in Biography, a lawyer and man of letters, was born at Vienne in Dauphine in 1609. He fpent the greater part of his life in the profession of an advocate at the parliament of Grenoble, employing his leifure in the composition of historical and literary works. He died at Grenoble in 1692. The principal of his writings are " La Philosophie de l'honnette Homme," 4to. " Histoire general de Dauphine," 2 vol. fol. of which the abbé Lenglet fays "that Chorier is an author of little accuracy, and that the knowledge of a fact fufficed him to build a history upon it. In these and many other volumes Chorier appears in the character of a grave scholar and industrious inquirer: but his name must descend with infamy on account of a licentious work, entitled " Aloisiæ Toletanæ Satyræ Sotadica de Arcams Amoris & Veneris," which he published under the name of a lady celebrated for her learning.

CHORIN, in Geography, a town of Germany, in the circle of Upper Saxony, Ucker mark of Brandenburg; 6

miles S. of Neu Augermunde.

CHORINEUS, in Entomology: the Papilio or butterfly of this name in Cramer's exotic infects is the Papilio Faunus of Fabricius. Spec. Inf., and Pap. Odarbius of that author's Mantiffa, and Entomologia Systematica. See Papilio Odarbius.

CHORION, in Anatomy, one of the membranes of the human ovum. It furrounds the amnios, and contains therefore that membrane, with its fluid, (the liquor amnii,) the factus, and the navel firing. See GENERATION, female organs of.

CHORIST, or CHORISTER, a chantor or finger in the

CHORIZANTES, in *Ecclefiaflical History*, the name of a fect in Germany, ann. 1374, faid to be demoniacs that affembled in streets and churches.

We may suppose their enemies called them demoniacs.

Du Cange does not mention any of their tenets.

CHORLEY, in Geography, a market and manufacturing town of Lancafhire, England, is fituated near the fpring-head of a rivulet called Chor, which iffuse from feveral fprings on the cast side of the town, and slowing through one part thereof along the picturefque and pleasant valley beneath, after giving motion to feveral mills, regimes, and cotton machines, communicates with the river Yarrow; on whose banks, and for many miles round, are great numbers of bleaching grounds and printing works, with some cotton sactories intermixed. Chorley has an ancient chapel, lately

made parochial, supposed to be of Saxon structure, dedicated to St. Lawrence, the walls of which are ornamented with coats of arms and Saxon characters: the windows with hieroglyphic paintings. Here are other places of worship, a grammar-school, a poor-house, six alms-houses, and Sunday-schools. At the fouth end of the town is a dungeon or prison for the confinement of malefactors or disorderly persons. The bishop of Chester holds his court here twice a-year by proxy. The cotton manufactory, in all its · branches, is carried on with great fuccels, as also the trade of bleaching and printing cottons, fullians, calicocs, and muslins. The town and its vicinity abound in mines of coal, lead, and alum; in beds of gravel, fand, and marl; in rocks of flone, and quarries of flag and flate, ashlar and mill-stone. Chorley is N.W. of London 208 miles, and contains, according to the late return, 865 houses, and 4516 inhabitants; the population as well as the trade having greatly increased for feveral years part. Here are two weekly markets, one on Tuesday, plentifully supplied with every necessary article of life, the other on Saturday, for meat and vegetables only. Another market for fish continues for two or three days in the week, when all forts in feafon, fresh and falt, are brought from Lancaster and Preston. Four fairs are annually held .here, three for horned cattle, and one for toys, fmall wares, and Yorkshire cloth. Aikin's Manchester, 4to.

CHORNOY Kuban river, a branch of the Kuban, falling northward into the sea of Azoph to the E. of Caffa or Cassa-straits; probably the same with Aganly, at the mouth of which, on the W. fide of the river, stands the town of

Ashuvef.

CHORO favorito, in the Italian Music, a chorus, in which are employed the belt voices and instruments to fing the recitatives, play the ritornellos, &c. It is otherwise called the

little chorus, or choro recitante.

CHORO *Spezzalo*, a composition of two, three, or more chorustes. It is often met with instead of tutti or da capella, which mean the grand chorus. A doi, a tre, a quatro chori, is for two, three, or four chorusses. When after the name .of a part we find primo, Io choro, we must understand that it is to be played in the first chorus; if 2, IIdo, or secondo ·choro, the part must be fung or played in the second chorus. And consequently it shews, that the composition is for eight voices or different parts.

CHOROANA, in Ancient Geography, a small country of Afia, which Ptolemy places in Parthia. Strabo calls it

Choronæa.

CHOROBATES, from xupo Gates, to overrun a country, a kind of water-level, used among the ancients; composed of a double square, in form of a T, described by Vitruvius. CHOROCHOAD, in Ancient Geography, a town of Asia, in Arachofia.

CHOROCITHARISTRIA, in Music, he who ac-

companies dances on the cithara or harp.

CHORODNA, or CHORODRA, a town of Afia in Perfia Propria.

CHOROGRAPHY, the art of making a MAP, or de-

scription of some country, province, or district.

The word comes from xwoos, region, and year, I deferibe. Chorography is diftinguished from GEOGRAPHY, as the description of a particular country is from that of the whole earth. And from TOPOGRAPHY, as the description of the fame country is from that of a fingle place, town, or dillrict 10 it.

CHOROIDEA TUNICA, in Anatomy, or choroid coat of the eye, is the vafeular and delicate membrane, which invests the globe of the eye within the sclerotica. See

EYE.

CHOROIDES PLEXUS, a valeular production of the pia mater, contained in the lateral ventricles of the brain. See BRAIN.

CHOROIDES, in Optics, is applied to the inner and pofterior tunic of the eye, immediately under the felerotica.

It is foft, thin, and black; and its inner, or concave furface, is very fmooth and polifhed. It has its name from its being interspersed with vestels. Its anterior part is called the uvea; or rather the iris, as the internal furface is called the Ruyschian coat.

Next under the choroides is the retina. Ruysch, indeed, fays, he has found another tunic between the choroides and retina; and denominates it from himfelf, tunica Ruyfebiana. He adds, that it grows fo firmly to the choroides, that it is

over-looked in the common diffections.

But Verheyen, though he found the choroides of a bird divisible into two membranes, could never separate those of the human eyes; and therefore he thinks there needed not any new name. The choroides is, for the most part, black in men; though it appears often, as M. Pecquet has observed, in very different shades; in lions, camels, bears, sheep, cattle, dogs, cats, and most fishes, it is of a shining colour, like the brilliance of filver, or the luttre of oriental pearl; and makes what naturalists call the tapis, or colour of the

Muschenbroeck also says (Introd. vol. ii. p. 748.) that in many animals, as the lion, camel, bear, ox, flag, theep, dog, cat, and many birds, the choroides is not black, but blue,

green, yellow, or fome other colour.

M. Marriotte maintains, that vision is performed rather in the choroides than in the retina; in which he agrees with Bar. Torinus, and is feconded by M. Mery; but most other authors are of a different fentiment.

He was led to this hypothesis by observing that part of the retina, at the infertion of the optic nerve, is infensible to the impression of light, and that in this part the choroides is

wanting.

He was confirmed in opinion, that the retina could not be the feat of vision, because of its transparency; though M. Pecquet observes in reply, that it is very imperfectly transparent, only resembling oiled paper. He urges likewife the greater fenfibility of the choroides than that of the retina, as is evident by the alternate contraction and dilatation of the iris, which is a continuation of the choroides, in

It has been replied, that fome creatures, fuch as the porcupine and fea-calf, have the optic nerves inferted into the axes of their eyes, exactly opposite to the pupil; and hence it has been inferred, that, in these animals, the retina is perfeelly fensible to the impression of light, at the insertion of the nerve. This fact, according to Dr. Portersield, overturns Marriotte's hypothelis of the choroides being the prin-

cipal and immediate organ of fight.

Mr. Le Cat threnwoully defends Marriotte's opinion, that the choroid coat, which is the production of the pia mater, and not the retina, is the immediate organ of vision. The retina, according to him, is to the choroid what the epidermis is to the fkin; receiving the impression of light, and preparing it for its proper organ. Mr. Michell has likewife urged some farther considerations in favour of the choroides as the proper feat of vision, deduced from its greater fensibility, and from the variety of its colours in different animals; according to their fituation and necessity. He adds that the choroides is in no cafe transparent, and has no reflecting furface beyond it, and that it is better formed as an organ of distinct vision than the retina.

To the hypothesis of the seat of vision being in the cho-

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roides, it is peculiarly favourable, fays Dr. Prieftley, that it affords a fufficient reason for the diverlity of its colour in different animals, according as they are circumstanced with respect to vision. In all terrestrial animals, which have occafion to make use of their eyes by night, the choroides is either of a light white, or of fome very vivid colour, which reflects the light very strongly. On this account, vision may be performed with less light, but it cannot be with great diffinctness; the reflection of the rays doubling their effect; fince it must extend over some space; all reflection being made at a distance from the reflecting body. Besides, the choroides in brutes is not in general perfectly white, but a little inclined to blue, and is therefore, probably, better adapted to fee by the fainter coloured light, which chiefly prevails in the night; and on the same account, says this author, is more liable to be strongly impressed by the colours to which they are chiefly exposed. On the other hand, the choroides of birds in general, especially eagles, hawks, and other birds of prey, is black; by which means they are able to fee with the greatest distinctness, but only in bright day-light. The owl, however, feeking her food by night, has, as he fuggefts, the choroides white, like that of a cat. In the eyes of man, which are adapted to various uses, the choroides is neither so black as that of birds, nor fo white as that of those animals who make the greatest use of their eyes in the night.

M. de la Hire has advanced another hypothefis; alleging, that the choroides receives the imprefiions of images in order to transmit them to the retina. Against which hypothesis, Mr. Michell objects, that the impulsions which are thus fecondarily communicated to the nerves must be fainter, and that it is more natural to suppose, that the impression first made upon the choroides should be conveyed to the brain by its own proper nerves. Prieftley's History of Vision, chap. ii. p. 189, &c. See RETINA and VISION.

It had been long observed that the choroides in men is black; but no observation had been made on the change in fuffers by age, before Mr. Petit, who perceived that it appears quite brown under the retina in children, and grows confiderably brighter as they advance in age.

CHOROK, in Zoology: Buffon calls the Linuxan Muf-

cella Sibirica by this name.

CHOROL, in Geography, a river of Russia, which runs into the Pfol, near Goltva, in the government of Kiov.

CHOROMITHRENA, in Ancient Geography, a coun-

try of Afia, placed by Ptolemy in Media.

CHOROPATA, in Geography, a river on the coast of

Peru, which falls into the bay of Caraccas.

CHOROS, an island 4 leagues W. from the Pajaros or Birds islands, or between these islands and port Guasco, which fee.

CHOROSCIESSOW, a town of Poland, in the palati-

nate of Kiov; 64 miles W.N.W. of Kiov.

CHOROSKI, a town of Poland, in the palatinate of Volhynia: 18 miles N.W. of Zytomiers.

CHOROSSOZA, a town of Poland, in the palatinate of Bielik; 28 miles N. of Bielik.

CHORRO MANCAN, a town of Chinese Tartary, N.

lat. 43° 18'. E. long. 120° 50'. CHORRÆI, or HORRÆI, HORITES, in Ancient Geography, a people of Afia who occupied the country of Seir before the Idumæans. They dwelt in Arabia Petrea and Deferta, to the S. and to the E. of the land of Canaan. They are mentioned in Scripture, in the book of Kings, in that of Judges, &c.

CHORSA, a town of Afia in Greater Armenia, accord-

ing to Ptolemy. It frems to have been fituated above the Euphrates.

CHORSALIA, a place in the interior of Leffer Armenia.

CHORSEUS, or CHERSEUS, a river of Phoenicia, in the vicinity of the town of Dora, according to Ptolemy. Ortelius places it in Palestine; and it is marked in the map of Palestine by M. D'Anville.

CHORSIA, or CORSIA, a finall town of Greece, in Becotia.

CHORSUS, a river of the Colchide, according to the periplus of Scylax.

CHORTACANA, an ancient town of Afia, fituated in the northern part of Aria, on the confines of Parthia, according to Diodorus Siculus. Strabo and Quintus Curtius call it Artacanæ.

CHORUM, an ancient place of Thrace.

CHORUS, in Dramatic Poetry, one or more persons, prefent on the flage during the reprefentation, and supposed to be by standers without any particular share or interest in the action.

Tragedy, in its origin, M. Dacier observes, was no more than a fingle chorus, who trod the flage alone, and without any other actors; finging dithyrambics, or hymns, in honour of Bacchus, so that the chorus was the basis or foundation of the ancient tragedy. Thespis, who lived about 536 years before the Christian cra, to relieve the chorus, added an actor, who rehearled the adventures of some of their heroes. Æschylus, about 50 years afterwards, finding a fingle person too dry an entertainment, added a second, who, during a dialogue between these two persons or actors, in which he contrived to interweave fome interesting story, brought his actors on a flage, adorned with proper scenery and decorations; and at the same time greatly reduced the finging of the chorus, to make more room for the recitation.

Every thing introduced between the four fongs of the chorus, they called by the term epifode; and those four fongs made the four intervals, or acts of the piece.

But when once tragedy began to be formed, those recitatives, or episodes, which at first were only intended as accesfory parts, to give the chorus a breathing time, became now the principal parts of the performance: and whereas, before, they were taken from various subjects, they were now all drawn from one and the fame, or the subject of the story in which the actors were principally concerned.

The chorus, as the subject demanded, was composed of men and women, old men or youths, citizens or flaves. priefts, foldiers, &c. to the number of 15 in tragedy, and 24 in comedy; and the perfons of it were always supposed to be of interior condition to the principal characters of the piece. As it usually represented the people, or at least a part of them, foreigners, even though fettled at Athens, were forbidden to act in the choruses, for the same reason as they were prohibited from being prefent in the general af-fembly of the people. The actors, who composed the chorus, came on the flage preceded by a flate-player, who regulated their fleps, fometimes one after the other, but more frequently, in tragedy, 3 in front and 5 in depth, or 5 in front and 3 in depth. In comedy, they were usually arranged 4 in front and 6 deep, or 6 in front and 4 deep.

The chorus, by degrees, became inferted and incorporated into the action, to which it ferved as an addition or ornament. Sometimes the chorus was to speak, and then their chief, whom they called Corypheus, spoke in Schalf of all the rest: the finging was performed by the whole company; fo that when the Coryphaus struck into a long, the chorus

immediately joined him.

Belides

piece, and which were managed by the chorus, the chorus fometimes also joined the actors in the course of the reprefentation, with their plaints and largentations; on occasion

of any unhappy accidents that befel them.

Thus, in the course of the piece, the chorus sometimes performed the part of an actor, and sometimes it formed the interlude. In the first case it took a part in the action, and fung or declaimed with the persons of the drama, the coryphæus speaking for it. On certain occasions it was divided into two parts, headed by two leaders, who related certain circumstances of the action, or mutually communicated their hopes and fears. Scenes of this kind, which were almost always fung, were fometimes concluded by the reunion of the two parts of the chorus. In the fecond cafe the chorus confined itself to lamenting the calamities incident to humanity, or imploring the affiltance of the gods for the dramatic personage whose cause it espoused. In the interludes the chorus fung; and the actors declaimed when the chorus was filent; but when it entered into dialogue with the actors, its coryphæus recited with them, or they fang alternately with the chorus. During these scenes the chorus rarely quitted its place. In the interludes, and efpecially in the first, it executed different evolutions to the found of the flute. The verses which it sung were like those of the ode, disposed in strophes, antistrophes, epodes, &c. At the first strophe, the choral performers passed from right to left; at the first antistrophe, from left to right, in an equal time, and repeating the same air to other words. They afterwards flopped, and turning towards the spectators, fung a new melody. Frequently they repeated the fame evolutions with sensible differences in the words and music, but always with the same correspondence between the march and the countermarches.

The proper function of the chorus, when tragedy was formed, and that for which it feemed chiefly retained, was to shew the intervals of the acts: while the actors were behind the scenes, the chorus engaged the spectators; their fongs chiefly turned on what was just exhibited; and were not to contain any thing but what was fuited to the subject, and had a natural connection with it: fo that the chorus concurred with the actors for advancing the action.

It is a fault observed in Euripides's tragedies, that his choruses are detached from the action, and not taken from the fame subject. There were some other poets, who, to fave the pains of composing choruses, and adapting them to the piece, contented themselves with inventing fongs, which had no relation at all to the action. These foreign choruses were the less pardonable, as the chorus was effeemed to act a part in the piece: and to represent the spectators, who were looked on as interested therein; infomuch that the chorus was not always to be mute, even in the course of the acts. In the modern tragedies the chorus is laid afide, and the mulic supplies its place. At first the chorus was not a mere ornament added to the drama, or a contrivance defigned to render it more perfect: but, in reality, the dramatic dialogue was an addition to the chorus, which was the original entertainment. In process of time, the chorus, from being the principal, became only the accessory in tragedy; till at laft, in modern tragedy, it has altogether difappeared; which forms the chief diffinction between the ancient and the modern stage.

That which occasioned the suppression of the chorus was its being incompatible with certain complots, and fecret deliberations of the actors. For it is in no-wife probable, that fuch machinations should be carried on in the eyes of persons interested in the action. As the chorus, therefore,

Befides the four fongs, which made the division of the never went off the stage, there seemed a necessity for laying it afide, to give the greater probability to those kinds of intrigues which require fecrecy.

M. Dacier observes, there was a chorus, or grex, also in the ancient comedy; but this too is suppressed in the new: chiefly because it was made use of to reprove vices,

by attacking particular persons.

The chorus in comedy was at first no more than a single person, who spoke in the ancient composures for the stage: the poets, by degrees, added to him another; then two, afterwards three, and at last more: fo that the most ancient comedies had nothing but the chorus, and were only fo many

lectures of virtue.

The suppression of the chorus has given rife to a question, much agitated between the partizans of the ancients and the moderns, whether the drama has gained or fuffered by the abolition of the chorus. It must be admitted, that the chorus tended to render tragedy both more magnificent and more instructive and moral. It was always the most sublime and poetical part of the work; and being carried on by finging, and accompanied with music, it must, without doubt, have diverfified the entertainment, and added to its splendour. The chorus, at the same time, uniformly conveyed leffons of virtue. It was composed of such perfons as might most naturally be supposed present on the occasion; inhabitants of the place where the scene was laid, often the companions of some of the principal actors, and therefore, in some degree, interested in the issue of the action. This company, which, in the days of Sophocles, was restricted to the number of 15 persons, was constantly on the stage, during the whole performance, mingled in discourse with the actors, entered into their concerns, fuggelled counsel and advice to them, moralifed on all the incidents that were going on, and during the intervals of the action, fung their odes, or fongs, in which they addressed the gods, prayed for success to the virtuous, lamented their misfortunes, and delivered many moral and religious fentiments.

The office of the chorus is thus described by Horace

(De Art. Poet.):

" Actoris partes chorus, officiumque virile Defendat; neu quid medios intercinat actus, Quod non propolito conducat, et hæreat apta. Ille bonis faveatque, et conciliatur amicis, Et regat iratos, et amet peccare timentes; Ille dapes laudet mensæ brevis; ille salubrem Justitiam, legesque, et apertis otia portis. Ille tegat commissa; deosque precetur, et oret Ut redeat miseris, abeat fortuna superba."

"The chorus must support an actor's part, Defend the virtuous, and advise with art; Govern the choleric, and the proud appeale, And the short feasts of frugal tables praise; Applaud the justice of well-govern'd states, And peace triumphant with her open gates. Intrusted fecrets let them ne'er betray, But to the righteous Gods with ardour pray That fortune, with returning smiles, may bless Affl. Red worth, and impious pride depress; Yet let their fongs with apt coherence join, Promote the plot, and aid the just defign.

FRANCIS.

The judgment of two fuch critics, as Horace in the paffage above cited (l. i.), and also Aristotle (Tigo Touri. x. vi.), and the practice of wife antiquity, concurring to establish this precept concerning the chorus, it should thenceforth, one would think (lays Dr. Hurd, Notes on the Art of

Poetry), have become a fundamental rule and maxim of the flage. And fo indeed it appeared to fome few writers. introduce it into two of his latter plays, and with fuch fuccefs, that, as one observes, "it should, in all reason, have disabused his countrymen on this head:" Pessai heureux de dans Effher, devroit, ce femble, nous avoir detrompez fur cet article. (P. Brumoi, vol. i. p. 105.) And before him, our Milton, who, with his other great talents, possessed a fupreme knowledge of antiquity, was fo flruck with its ufe and beauty, as to attempt to bring it into our language. His "Sampson Agonilles" was, as might be expected, a master-piece. But even his credit hath not been fusicient to reflore the chorus. Hear a late professor of the art declaring, "De choro nihil differui, quia non est essentialis dra nati, atque à neotericis penitus, at, me judice, merito, refudiatur. (Pred. Poet. vol. ii. p. 188.) Whence it hath come to pass, says Dr. Hurd, that the chorus hath been thus neglected is not now the enquiry. But that this critic, and all fuch, are greatly out in their judgments, when they prefume to cenfure it in the ancients, must appear (if we look no farther) from the double use, infilled on by the poet. For, 1st, A chorus interposing, and bearing a part in the progress of the action, gives the representation that probability (Le Theatre des Grecs, vol. i. p. 105.), and striking resemblance of real life, which every man of sense perceives, and feels the want of upon our flage; a want, which nothing but fuch an expedient as the chorus can possibly relieve. And, 2d, The importance of its other office (Ille bonis faveatque, &c.) to the utility of the reprefentation, is fo great, that, in a moral view, nothing can compensate for this deficiency. For it is necessary to the truth and decorum of characters, that the manners, bad as well as good, be drawn in flrong vivid colours; and to that end, that immoral fentiments, forcibly expressed, and speciously maintained, be fometimes imputed to the speakers. Hence the found philosophy of the chorus will be constantly wanting, to rectify the wrong conclutions of the audience, and prevent the ill impressions that might otherwise be made upon it. Nor let Euripides did not find even an Athenian theatre fo quickfighted. The flory is well known (Sen. Ep. 115.), that when this painter of the manners was obliged, by the rules of his art, and the character to be fullained, to put a run of bold fentiments in the mouth of one of his persons, the people inflantly took fire, charging the poet with the imputed villainy, as though it had been his own. Now if fuch an audience could fo eafily mifinterpret an attention to the truth of character into the real doctrine of the poet, and this too, when a chorus was at hand to correct; and disabuse their judgments, what must be the case, when the whole is left to the fagacity and penetration of the people? The wifer fort, it is true, have little need of this information. Yet the rerepresentation, clothed in the noblest dress of poetry, and enforced by the joint powers of harmony and action (which is the true character of the chorus) might make it, even to fuch, a no unpleasant or unprofitable entertainment. But thele two are a small part of the uses of the chorus; which in every light is feen to important to the truth, decorum, and dignity of the tragic feene, that the modern stage, which hath not thought proper to adopt it, is even, with the advantage of, fometimes, the justest moral painting and submult needs appear to those who have looked into the ancient models, or, diverting themselves of modern prejudices, are

disposed to consult the distates of plain fense. Dr. Hurds for a fuller view of the important benefits arising to the drama from the observance of Horace's rule, refers to "the 8th tome of the History of the Academy of Inscriptions and Belles Lettres;" or, he says, it may be sufficient to refer the English reader to the tragedies of "Elstida" and "Caractacus," which furnish a better apology than he could make

To the above reasoning it has been replied by Mr. Colman, in the notes to his "Translation of Horace's Art of Poetry," .to. 1783, that the judgment of two fuch critics as Ariflotle and Horace, cannot be decifively quoted as concurring with the practice of wife antiquity, to establish the chorus. Neither of these two critics, it is said, have taken up the question; each of them giving directions for the proper conduct of the chorus, confidered as an established and received part of tragedy, and indeed originally, as they both tell us, the whole of it. Ariftotle, in his "Poetics," has not faid much on the subject; and from the little he has faid, more arguments might perhaps be drawn in favour of the omiffion, than for the introduction of the chorus. It is true that he fays, in his 4th chapter, that " tragedy, after many changes, paufed, having gained its natural form." This might, at first fight, feem to include his approbation of the chorus, as well as of all the other parts of tragedy then in use; but he himself expressly tells us in the same chapter, that he had no fuch meaning; faying, that " to enquire whether tragedy be perfect in its parts, either confidered in itseif, or with relation to the theatre, was foreign to his prefent purpose." In the passage from which Horace has, in the verses above cited, described the office, and laid down the duties of the chorus, the passage referred to by Dr. Hurd, the words of Aristotle are not particularly favourable to the institution, or much calculated to recommend the use of it. For Aristotle there informs us, "that Sophocles alone, of all the Grecian writers, made the chorus conducive to the progress of the fable; not only even Euripides being culpable in this instance; but other writers, after the example of Agathon, introducing odes as little to the purpole, as if they had borrowed whole feenes from another play.'

Mr. Colman concludes upon the whole, that, whatever may be the merits, or advantages of the chorus, the judg-ment neither of Aristotle nor of Horace can be adduced in recommendation of it. As to "the probability given to the representation, by the chorus interposing and bearing a part in the action," the public, he adds, who have lately feen a troop of fingers affembled on the stage, as a chorus, during the whole representations of "Elfrida" and "Caractacus," are competent to decide for themselves how far fuch an expedient gives a more "flriking refemblance of human life," than the common usage of our drama. As to its importance in a moral view, to correct the evil impression of vicious fentiments, imputed to the speakers; the flory told, to enforce its use for this purpose, conveys a proof of its inessicacy. To give due force to sentiments as well as to direct their proper tendency, depends on the skill and address of the poet, independent of the chorus. M. Dacier, as well as Dr. Hurd, cenfures the modern stage for having rejected the chorus, and having loft thereby " at least half ite probability and its greatest ornament;" so that our tragedy is "but a very faint shadow of the old." Learned critics, however, ought to confider, that if it be expedient to revive the chorus, all the other parts of the ancient tragedy must be revived along with it. Arithotle mentions music as one of the fix parts of tragedy, and Horace no fooner introduces the chorus, but he proceeds to the pipe and lyre. If a chorus be really necessary, our dramas, like those of the anci-

ents, should be rendered wholly musical; the dancers also will then claim their place, and the pretentions of Vestris and Noverre must be admitted as classical. Such a spectacle, if not more natural than the modern, would at least be con- a dramatic piece of the poet, and defray the expences of its fiftent; but to introduce a group of spectatorial actors, fpeaking in one part of the drama, and finging in another, is as strange and incoherent a medley, and full as unclassical, as the dialogue and airs of the " Beggar's Opera." Admitting the full force of Mr. Colman's arguments, nothing, it may be faid, though somewhat harshly, but the most invincible pedantry can wish for the revival of the ancient chorus on the modern stage.

Notwithstanding the advantages, which were obtained by means of the chorus, it is alleged, (fee Blair's Lectures, vol. iii. lect. 45,) that the inconveniences on the other fide are so great, as to render the modern practice of excluding the chorus far more eligible upon the whole. For if a natural and probable imitation of human actions be the chief end of the drama, no other persons ought to be brought on the flage, than those who are necessary to the dramatic

action.

The introduction of an adventitious company of persons, who have but a flight concern in the business of the play, is unnatural in itself, embarraffing to the poet, and though it may render the spectacle splendid, tends, without doubt, to render it more cold and uninteresting, because it becomes more unlike a real transaction. The mixture of music, or long, on the part of the chorus, with the dialogue carried on by the actors, is another unnatural circumstance, removing the representation still farther from the resemblance of life. Besides, the poet is subjected to innumerable dissiculties in fo contriving his plan, that the presence of the chorus, during all the incidents of the play, shall confist with any probability. The scene must be constantly, and often absurdly, laid in some public place, that the chorus may be supposed to have free access to it. To many things that ought to be transacted in private, the chorus must ever be witnesses; they mult be the confederates of both parties who come fucceffively upon the stage, and who are, perhaps, conspiring against each other. In short, says Dr. Blair, the management of a chorus is an unnatural confinement to a poet; it requires too great a facrifice of probability in the conduct of the action; it has too much the air of a theatrical decoration, to be confiftent with that appearance of reality, which a poet must ever preserve in order to move our pas-The origin of tragedy among the Greeks, as we have above observed, was a choral song, or hymn, to the gods. There is, therefore, no wonder, that on the Greek flage it fo long maintained possession. But it may confidently, as Dr. Blair thinks, be asserted, that if, instead of the dramatic dialogue having been superadded to the chorus, the dialogue itself had been the first invention, the chorus would, in that case, never have been thought of. One use, however, might still be made of the ancient chorus, which would be a confiderable improvement of the modern theatre; if, initead of that unmeaning, and often improperly cholen mulic, with which the audience is entertained in the intervals between the acts, a chorus were then to be introduced, whose mulic and fongs, though forming no part of the play, should have a relation to the incidents of the preceding act, and to the dispositions which these incidents are presumed to have awakened in the spectators. By these means, the tone of passion would be kept up without interruption; and all the good effects of the ancient chorus might be preferved, for inspiring proper sentiments, and for increasing the morality of the performance, without those inconveniences which arose from the chorus forming a conflituent part of the play, and

mingling unleafonably, and unnaturally, with the perfonages of the drama. See DRAMA, and CHORUS infra.

CHORUS, to give the, among the Grecks, was to purchase representation.

The person who did this was called charagus. At Athens the office of choragus was imposed on the archons; and at

Rome on the adiles.

CHORUS, in Music. It has already been said, (fee CHOEUR) that there are chornfes of various kinds: eccletiafical chorules, fuch as those in the mass of Roman Catholics, in the fervice of the Lutheran church, in the pfalmody and hymnology of the Calvinitts, and in the cathedral fervice of the church of England. In this last, a species of music has been retained to English words, such as had been cultivated in all Christian churches before the reformation, to Latin words. In our choral music, fugues, canon learning and complication, with what was called by the Puritans curious finging, have been allowed to have place with propriety in our fervices and anthems on Sundays and festivals, regarding them as the voice of prayer, supplication, or jubilation, by voices of different pitch, harmonized; but always with one mind, addressing the Supreme Being, fometimes together, and sometimes after each other, as the plalms and responses are uttered in a parish-church, but with less regularity and reverence.

To dramatic choruses there are many objections, on the fide of probability, to elaborate counterpoint, when different personages are uttering different words at the same time, all talking together, without liftening to each other. This is unnatural, and as difficult to perform without book, as if it

were extempore.

There are few dramatic fituations where a chorus, even in plain counter-point, can have place with propriety. It may happen, indeed, that the representatives of a whole people at once shall cry out with joy, forrow, or even demand concessions with united clamour; as the citizens in Metastalio's oratorio of Betulia liberata did, to furrender the town, uttering the same words in the language of the piece, be it fung or declaimed. This may, for a fhort space, be reconciled to probability; but for a whole nation to continue a long difcourse in the same words, is improbable, unless they were supposed to be formed into an harangue, and gotten by heart, as a hymn to fome divinity, or on a folemn celebration of

A distinction should therefore be made between an extemporaneous chorus, and a chorus repeated by memory, as well as between an oratorio chorus performed by book, and an opera chorus fung in action by heart. Handel, whose sublime choral genius enabled him with facility to produce choruses of all kinds, never exercised that genius in compoling elaborate chorules for his operas, all which were as short and simple as those of the Italians in present use; all built on a short air easily retained in memory. But Sacchini, and other Italian mafters, finding how much Handel was admired and revered for his oratorio choruses, composed fome to be performed in action on the stage; but though many of these, particularly Sacchini's, were admirable preductions, full of grace, pathos, and dramatic effects; yet, being performed by occasional fingers, unacquainted with the Italian language and vocal expression, they produced no other effect than that of exciting as much laughter as our carly operas did, when fung half in Italian and half in Englifh. See Spectator, No. 18.

An ecclefiaftical chorus may be extended to what length the composer pleases; but a dramatic chorus, analogous to the fable, and fituation of the interlocutors, must be of a length and character fuitable to the drama, and the scene in which it is introduced. See GENERA, and Ancient Greek Music

CHORZENA, in Ancient Geography, a country of Alia, in Greater Armenia, fituated, according to Strabo, towards the north, in the mountains of Caucasus, and belonging to

Iberia and the Colchide.

CHORZIANI, a people of Afia, in the Astiatene territory, a country of Armenia; placed by Pr. copius in the environs of fort Citharifa, 4 journies from Theodoliopolis. CHOSCIABAD, in Geography, a town of Persia in the

province of Kerman; 57 miles S.W. of Sirgian. CHOSE, thing. This word, in Laro, is used in various

circumstances, and with various epithets: as,

CHOSE in adion, which is not any thing corporeal, but only a right, v.g. an annuity, obligation, covenant, &c. the polfefion of which may, however, be recovered by a fuit or action at law; from whence the thing fo recoverable is called a thing, or chose, in action. Thus money due on a bond is a chose in action; for a property in the debt vefts at the time of forfeiture mentioned in the obligation, but there is no possession till recovered by course of law. If a man covenants with me, or promises, to do any act, and fails in it, by which I fuffer damage, the recompence for this damage is a choice in action, for though a right to have recompence vests in me, at the time of the damage done, yet what and how large fuch recompence shall be, can only be afcertained by verdict; and the possession can only be given me by legal judgment and execution. If a person diffeiles me of land, or takes away my goods, my right or title of entry into the lands, or action and fuit for it, and fo for the goods, is a chose in action; a condition and power of re-entry into land upon a feoffment, gift, or grant, before the performance of the condition, is of the nature of a chose in action. Co. Lit. 214. 6 Rep. 50. Dyer, 244. If one have an advowfon, when the church becomes void, the prefentation is but as a chofe in action, and not grantable, but it is otherwife before the church is void. Dyer, 296. Where a man hath a judgment against another for money, or estate, these are choses in action. An annuity in fee to a man and his heirs is grantable for ever; but it has been held, that an anmuity is a chose in action, and not grantable. 5 Rep. 89. Fitz. Grant. 45.

Chose in action may also be called chose in suspense, as having no real existence, and not being properly in possestion: being a thing, as it is expressed, rather in potentia than

in effe.

No chofe in action could, by the ancient common law, be transferred or assigned; but this is now allowed; and the form of doing it is in the nature of a declaration of truft, and an agreement to permit the affiguee to make use of the name of the affiguor, in order to recover the possession: and when a debt or bond is affigned over, it must still be sued in the original creditor's name: the person to whom it is transferred being rather an attorney than an affignee. The king, however, is an exception to this general rule; for he might always either grant or receive a chofe in action by affignment; and our courts of equity, confidering that in a commercial country almost all personal property must necessarily lie in contract, will protect the affignment of a chose in action, as much as the law will that of a chofe in possession. The legal possibility and convenience of assigning a chose in action, which our ancestors so long doubted, have been fufficiently evinced fince the introduction and establishment of paper credit by indorfements upon bills and notes.

Chose local, is something annexed to a place, v. g. a

mill.

CHOSE trensitory, something moveable, and which may be transported from place to place.

Chose in possificial. See Possession, and Property.

CHOSISTAN, in Geography. See Chusistan.

CHOSROES I. or KHOSROU, in Biography, king of Perfia, celebrated as the Magnanimous, was the third fon of Cabades or Cobad, by whose appointment he succeeded to the throne in 531, to the prejudice of his elder brothers. The example of his father, a prince of a proud and imperious disposition, and who was a bitter persecutor of those who did not embrace the Persian religion, had, in some measure, blunted the moral feelings of the fon, who commenced his reign with acts of great severity. A conspiracy was indeed formed in behalf of his brother, which having discovered, he put to death all who were in any respect engaged in it. He then executed Mazdak, the head and leader of a new feet, who preached a community of all things, even of property and women; and he treated the Jews with still greater rigour than they had experienced from his father. He next removed such governors of provinces as, during his father's reign, had rendered themselves obnoxious to the people, and for the better administration of justice, he divided his dominions into four visirships, viz. those of Assyria, Media, Persia, and Bactriana. At his accession to the crown, Persia was involved in a war with the Roman empire under Judinian, to whom he granted a peace, having accepted a large fum of money as its price. This peace, which was denominated perpetual, was foon broken, and in 540, Chefroes invaded Syria, and marched to Antioch, which he foon reduced to ashes. After an unsuccessful attempt upon Dara, he returned across the Euphrates laden with spoil, leaving his generals to contend with Belifarius, who had come to the defence of the Roman empire. Chofroes then made an expedition into Colchos, at the extremity of the Euxine fea, whither he had been invited by the inhabitants as their protector from the oppression of Justinian. It would not comport with our limits to follow this prince in all his expeditions: he went on conquering, and received as tokens of homage, embassadors from the greatest potentates of the East, at his splendid palace at Cteliphon, one of the wonders of that part of the world. In the midft of his prosperity one of his sons, whom he had by a Christian slave, raised the standard of rebellion; but in an engagement with the general fent against him by his father, he lost his life. Chofroes having invaded India, marched to the oppolite quarter of his vast dominions, and entered Arabia Felix, where he dispossessed many usurpers of their power, restored the ancient lords, and used the people with so much kindness that he obtained the title of Just. Towards the conclufion of Jultinian's reign, Chofroes was attacked with a dangerous difeafe, from which he fought relief from the physicians of Constantinople, whose aid he borrowed of the emperor. This interchange of kindness did not prevent a renewal of hostilities between the two empires after the accession of Justin. Chofroes took the field, and reduced and facked the principal citics of Mesopotamia and Syria. These and other ferious leffes obliged the imperial court to folicit a truce, which Chofroes granted for three years. In the mean time Tiberius succeeded to the imperial throne, who improved the discipline and strength of his army so as to be able to contend with and finally overcome the Perfian monarch. Chofroes, in his retreat, was fo closely purfued, that he was forced to pass the river Euphrates on an elephant, while feveral of his lords and great men were drowned in attempting to follow him. The Roman general took up his winter quarters in the Persian provinces, an indignity which Chosicos severely felt, and which, joined to the infirmities

firmities of old age, put an end to his life, in the year 579, having reigned forty-eight years, and lived eighty. Chofroes poffeffed many qualities that confer fplendour on a despotic monarch, and his memory is still venerated in the East. He was famed for his love of justice, which, as we have feen, was fometimes accompanied with cruelty. He was an encourager of the arts, and paid confiderable attention to the improvement of his subjects. He, in imitation of the ancients, founded academics for literature and the feiences, and obtained himfelf a proficiency in moral and philosophical studies, a report of which having reached Greece, he received a vifit from feven fages who adhered to the religion and philosophy of antiquity. They expected to fee the republic of Plato realized in Perlia, but returned to their own country greatly disappointed. Chofross, however, fo far merited their gratitude, that in a treaty with the emperor Juffinian, he infifted that they should be exempt from the penal laws enacted against the remaining advocates for paganism. To Chosroes has been afcribed, by the Perfian hiltorians, the completion of the great wall of Jabouge and Magouge, commencing at Dabent, and running from mountain to mountain, fo as to secure the Persian territories from invation. His fon Hormidas succeeded him, who, in 590, was deposed by

CHOSROES II., grandfon to Chofroes the Great. The Perfian nobility conspired against this prince, and obliged him to feek the affiltance of the Romans, who placed him again on the throne. He afterwards carried his arms into Judea, Libya, and Egypt, and made himtelf matter of Carthage. In 617 he pressed the Constantinopolitan empire still closer; in vain did Heraclius ca eavour to avert his enmity and obtain a peace for his almost ruined empire. To an embally of this kind, brought by officers of the highest distinction, and conducted by Sain, the Persian general, Chofroes replied, "I will hearken to no terms from the Roman emperor till he and all his subjects have renounced their crucified God, and embraced the worship of the fun, the great deity of the Perfians;" he cruelly caused Sain to be flayed alive for his prefumption, and imprisoned the ambassadors. Distress, however, rouzed the dormant courage and talents of the Roman emperor, who, in his turn, penetrated into the centre of the Perlian dominions, and put Chofroes first upon his defence, and afterwards drove him a fugitive from his palace, which was pillaged and burnt by the Roman foldiers. Still he disdained to ask for peace, but being taken fuddenly ill, was defirous of refigning his crown to his fayourite fon Merdaza; his eldeft fon, however, leized the fovereignty, and stopped Chofroes in his flight; eighteen of his fons were maffacred before his face, himfelf was loaded with chains, and thrown into the dungeon in which he had been accustomed to conceal his treafure. Here every indignity was inflicted upon him that makee could devife, and to which his own cruelty fairly entitled him, had the punishment of his crimes been exacted by any other hands, than by those of his own fon. In five days death put an end to his fufferings, which happened in 628, and at no great distance of time the Persian empire was subjugated to the power of the Arabian caliphs. See

PERSIA. Univers. Hist .- Gibbon. CHOSSESO, in Geography, a town of Poland, in the palatinate of Volhynia; 64 miles E. of Lucko.

CHOSTLARN, a town of Germany, in the circle of

Bayaria; 22 miles W.S.W. of Pailau. CHOTA, a town of America, in the flate of Georgia; 55 miles W. of Tugaloo .- Alfo a town of South America, in the country of Peru, and jurifdiction of Caxamarca; 60 miles N.W. of Caxamarca,

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CHOTASTITE, a town of Bohemia, in the circle of Czaflau; 2 miles N. of Czaflau.

CHOTIEBOR, a town of Bohemia, in the circle of

Czaslau; 8 miles N.N.E. of Teutsch-Brod.

CHOTIN, in Conchology, a name given by Adanson to a sheli of the cone kind, found in the West Indies, Conus jamaicenfis of Gmelin, which fee.

CHOTMIZSK, or KHOTMYSK, in Geography, a town of Russia, in the government of Charkov, or Edwarkof; feated on the Vorfkla; 52 miles N.N.W. of Charkov, and 588 S.S.E. of Peterfburg.

CHOTOW, a town of Lithuania, in the palatinate of

Minfk: 22 miles S.W. of Minfk.

CHOTUSITZ, a town of Bohemia, in the circle of Czaslau.

CHOTZEMIT'S, a town of Bohemia, in the circle of

Cauzim, near the Elbe. CHOTZEN, a town of Bohemia, in the circle of Chru-

dim: 3 miles N.N.E. of Hohenmant. CHOVACOURT, a river of North America, in Ca-

CHOUAN, in Ichthyology, synonymous with Chevanne, names by which the Linnwan Cyprinus cephaletes is known in

fome parts of France.

CHOUAN, in the Materia Medica, the name of a small feed, called by some also carmine feed. It is a very light and chaffy feed, in a great measure resembling worm-feed, of an acid talte, and a yellowish-green colour, but is larger than worm-feed. It is brought into Europe from Turkey, and many parts of the East, and the choice should be made of fuch as is largest, cleanest, of the greenest colour, and least marked with specks or holes. It is not used in medicine, but is of fome value among the people who make carmine for the painters. It is called fantonium viride, or the green worm-feed, in our catalogues of the Materia Medica, but is

unknown in the shops. Lemery

CHOUANS, in Modern History, the denomination of a powerful body which fprung up in France, during the late revolution, derived from three fons of a blacksmith of the name of Chouan, near Fougeres. They were at first no better than highway-robbers; but their number was increafed by the fystem of terror, which induced all persons, declared to be suspected by Robespierre's government, to fly for safety to the woods, and join the Chouans. They were at last faid to amount to nearly 30,000 men, dispersed in different bodies through the woods of Brittany, from the north to the fouth, from Fougeres to Vannes; and they gave occupation to upwards of So,000 republicans, who were endeavouring to enclose them in that great extent, and starve them into a furrender. They submitted to organization and discipline, and dropping the trade of robbers, declared for the king, and put themselves under the command of officers of reputation

CHOUANG-LEOU, in Geography, a town of China, of the third rank, in the province of Se-tchuen; 10 miles S.W.

of Tching-tong.

CHOUANG-TAL, a town of Tartary, in the country of Hami; 9 miles N.N.W. of Tchontori.

CHOVANNA-MANDARU, in Botany, Rheed. Mal.

Burm. Ind. See BAUHINIA variegata & purpurea. CHOUCARI de la nouvelle Guinée, in Ormithology. The Corvus papuensis of Latham is described under this name by

CHOUCAS, the generic name under which several species of the Convus genus are described by Buffon, and later French writers; as choucas, the jackdaw, Corvus monedula, Linn .- Choucas mouftache, & Choucas du Cap be Bonne Espe-5 B

Corvus balicassius, &c. See Corvus. Chocotte is the molt common French name of the choucas.

CHOUCHA, in Geography, a town of Africa, in Upper Guinea, on the river Maguiba, furrounded with rocks.

CHOUEGUEN, a town of Canada, on the lake Ontario, where the English carry on their commerce of furs with the Savages

CHOUET, JOHN-ROBERT, in Biography, an eminent philosopher and magistrate of Geneva, was born in 1642. He studied philosophy and dialectics with great ardour and fuccels under profesior Wifs of Geneva; and when he was only 22 years of age, obtained the professorship at Saumur, against the interest of his rivals. He succeeded Wiss at Geneva, in 1669, when his lectures were uncommonly crowded. Among the more celebrated of his pupils was Bayle, who speaks of him with great applause. In 1672 he went to Paris, where his fociety was much courted: upon his return to Geneva, he became rector of the academy; and, in 1686, he was admitted into the council of twenty-five. From this period he devoted himself to public employments, for which he was admirably qualified. He was well verfed in the history of the state which gave him birth, and introduced into its archives a method of order and clearness never known before. He was feveral times fyndic, and diftinguished himfelf as a negotiator with the French and Sardinian ministers. Notwithstanding these employments, his attachment to literature was unabated, and he greatly promoted the progress of science by augmenting, at his own expence, the public library. This amiable man died in 1731, regretted by all his fellow-citizens. His publications are, " An Introduction to Logic," in Latin, 8vo. 1672; "Theses Physica de varia Astrorum luce," 4to. 1674; "Memoire succinct sur la Reformation," 1694; "Reponses à des Queltions de Milord Townsend sur Geneve ancienne faites, en 1696, et publices en 1774. Besides these, he left in MS. in 3 vols. folio, a work entitled, " Diverfes Recherches fur l'Hist. de Geneve, fur son Gouvernement et sa Constitution." Hist. de Geneve.

CHOUETTE, in Ornithology; the French call the owls in general by this name. La chouette of Buffon is our brown owl, Strix ulula; La chouette blanche is the Strix nivea of Latham; La chouette blanche tachetée, Strix alba, &c. See OWL and STRIX.

CHOUG, or Shogle, in Geography, a town of Asia, in Syria, on the Orontes, in the route from Sayd to Aleppo; where all travellers are entertained gratis in an excellent caravansera for three days, without any dillinction of country or religion.

CHOUGH, in Ornithology, the name by which the common jackdaw is foractimes called in England. See Corvus monedula.

Chough, Cornifb, of Albin and Borlafe, is the Red-legged crow of later English authors. See Convus graculus.

CHOUI-CHAN, in Geography, a town of Asia, in the kingdom of Corea; 12 miles N.W. of Haimen.

CHOUI-SONG, a town of China, of the third rank, in the province of Kiang-si; 25 miles N.E. of Ki-ngan.

CHOUI-YUNG, a town of Asia, in the kingdom of Corea; 20 miles S.S.W. of Haimen.

CHOUI-KING, a town of China, of the third rank, in

the province of Kiang fi; 65 miles E. of Kan-chcou, CHOUI-NGAN, a town of China, of the third rank, in the province of Tche-kiang; 4 leagues S. of Ouen-

CHOUI-TCHANG, a town of Chisa, of the third rank, in the province of Tche-kiang; 12 leagues W.N.W.

rance, the Corons hosteniottus .- Choucas des Philippines, the of Tchu-tcheo .- Alfo, a town of the third rank, in the province of Kiang-fi; 6 leagues W. of Kieou-kiang, CHOUI-TCHEOU, a city of China, of the first rank,

in the province of Kiang-fi; 712 miles S. of Peking. This town is fituated on the bank of a river, in a fertile country; and the adjacent mountains contain mines of lapis lazuli. N. lat. 28° 25'. E. long. 114° 55'. CHOUI-YUEN, a town of Afia, in the kingdom of

Corea; 37 miles N.E. of Haimen

CHOUL, WILLIAM Du, in Biography, a Lyonese gentleman, and one of the earliest Frenchmen who applied to antiquarian purfuits. He lived at the fummit of the mountain Gourgillon, where the ground could fearcely be dug without discovering Roman inscriptions, medals, urns, lamps, &c. Du Choul made a collection of these remains, with a view of decyphering them; the fruit of his labours he published in a st Discourse on the Religion of the ancient Romans, illustrated by a great number of Medals and Figures." This work was printed in folio at Lyons, in 1556. It was afterwards reprinted in 1580, in 4to. with the addition of a " Discourse on the Castrametation and Military Discipline of the Romans, their Baths and Antiques, and Greek and Roman Exercitations." The work in this form has been highly celebrated, and translated into the Latin, Italian, and Spanish languages. The Latin edition was printed at Amfterdam in 1686, 4to.

CHOUL, in Geography, a river of the duchy of Luxembourg, or the department of the Forets, in the Ardennes,

which discharges itself into the Meuse.

CHOULE, a town of India, on the coast of Concan, with a fortified harbour for small vessels, belonging to the Portuguele; 25 miles S. of Bombay. N. lat. 18° 37'. E. long, 72° 46'. CHOU-LOU, a town of China, of the third rank, in the

province of Pe-tche-li; 12 miles S.W. of Ching.

CHOULTRIES, a name given in India to houses built for the accommodation of travellers, which are frequent in every part of the country, and are useful, whilst they are noble monuments of Indian munificence and humanity. The structure of these choultries is alleged by Dr. Robertson (Hift. Difq. concerning India), as one evidence of the high the ceilings of these buildings, as well as other ancient edifices, the twelve figns of the zodiac are frequently delineated; and from their refemblance to those which are now univerfally used, it is highly probable, says this judicious hiltorian, that the knowledge of thefe arbitrary fymbols was derived from the East. Col. Call has published a drawing of the figns of the zodiac, which he found on the ceiling of a choultry at Verdapettah, in the Madura country. (Phil. Trans. vol. lxii. p. 353.)
CHOUPATOU, in Geography, a town of Asia, in the

country of Tibet; 265 miles E. of Laila.

CHOURAGUR, a town of Hindooltan, in the country of Gurry Mundelia; 57 miles S.W. of Gurrah.

CHOURTONG, a town of Alia, in the country of Tibet; 235 miles E.S.E. of Laffa.

CHOUS, in the Eaflern Military Orders, the title of the messengers of the divan of janizaries. There are several degrees of honour in this polt. When a person is first advanced to it, he is called cuchuck, or little chons; after this he is advanced to be the alloy chous, that is, the messenger of the ceremonies; and from this, having passed through the office of petelma, or procurator of the effects of the body, he is advanced

CHOUSGIMAYAN, in Geography, a town of Perna, in the province of Chorafan; 220 miles N.N.E. of Heret.

CHOU-TCHUEN, a town of Asia, in Corea; 30 miles

S. of Haimen.

CHOUX, in Natural History, a name given by the French to a species of shell-fish of the cordiform or bucardium kind. Fabius Columna has elegantly described it, and Lister has given a figure of it twice over, in two different parts of his book. There is another species less elegant, and wanting the hollowed ribs. See Cordiformis.

CHOUYANG, in Geography, a town of Asia, in Corea;

40 miles N.E. of King-ki-tao.

CHOUZE', a town of France, in the department of the Indre and Loire; feated on the Loire; 4 leagues E. of Saumur, and 6 leagues N.W. of Tours.

CHOWAN, a county of North America, in Edenton diltrict, North Carolina, on the N. side of Albemarle found; containing 5011 inhabitants, of whom 2588 are flaves. The chief town is Edenton .- Alfo, a river of North Carolina, which falls into the N.W. corner of Albemarle found. At its mouth it is 3 miles wide, but quickly becomes narrower, as you afcend it. It is formed 5 miles from the Virginia line, by the confluence of Meherrin, Nottaway, and Black

rivers, all which rife in Virginia.

CHOWDER-BEER, a provincial phrase of Devonshire, denoting a cheap and eafily prepared drink, highly commended for preventing the scurvy in long voyages, or for the cure of it where it may have been contracted. It is prepared in the following manner: take twelve gallons of water, in which put three pounds and a half of black fpruce; boil it for three hours, and having taken out the fir or spruce, mix with the liquor feven pounds of melaffes, and just boil it up; ftrain it through a fieve, and, when milk warm, put to it about four spoonfuls of yealt to work it. In two or three days stop the bung of the cask, and in five or fix days, when fine, bottle it for drinking. Two gallons of melasses are fusficient for an hogshead of liquor; but if melasses cannot be procured, treacle or coarle fugar will answer the purpose. CHOWRY, in Geography, one of the Nicobar islands, in the Indian Sea. N. lat. 8° 27'. E. long. 93° 32'. CHO-YANG, a town of China, of the third rank, in the

province of Hou-quang; 10 leagues E.N.E. of Siang-

yang.

CHOZALA, or CHOIZALA, in Ancient Geography, a town of Africa, in Mauritania Cæfariensis; situated at the foot of a craggy rock, about 4 miles S.E. of Julia Casfarea. CHOZEVKA, in Geography, a town of Siberia, on the river Tchiuna; 180 miles E.S.E. of Enifeik.

CHRABAZA, in Ancient Geography, a town of Africa

Propria. Ptolemy.

CHRABRATE, in Natural History, a name given by the writers of the middle ages to a pellucid flone, faid to have great virtues against disorders of the liver and spleen, and many other imaginary qualities. It appears by their de-fcriptions to have been no other than the common pebble cryftal.

CHRAST, in Geography, a town of Bohemia, in the circle of Boleslau; 6 miles S.E of Melnik .- Alfo, a town of Bohemia, in the circle of Chrudim; 5 miles S.E. of

Chrudim.

CHREBET Chandalga, a range of mountains, between Russian Tartary and Chinese Tartary. N. lat. 52°. E. long. from 96° 14' to 101° 14'.

CHREBET Dirgak, a range of mountains similarly situated with the preceding. N. lat. 52° to 53°. E. long. 96°

CHREMETES, in Ancient Geography, a river of Africa, the mouth of which is placed in the Atlantic Ocean by . Aristotle and Hesychius; supposed to be the Zaire.

CHREMPS, in Ichthyology, a name given by the eldell Greek writers to the fish fince called chromis.

CHRENDI, in Ancient Geography, a people of Asia, in

Hircania. Ptolemy

CHRENECRUDA, a term occurring in Writers of the Middle Age, and expressing a custom of those times, but its fignification is doubtful. It is mentioned in Lege Salica, Tit. 61. which fays, he who kills a man, and hath not wherewithal to fatisfy the law, or pay the fine, makes oath that he has delivered up every thing he was possessed of; the truth of which must be confirmed by the oaths of twelve other persons. Then he invites his next relations by the father's fide to pay off the remainder of the fine, having first made over to them all his effects by the following ceremony. He goes into his house, and, taking in his hand a fmall quantity of dult from each of the four corners, he returns to the door, and, with his face inwards, throws the dust with his left hand over his shoulders upon his nearest of kin. Which done, he strips to his shirt; and, coming out with a pole in his hand, jumps over the hedge. His relations, whether one or several, are upon this obliged to pay off the composition for the murder. And if these (or any one of them) are not able to pay, iterum super illum chreneeruda qui pauperior est, jastat, & ille totam legem componat. Wheace it appears, that chrenecruda jallare, is the same with throwing the dust, gathered from the four corners of the house. Goldastus and Spelman translate it viridem berbam, green grass, from the German, gruen kraut, or from the Dutch, groen, green, and gruid, grass. Wendelinus is of a contrary opinion, who thinks that by this word denotari purificationis approbationem, from chrein, pure, chafle, clean; and keuren, to prove; fo that it must refer to the oaths of the twelve jurors. Be this as it will, king Childebert reformed this law by a decree, chap. 15, both because it savoured of pagan ceremonies, and because several persons were thereby obliged to make over all their effects: De chrenecruda lex quam paganorum tempore observabant, deinceps nunquam valeat, quia per ipfam cecidit multorum potestas.

CHRES, in Ancient Geography, a large river of Libya, on the weltern coalt of Africa, and near the island of Cerne,

according to the Periplus of Hannon.

CHRESTOIA, in Geography, a town of Istria; 9 miles

E.S.E. of Capo d'Istria.

CHRETES, in Ancient Geography, a lake of Libya, containing, according to the Periplus of Hannon, three

iflands.

CHRETIEN, FLORENT, in Biography, a French poet and man of letters, was born at Orleans in 1541. He was educated in the Protestant religion, and having made considerable progress in literature, was appointed preceptor to Henry IV. of France. He wrote poems in the learned and dead languages, as well as in his own. In the French he composed a severe satire against Ronfard, with whom he had a quarrel. He translated Oppiau, some plays of Aristophanes, and other Greek works into the French. He composed tragedies and Greek epigrams, and also learned and confiderable annotations on various claffical authors. He died at the age of 56, having first been reconciled to the Catholic church. Though he wrote fatires, his temper was mild and friendly, and his mind was elevated above mean and fervile complaifance, and he was incapable of uttering a fentiment that he did not believe.

CHRETINA, in Geography, a town of Spain, placed by

Ptolemy in Lusitania Propria. CHREWITZ. See GREITZ.

CHRISM, from xew, I ancint, oil confecrated by the bishop, and used in the Romish and Greek churches, in the 5 B 2 administration

administration of baptism, consistantion, ordination, and ex- are called christons, though the christon, when it was used, treme unction, which is prepared on Holy Thursday with much ceremony. In Spain it was anciently the cuftom for the bithop to take one third of a fol for the chrism distributed to each church, on account of the balfam that entered

Du Cange observes, that there are two kinds of chrism: the one prepared of oil and balfam, used in baptism, confirmation, and ordination; the other of oil alone, confecrated by the bishop, used anciently for the catechumens,

and full in extreme unction.

The Maronites, before their reconciliation with Rome, befides oil and balfam, used musk, fastron, cinnamon, roses, white frankincense, and several other drugs mentioned by Rynaldus, in 1541, with the doses of each. The jesuit Dandini, who went to mount Libanus in quality of the pope's nuncio, ordained, in a fynod held there in 1506, that chrism, for the future, should be made only of two ingredients, oil and balfam; the one reprefenting the human nature of Jesus Christ, the other his divine nature.

The action of imposing the chrism, is called chrismation: this the generality of the Romish divines hold to be the

next matter of the facrament of confirmation.

The chrismation in baptism is performed by the priest; that in confirmation by the bishop; that in ordination, &c.

is more usually stiled unction, which fee.

CHRISM pence, CHRISMATIS denarii, or CHRISMALIS denarii, a tribute anciently paid to the bishop by the parishclergy, for their chrism, confecrated at Easter for the ensuing year: this was afterwards condemned as fimoniacal. CHRISOM, CHRISMALE, has been faid to have denoted

anciently the face-cloth, or piece of linen laid over the child's head when it was baptized. Whence, in our bills of mortality, children who die in the month, or fuch as have never been baptized, are usually called chrisoms. The time between the child's birth and baptilm was also called

ebrifomus.

But the chrisom was, in reality, a white vesture or garment, which, immediately after the child was baptized, was put upon it by the prieft, who with the act pronounced these words: " Take this white velture as a token of the innocency, which, by God's grace in this holy facrament of baptism, is given to thee, and for a sign whereby thou art admonished fo long as thou livest, to give thyself to innocence of living, that, after this transitory life, thou mayest be partaker of life everlasting. Amen." As foon as the priest had pronounced these words, he anointed the infant upon the head, faying, " Almighty God, the father of our Lord Jefus Chrift, who hath regenerated thee by water and the Holy Ghost, and hath given unto thee the remission of all thy fins; may he vouchfafe to anoint thee with the unction of his Holy Spirit, and to bring thee to the inheritance of everlasting life. Amen." From this anointing, or chrism, the white garment obtained the name of " Chrisom," which, after being worn a few days, was presented to the priest to be kept in the church, or veftry, in order to be produced as evidence against the person whose chrisom it was, if he afterwards denied the faith in which he was baptized. Thefe ceremonies were retained, for fome time after the reformation, in the church of England, which ordered the mother of the child, if the child was then alive, to offer, when she was churched, the chrisom, and other accustomed offerings. If the child died before its mother was churched, the chrisom was not given to the pricit, but employed as a shroud, in which the body was buried; and hence it is that chrisoms are now enumerated in the weekly bills of mortality, very abfurdly; because, children who die unbaptized

was never put on till haptism was administered. Whithy on the Book of Common Prayer, &c.

CHRIST, an appellation synonymous with Messiah, usually added to Jesus: and, together therewith, denominating the Saviour of the world. The word xer & figuifies anointed, from xxxx, inungo, I anoint. Sometimes the word Christ is used fingly, by way of antonomasis, to denote a person sent from God, as an anointed prophet, king, or prieft.

Christ, fays Lactantius (de Vera Sapientia, I, iv. c. 6.) is no proper name, but one denoting power; for the Jews used to give this appellation to their kings, calling them Christ, or anointed, by reason of their facred unction. But he adds, "the Heathens, by miltake, call Jefus Chrift, Chreflus." Accordingly, Suetonius, speaking of Claudius, and of his expelling the Jews from Rome, fays, that he banished them because they were continually promoting tumults, under the influence of one "Chreftus." "Judwos, impulsore

Chrefto, affidue tumultuantes, Roma expulit."
The names of Meffiah and Chrift, which, as we have alrea-

dy observed, are synonymous, were originally derived from the ceremony of anointing, by which the kings and the righpriefts of God's people, and fometimes the prophets (1 Kings, xix. 16.) were confecrated and admitted to the exercife of their holy functions; for all these functions were accounted holy among the Ifraelites. As this confecration was confidered as adding a facredness to their persons, it ferved as a guard against violence, from the respect that was paid to religion. The term "anointed," in Hebrew "Messiah," and in the Greek of the lxx, "Christ," was, in its original use, applicable to the whole succeffion of kings and priefts, both good and bad, of the people of Ifrael. But, as the king and the high-pricit were the heads of the whole nation, the one in civil, the other in religious matters, the term "anointed," that is " Meffiah" or " Chrift," might not improbably ferve, by a figure, to denote the chief, head, or principal of any class or people. This, however, is the opinion of the learned Grotius. Accordingly the high-priest is sometimes distinguished from ordinary priests by the title of "the anointed pricit," in the lxx " & legior & xgiros; but the word is fometimes applied, when, in the literal fense, no anointing had been used. Thus it is applied to Cyrus, the Perlian monarch, by the prophet Ifaiah: (Ifai. xlv. 1.) The word was also employed to denote those especially favoured of God, as were the patriarchs Abraham, Isaac, and Jacob; concerning whom he is represented by the pfalmist (Pf. cv. 15.) as having faid; "touch not mine anointed." From feripture there is no ground for concluding that any one of them was in the literal fense anointed. But the most eminent use and application of the word concern the title of that illustrious personage, typified and predicted from the beginning; who is described by the prophets, David (Pf. ii. 2.) Isaiah (ch. xli. 1.) and Daniel (ch. ix. 25, 26.) under the character of "God's anointed," the "Meffiah," or the "Christ." As to the use of the term in the New Tellament, if we were to judge by the common version, or even by most versions into modern tongues, we should consider it rather as a proper name, than an appellative, or name of office, and thould think of it only as a furname given to our Lord. To this mistake our translators have greatly contributed, by seldom prefixing the article before "Chnit," though it is rarely wanting in the original. The word "Christ" was at first as much an appellative as the word "baptift" was, and the one was as regularly accompanied with the article as the other. Yet our translators who would always fay "the 14 Luilling

haptift," have, it should feem, studiously avoided faying the Christ." Such is the importance of the article, that the common application of the words "Jefus" and "Chrift" would lead an unlearned reader uniformly to confider them as no other than the name and furname of the fame person. The article in such expressions as occur in Acts, xvii. 3. xviii. 5, 28. adds confiderable light to them, and yet no more than what the words of the historian manifestly convey to every reader who understands his language. It should therefore be, " Paul testified to the Jews that Jesus was the Chrift" or the Messiah, &c. Many other similar instances occur. Should it be asked, is the word "Christ" never to be understood in the New Testament as a proper name, but always as having a direct reference to the office or dignity? It may be replied, that this word, though originally an appellation, came at length, from the frequency of application to some individual, and only to one, to supply the place of a proper name. It would also very much accelerate this effect that the name "Jelus" was common among the Jews at that time, and this rendered an addition necessary for distinguishing the person. To this purpose Grotius remarks, that in process of time the name " Jelus" was very much dropped, and " Christ," which had never been used before as the proper name of any person, and was, for that reason, a better distinction, was substituted for it; infomuch that, among the Heathens, our Lord came to be more known by the latter than by the former. This use feems to have begun foon after his afcention. During his life, it does not appear that the word was ever used in this manner; nay, the contrary is evident from several passages of the gospels. The Evangelists wrote some years after the period above mentioned; and, therefore, they adopted the practice common among Christians at that time, which was to employ the word as a furname for the fake of diffinction. See Matt. i. 1, 18. Mark. i. 1. In all the three places it is Inou Xeire, Jefus Chrift, not Inou to Xeire, Jefus the Chrift, or the Messiah. Afterwards, in their hillory, Matthew and Mark neither name him to themselves, nor mention this name as given him by any of his contemporaries. The word was never applied to him as a proper name, whilst he remained on this earth. It was at that time always underflood as the denomination of the dignity or office to which fome believed him entitled, others difbelieved, and many doubted. The fame reason which induced our translators to have rendered & Bambing uniformly "the baptift" with the article, should have led them to render & xersos, "the Christ," or the Messiah, with the article. By not doing this, they have thrown much obscurity on some passages, and weakened others. Upon the whole we may observe, that one mark of distinction, by which the title xerror may be discriminated from the name, is its being attended with the article. When the article is inferted between the words Invove and Xerses we have reason to consider the latter as used emphatically, and pointing directly to his office.

As a conclusion of this subject it may be added, that the word χ_{expos} is frequently used by St. Paul as a trope, denoting sometimes the christian spirit and temper, as in Gal. iv. 19. Eph. iv. 20. Campbell's Prelim. Disc. to the sour

Gospels, vol. i. p. 165, &c.

CHRIST, Order of, a military order, founded in 1317, by Dionysius I. king of Portugal, to animate his nobles against the Moors.

Pope John XXII. confirmed it in 1319, and appointed for the knights the rule of St. Bennet. Alexander VI. permitted them to marry.

This order had been under the controll of 12 grand matters, when Pope Adrian VI. in 1522, conferred the administration of it on John III. In 1551, pope Julius III. vetted in the crown a perpetual right to the grand master-hip: from which time the kings of Portugal have taken the title of perpetual administrators of the order, which confilted of 417 commanderies. Before the grand mastership was united to the crown, it was by election of the knights, who are now under the same regulations, and enjoy the lame privileges, as those of the order of Calatrava in Spain.

According to the flatutes, the candidate should prove in noblenels of blood for four generations; but this is usually dispensed with by the sovereign. The badge of the order is "a cross patter gules, charged with a cross argent," pendant to "a collar of gold, composed of three rows of chains;" on common days the knights also wear round their necks a scarlet ribbon with the badge of the order pendant to it. They had their residence, at first, at Castromarin: afterwards they removed to the city of Thomar, as being nearer to the Moors of Andalusia and Estramadura.

Curist is also the name of a military order in Livonia, inflituted in 1205, by Albert bishop of Riga. The professed end of their institution was to defend the new Christians who were successively converted in Livonia, but were per-

fecuted by the heathers.

The first occasion of their institution is said to have been as follows: In 1158 some merchants of Bremen, bound to Wifby, in the ifle of Gothland, driven by stress of weather, landed at the mouth of the Duna, trafficked with the natives, and gradually established a settlement. A German monk of the Augustine order, who accompanied the new colonifts, acquired the language of the country, converted several of the natives to christianity, and persuaded them to be baptized. According to the custom of that barbarous era, an order of knighthood, first called "the knights of Christ," and afterwards with greater propriety "the knights of the fword," was instituted for the propagation of Christianity by force of arms. These military missionaries, equally fanatic and languinary, gradually overran the country, and reducing the ancient inhabitants, rendered them at the same time Christians and slaves. In 1231, these knights, being incorporated in the Teutonick order, ftyled themselves " knights and lords of the crofs," and purchased Esthonia, in 1521, from the king of Denmark. Walter Plettenburgh, chief or general, having obtained from the grand mafter of the Teutonic order the jurisdiction of Livonia, was confidered as independent, and admitted by Charles V. among the princes of the empire. The knights continued in possesfrom of Ethonia and Livonia, until the impolitic conduct of their malters, and civil diffensions, incited the ambition of the neighbouring powers, and involved the country in a feries of bloody wars. See LIVONIA. These knights wore on their cloaks a fword with a crofs over it; whence they were also denominated " brothers of the favord.

CHRISTBURG, in Geography, a town of Prussia, in the territory of Culm'; 12 miles S.E. of Marienburg.

Christburg, or Alt-Christburg, a town of Pruffia, in the territory of Oberland; 4 miles S.W. of Preufchmark. CHRIST-CHURCH or CHRIST-CHURCH-TWYNE-HAM, but more correctly Tayynam-bourne or Tavom-ca, as it was called in the Saxon Chronicle, is fituated near the feacoaft on the S.W. verge of Hampfhire, England, between the rivers Avan and Stour, which unite their fireams at a fhort dithance below the town, and foon afterwards join with the waters of the ocean at Christ-Church Bay. It is a market and borough town; and though it prefents no claim to a Bitish or Roman origin, it certainly has been a place of note in the Auglo-Saxon dynafties. From their Chronicle it appears that Ethelwold, coufin-german to Edward the Elder,

took possession of it during his short-lived revolt. Christ-Church is mentioned in Domefday as a Royal Manor; and continued to be a patr of the crown demene till it was given, with other possessions of immense value, by Henry I. to Richard de Repariis, or Redvers; who is supposed to have firengthened the town by walls, and to have erected a callle here, though Norden attributes its erection to Edward the Elder: that it must have been built previously to the twelfth century is evident from the foffitum castelli being expressly mentioned in a charter granted to the priory by Baldwin, fon of the above Richard de Redvers. This family retained possession of the town, except a short alienation by the marriage of an heirefs, till Isabella de Fortibus releafed it to Edward II. The borough, manor, and hundred of Christ-church, after passing through the samilies of sir William de Montacute, Richard Neville Earl of Salifbury, and feveral others, were purchased by the right honourable George Rose in 1790. Parts of the castle, by which the town was formerly defended, are now flanding; the principal appear to be portions of the keep, and of the state apartment or governor's residence. The latter is upwards of feventy feet long, and nearly thirty broad; its walls, like those of the keep, being of immense thickness. On the ground floor are a number of loop holes, formed by a large femicircular arch within, leffening by degrees, and terminating in a chink. The access to the upper apartments was by a ftone stair-case, part of it is yet remaining. " The place for receiving the floor of the first flory is very visible; it feems to have had one room only, lighted by three large windows on the east, and as many on the west fide: they were all included in femicircular arches, formed of stones very neatly cut, and divided by a fmall pillar in the centre. In the east fide, and somewhat north of the centre, was a very large fireplace, worked circularly into the main wall, having also a high eylindrical stone chimney, seemingly the only (original) one in the building. At the north end there appears to have been a large arched window; the columns and part of the internal arch are still remaining and answer to a handfome femicircular arch on the outfide, decorated with zigzag ornaments. From what remains of the ornamental parts of this building, it appears to have been elegantly finished, and cased with squared stones; most of which, however, have been taken away: by the ruins of feveral walls, there were fome ancient buildings at right angles to this hall, stretching away towards the keep." (Grofe's Antiquities, vol. ii.) The priory of Christ-church was, according to Camden, founded early in the Saxon times: its inmates were fecular canons of the order St. of Augustine, and the establishment, as early as Edward the Confessor's reign, consisted of a dean and twenty-four canons. The church and convent were given by William Rufus to the minion of his tyranny, Ralph Flambard, bishop of Durham, who in his early days held this deanery. This prelate determined to rebuild the church, and the other conventual edifices, which he found extremely out of repair, on a feale more extensive and superb than their original conftruction; and for this purpole feized the revenues of the canons, merely allowing to each a bare fublithence. Godric, then dean, strenuously opposing this arbitrary measure, was deprived of his dignity, and forced to feek an afylum on the continent; but had afterwards permission to return and re-assume his office. The bishop having thus fubdued all opposition to his defigns, levelled the ancient building with the ground; and, having completed his undertaking, folemnly dedicated the church to Christ. At the dissolution, its revenues were valued, according to Speed, at 544l. 6s. od.: the fite was given by Henry VIII. to Stephen Kirton, and Margaret his wife.

In the following year, the church, with the church-yard, and all appurtenances, were granted to the churchwardens and inhabitants of the town for ever. This grant was confirmed o James I., and has undoubtedly operated to the prefervation of the church from the destruction in which the other buildings fituated to the fouth were involved. The church is a very large and interesting building; and though great alterations have taken place in it fince the time of Flambard, yet the nave, the fouth-western aisle, and the northern transept still display considerable portions of his work. The nave is formed by a double row of maffive square pillars, ornamented with demi-columns: between these pillars are semicircular arches springing from grouped pilasters, which are lateral projections from the main pillars. The fouth-western aise, called also the Lower Walk, exhibits fome femicircular arches, with zig-zag moulding, and other ornaments. At the end of this aitle is a neat chapel, which is faid to have been erected by John Draper, the first prior of that name, who was installed in 1477. The marks of the Norman flyle; especially on the outlide in the escallop and net-work ornaments. Here are two small chantries or oratories, adjoining each other, supposed to have been built by fome earl and counters of Salifbury, as the pavement within and contiguous has been composed of square tiles ornamented with the family arms. The chancel, and all that part which is east of the transept, is of more modern date. Most of the windows are large, and decorated with mullions and tracery: from the low ailles at the fides the upper part is strengthened by slying buttresses. The altar-piece is a very curious specimen of ancient carving in wood, which Mr. Warner confiders as coeval with bishop Flambard. It represents the genealogy of Christ by a tree fpringing from the loins of Jesse, who is represented in a recumbent polition, supporting his head with his left hand: in niches, on each fide of Jesse, are David playing on his harp, and Solomon in a musing posture. Above these are the Virgin, infant Jefus, and Joseph, with feveral other figures illustrative of the circumstances of our Saviour's birth. North of the altar is a beautiful, but now mutilated, chapel, erected in the reign of Henry VII. by the venerable Margaret, countels of Salifbury, for her burial-place: the fculpture of the ornaments is excellent, and the most florid flyle of that age pervades the whole interior. At the caftern extremity of the church is a spacious chapel, dedicated to the Virgin Mary, and supposed to have been built by the West family, ancestors of the lords Delawar, about the close of the 14th century: as fir Thomas West, by will dated April 1405, ordered his bady to be interred in the new chapel, and bequeathed 100h towards the completion of the works of the church. Immediately over this chapel is a large room, called St. Michael's Loft, which is recorded, in the old register of this parish, to have been set apart and used as a free grammar school-room ever since the year 1662. A school is known to have existed in this town so early as the time of the first Baldwin de Redvers, 25 appears from his confirmation of his father's grant to the priory. The dimensions of the church, and its principal parts, are as follow; whole length, including St. Marv's chapel and the tower, 311 feet; extreme breadth at the western extremity 60 feet; extent of the transept 104 feet, breadth 24; chancel in length 70 feet, in breadth 27; breadth of the nave 27 feet; the great pillars in circumference 36 feet 6 inches, in height 36 feet; height of the tower 120 feet. In the reign of Edward I. Christ-church received a precept, ordering the return of two members to the national council. This was repeated in the first and

fecond years of Edward II., but no returns were made, through the "poverty of the burgesses." It was again summoned 13 Eliz. as a prescriptive borough; and the circumitances of the times inducing compliance, it has ever fince been represented by two members. The right of election is exercised by the corporation, which confills of the mayor, recorder, aldermen, bailiffs, and common council; in all 24: but Browne Willis and others have flated the real right to be in the inhabitant householders paying foot and lot. Christ-church is 105 miles S.W. of London; has a market on Mondays, and two annual fairs. The inhabitants, according to the return to parliament in 1801, were 1410; the number of houses 295. Many of the former find employment in two large breweries that have been established here; others in the salmon fishery on the rivers Avon and Stour, or in fishing round the neighbouring shores, where various kinds of fine fish abound. The lower order of females, both in the town and its vicinity, are mostly engaged in knitting flockings; and children derive employment from a manufactory of watch fpring chains lately effablished here. The poor-house is conducted on a very excellent plan, by which confiderable fums are faved to the parish. The former expenditure has also been greatly reduced by the establishment of feveral friendly focieties; the advantages ariting from which have been confiderably in-

created under the influence of Mr. Rofe. The Bay or Harbour of Christ Church is spacious; but, from various local causes, it is too shallowand dangerous to be frequented by veffels that draw more than five feet and a half of water. This imperfection is chiefly owing to a bar or ledge of fand, that extends from the point called Hengiftbury-head, on the Hampshire side, to St. Christopher's Cliff, in the Isle of Wight. The figuation of this bar is occasionally shifted, either by a succession of heavy rains, which increase the force of the waters discharged into the bay by the rivers Avon and Stour, or by sea storms attended by foutherly winds. Another circumstance peculiar to this harbour, and the neighbouring port of Poole in Dorsetshire, is that of every tide producing two high waters. This phenomenon, fo inexplicable from the general laws of tides, is occasioned by the situation of this coast with respect to the Isle of Wight, and from the contraction of the channel by the jutting out of the point of land on which Hurst Castle stands. The tide flows into this channel from the west; and though it fets in with uncommon violence at Hurst Castle, it does not meet the tide that passes round the island, till it has reached Spithead: the passage being too narrow for all the water to pass through, the time of high water at Hengillbury-head is of course much earlier than either at Portsmouth or Chichester; at the full and change of the moon the difference is three hours and a half. When the water begins to ebb, by flowing off from the west, the contraction in the channel at Hurst cattle operates in a contrary direction; and, by confining the water that has spread itself over the whole surface of the Southampton water, and of the channel within the island, gives the water in Christ-church bay an opportunity of flowing off much quicker, by which means it becomes fo low, that the water that now pours through with great velocity, at Hurst castle is sufficient to of nearly three feet.

CHRISTENING. See BAPTISM.

CHRISTIAN, in a general fense, something that relates to CHRIST

The king of France bore the title or furname of the mest Christian king. The French antiquaries trace the origin of the appellation up to Gregory the Great; who, . writing a letter to Charles Martel, occasionally gave him that title, which his fuccessors during the existence of the French monarchy retained.

Lambecius in the third tome of his Catalogue of the emperor's library, holds, that the quality of most Christian was not ascribed to the ancient French kings, Louis le Debonair, &c. as kings of France, but as emperors of Germany: but the French historians endeavour to refute this plea.

CHRISTIAN, in a more refricted and peculiar fenfe, denotes a disciple of Christ. The followers of Christ, or the profelytes to his religion, from among both the Jews and Gentiles, were diftinguished by various appellations. Those which they generally appropriated to one another were believers, brethren, faithful, faints, holy, and disciples. By the Gentiles and their adversaries, they were called Nazarenes and Galilæans. They were first called Christians at Antioch; about A.D. 43 or 44, according to the vulgar computation, (Acts xi. 26.) "The name of Christian," says Tertullian, (Apol.) "comes from the unction received by Jefus Christ; and that of 'Christianus,' which you sometimes through mistake give us (for you are not particularly acquainted with our name) fignifies that gentleness and be-nignity of which we make profession;" thus deriving the name of Christian from the Greek xessos, good or useful. It was in consequence of the conversion of Cornelius and his family, that the believing Jews and Gentiles were formed into one church; and, therefore, in order to prevent the continuance of that feparation and diffance which fublifted between them, under the former appellations of Jews and Heathens, this new name of Christians was given them; as fome conceive according to the prophecy mentioned (If. lxv. 15). It has been maintained by learned commentators, (in loc.) among whom we may reckon Benfon and Doddridge, that this name was given them by divine direction or appointment; accordingly, they allege that the word χεημαίισαι, implies as much, and Dr. Doddridge has translated the passage: " and the disciples were by divine appointment first named Christians at Antioch." (Compare Matt. ii. 12. 22. Luke, ii. 26. Acts, x. 22. Heb. viii. 5. xi. 7. xii. 25.) Some have faid, that Euodius was then bilhop of Antioch, and gave the disciples this name; but the silence of St. Luke with regard to this circumstance renders it improbable; nor is there any fufficient evidence that it was given by Barnabas or Saul, as bishop Pearson (on the Creed, p. 103.) seems to think. There is, however, a manifest propriety in the name, as it expresses their relation to Christ; and reminds them of their obligation to adhere to his doctrine; and it is certain that they gloried in it, and avowed it before the face of their enemies. (Tertull. Apolog. c. 3. 5 Euseb. Histor. Eccles. l. v. c. 1.) Withus (de Vit. Paul. cap. iii. § 5.) thinks it a circumstance of remarkable wifdom, that this celebrated name should arise from Antioch. a church confisting of a mixture of Jews and Gentiles, rather than from Jerusalem, dignified in so many other respects; and that it was a kind of victory, gained over Satan, who from Antioch had, some ages before, raised so many cruel perfecutors of the church of God. Withus, however, does not discern any particular emphasis in the word xentansas, and readily admits the interpretation of Grotius, that the produce a fecond life in Christ-church and Poole harbours Greek word, according to its usual meaning in the best Greck writers, and in the New Testament itself, fignifies named, or valled. And he inclines to the conjecture of archbishop Usher, that this appellation was given to the believers by the Romans then at Antioch. Suicer, in his "Thefaurus," explains the original word, and understands this text exactly as Grotius did. Dr. Heumann has a differtation concerning the origin of the name of Chrislians, in which he shews it to be very probable, that this name had not

its rife from the Jews. Nor did the disciples of Jesus take it to themselves. But, probably, they were first so called by Heathens, particularly the Romans, as archbishop Usher had argued; the name not having a Greek but a Latin termination. St. Paul, therefore, did not give the name, as bishop Pearson, after Chrysostom, conjectured; and indeed Dr. Heumann shews, that both St. Luke and St. Paul seem to have declined the use of it; possibly lest our Saviour should have been efteemed an ordinary leader of a feet, like the philosophers at that time much celebrated among the Greeks and Romans. However, it was not long before it obtained, and was very acceptable to the followers of Jefus. It is used by St. Peter i. iv. 16. And some have thought it to be the "worthy name," intended by St. James, ch. ii. 7. And it is certain, that afterwards it was much, and juffly valued by those who bore it. In the epiftle of the churches of Vienne and Lyons, giving an account of their late sufferings, it is styled an honourable, and glorious, and reviving appellation. Benfon's Hift. Plant. Christ. Rel. vol. i. ch. i. § 6. Doddr. in loc. Lardner's

Works, vol. vi. p. 265. The conduct of the first Christians corresponded to the name by which they were diffinguished. They were humble, upright, and diligent in availing themselves of the inftructions of the aposles; they were resolute and persever-ing in maintaining their profession of Christianity amidst various reproaches and fufferings, and they teltified their fincerity by numerous exercises of self-denial, fortitude and patience, and by fubmitting even to death, in its most awful forms, rather than incur the guilt of renouncing their faith in the gospel and its divine author. Their general character was not only irreproachable, but exemplary; and they recommended their religion by their uniform temper and practice, as well as by verbal declarations of its excellence and invincible adherence to their profession. We have many early testimonies to this purpose, delivered not only by persons of unquestionable integrity among themselves, but also by their adverfaries and perfecutors. To their lives they were able to appeal, and did frequently appeal, in vindication of their character against the accusations of their enemies; and they thus evinced the falfehood and inveterate malice from which fuch accufations originated. We shall here select, out of a variety of ancient documents to the same purpose, the letter of Pliny the younger; who was proconful of Bithynia, in the third year of the reign of Trajan, about the 65th year after our Lord's ascension, A. D. 100. In this letter Pliny, who was a person of good sense and moderation, explained to Trajan the difficulties which occurred to him in the execution of the fevere laws that were enacted against the Christians. He informs him concerning the method which he had observed in punishing the Christians, gives him an account of their faith, worthip, and manners, according to the account which he had received from those who had apostatized to avoid perfecution, and requests the emperor's advice how he should act towards them for the future. This letter is cited by Tertullian and Enfebius; and being still extant, does great honour to the Christian religion and its votaries. In the process of his examination of those who were brought before him under the charge of being Christians, he favs, that some of them denied that they were Christians, or even had been of this number; and to other evidence of their not being justly subject to this charge, they added, as he informs the emperor, that of reviling Christ; which none of those, as they themselves acknowledged, who were really Christians, could be compelled to do. Others of them affirmed, that the whole of their fault or error was, "that they were wont on an appointed day to meet before it was light, and to fing

with one another a hymn to Christ as a God, and to bind themselves with an oath, not to do any wicked thing, but to commit no thefts, no robberies, no adulteries, to break on promife, and to refuse giving back no pledge when asked. These things finished, it was their custom to depart, then to meet again in order to take food, which, however, was innocent and eaten in common." He adds, as a reason for not proceeding against them with rigour and severity, that this was a matter worthy of deliberation, "chiefly because of the number of those who are in danger. For many of all ages, of every rank, and of both fexes also, are called to account, and will be called. Neither through the cities only, but the villages aifo, and the country, is the contagion of that superflition spread, which, it appears, may yet be stopped and corrected: at least it is very certain, that the almost desolate temples are begun to be frequented, and the facred rites long neglected to be renewed. Moreover the victims every where are fold, of which hitherto scarcely any buyer was found. Hence it is eafy to collect, what a multitude of men may be reclaimed, if there be allowed place for repentance." A refeript of Antoninus Pius (see his article) also bears honourable testimony to the character of the Christians. In this rescript Antoninus intimates that the Christians gained advantage over their oppofers, and manifested their superiority by their readiness to lay down their lives in support of their cause; and that they incurred enmity and perfecution on account of their greater regard to religion; and he iffued an edict, ordering among other things, that "if any shall still proceed to create trouble to one that is a Christian, or to accuse him of crimes merely because he is a Chrittian, let him who is indicted be discharged though he is found to be a Chrittian, and let the informer himfelf undergo the punishment." But it is needless to multiply instances of this kind.

CHRISTIAN Church. See CHURCH. CHRISTIAN Court. See COURT Christian.

CHRISTIAN Name, that given at baptism. See Name. Christians, perfecution of. See Persecution. Christian Religion, or Christianity, that inslituted by Jefus Christ, comprehending doctrines of faith and rules of practice, all of which are contained in the New Tellament, and are defigned to recover mankind from ignorance and vice, from guilt and death, to true knowledge and virtue, to the divine favour, and everlaiting life. Its aptitude to this end, its conformity to reason, and to the state of man, the fublimity and excellence of its doctrines, the equally venerable and lovely character of its author, the purity of its precepts, its benign tendency and falutary effects, concur, with the external evidence of PROPHECY and MIRACLES,

to establish its divine origin and truch.

Dr. Gerard, in the introduction to his "Differtations on Subjects relating to the Genius and Evidences of Christianity," observes, that the evidences of the Christian religion may very properly be diffinguished into two kinds; the direct and the collateral. The direct evidences are internal and external. The external evidences of Christianity are miracles and prophecy; these are the most direct proofs of its divinity. The internal evidence, ariting from its excellence, has also great force. But when its excellence is urged as a direll proof of its truth and divinity, it should be confidered in reference to the principal end of Christianity. The end which Christianity professedly aims at is the spiritual improvement of mankind, the prefent virtue and comfort, and the future perfection and happiness of all who yield themselves up to its power. This end it keeps continually in view; it represents all its doctrines and precepts as means of promoting this end; and it is careful to fet them in that attitude in which they may most directly and powerfully contribute to it. If it contains powerful means of virtue; if it affords folid grounds of joy, fuited to the condition of human crea-

tures, it is excellent.

It not only is fuch a religion as may have been revealed by God, and ought to be received as a politive proof that it was revealed by him; but its very ftructure indicates that it is actually divine, in a manner fimilar to that in which the wife and benign contrivance of the world proves it to be the work of God. It is sufficient, that Christianity is exactly adapted to its own end. It is from the importance of this and from its fitness for promoting it, that the proper excellence of Christianity arises. Whatever does not either belong to its excellence confidered in this light, or falls under the head of miracles wrought on purpose to attell it, or of prophecies fulfilled; and yet affords a proof of any real pre-Sumption of its truth and divinity, is a collateral evidence of it. The use of such arguments is either to rouse the inattentive and the prejudiced to a careful and impartial examination of the more direct evidences of the Gospel, or to strengthen the conviction which these evidences have already produced. To keep it fleadily in view, that this is their proper use, is necessary for profecuting arguments of this kind to the greatest advantage. All the collateral evidences of Christianity are in one sense internal evidences; they all arise from fome particulars in the nature of this religion; from fome circumstances which have attended its reception or fpringing from it, or from fome remarkable facts connected with it, and related in the Gospel-history. Some of them are in the firictest sense internal. That excellence of Christianity, which constitutes its internal evidence, may be sufficiently afcertained by an examination of the doctrines and precepts of this religion: an examination of its nature is indeed the direct and proper method of bringing its excellence to the trial; and if, on this trial, it be approved, the direct argument thence refulting for its divinity is completed. If there be any topic from which a proof of its excellence can be deduced, additionally to, and dependent on, what arises from the examination of its nature, that topic may really be confidered as affording a feparate and collateral proof Such is the argument deduced from its great efficacy at its first appearance, in banishing polytheifm, idolatry and superstition, and the arts of magic, and in reforming the temper and manners of those who embraced it. This efficacy gives us new affurance of the excellence of Christianity, by shewing us corresponding effects, actually resulting from it. By this it strengthens our belief of its divine original; it likewise begets a general prefumption, that there must have been very satisfying evidence of its truth, or else men would never have made fo great facrifices to it. Again, though the virtue and spiritual good of man be the only main and ultimate end of Christianity, yet it may at the same time be fit for promoting many other good ends subordinate to this or consistent with it. A fitness for promoting such an end is a new instance of the excellence of Christianity, distinct, indeed, from its proper and effential excellence, but firengthening the argument for its divinity arising from this, and strengthening it by a fimilar operation on the mind. It begets an additional degree of conviction, by giving an additional perception of excellence. Thus, the spirit of Christianity naturally softens the rigour of despotism, introduces moderation into government, banishes many inconvenient civil laws once generally prevalent, gives rife to others of a very happy tendency, refines the laws of war, humanizes the manners and improves the customs of nations. See "Montesquieu's Spirit of Laws," b. iv. ch. 3, 4. 6. 19.

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Christian religion arises from particulars in its nature, or from effects produced by it, or from facts in the Gofpelhistory which cannot be at all accounted for but on the supposition of a divine original, or which are, at least, most naturally explicable on that supposition. Such arguments produce conviction, not by fimply exciting a perception of excellence, but by making us feel, that we must offer violence to the natural principles of our understanding, and be involved in abfurdities, if we deny the divinity of Christianity. Whatever circumstance is unaccountable, without supposing the truth of Christianity, affords a real presumption for it. See "Duchal's presumptive Arguments, &c. in 10 Sermons, 1753."

Some of these presumptive arguments, with respect to the circumstances from which they arise, and the manner in which they affect the understanding, are allied chiefly to the internal evidences of Christianity; others to the external. The circumstances from which some presumptive arguments for our religion arise, are such in their nature as, while they are inexplicable without supposing its divinity, excite at the same time a perception of excellence. Thus, the character of Jesus is such, and so uniformly supported, that, if it had not been real, the evangelists cannot be supposed capable of delineating it. There are feveral circumstances in our Saviour's latt discourses with his disciples which prove that, if he had not really spoken them, the evangalists could never have feigned or afcribed them to him. The characters of fome of the apoltles of Christ; the controversies among Christians, in the apostolic age; the practice of Christ and his apostles in uniformly referring their claim to the impartial inquiries of men, and renouncing every other method of recommending it, have been shewn by Dr. Duchal to contain strong prefumptions of the truth of Christianity. All these arguments have an affinity to the internal evidence of Christianity. There are others which bear affinity to its external evidences. They add credibility to them; they predifpofe the mind to admit them; or heighten its acquiescence in their fusficiency. They contain a mixture of something miraculous, which, by being fuch, implies the divinity of this religion, and which carries along with it fatisfying evidence of its own reality. Thus, Bell, in his "Inquiry into the divine Mission of John the Baptist and Jesus Christ," has shewn, that the claims of both mutually support each other ; and that the circumstances attending their births, many of which were miraculous, and their whole conduct towards one another in their public life, afford a full proof that Jefus was the Messiah, and John his forerunner. The case is the fame with regard to the miraculous conversion and subfequent conduct of the apolle Paul, forbidding us to aferibe the origin and prevalence of Christianity either to enthusiasm. or imposture; as has been displayed with great strength of reason by Lord Lyttelton and by Dr. Duchal. See PAUL. There are other arguments, which corroborate the truth

of Christianity, by adding weight to its external evidence in a manner still more direct. They arise from circumstances not absolutely necessary for rendering these evidences complete; and therefore they may be confidered as separate and independent evidences of the collateral kind. Thus, when we consider that many of the particulars predicted concerning the Mcfliah and accomplished in Jesus are perfectly extraordinary in their own nature, and feemingly incompatible with one another, this affords evidence of the truth of our rellgion, additional to what arifes merely from the accomplishment of any prophecy. A similar confirmation of Christianity has been deduced by Dr. Duchal, from some circumstances in the character of the Man of Sin, forctold by Paul, fo fingular, that mere imagination could scarce-. Another class of collateral arguments for the truth of the ly have fuggetted them; and if it had, they never could have taken place. These instances have an immediate relation to the proof of Christianity from prophecy, which fee. Others are related to the proof from miracles, which see; fuch is the argument from the quick and extensive propagation of the Gospel, illustrating the evidence from miracles in the same way as the efficacy of the Gospel corroborates its internal evidence; and the argument from the concesfions of ancient infidels, stated by Gerard, in one of his differtations. The argument for Christianity from the continuance and present state of the Jewish nation, is almost equally related to the proof from miracles and to that from prophecy. See "Lardner's Discourses on the Cir-cumstances of the Jewish People, an Argument for the Truth of Christianity." There are other arguments, which Itave an equal relation to the internal and external evidences for Christianity, and which add weight equally to both. Such are the two arguments illustrated by Dr. Gerard; the one deduced from the manner in which Christ and his apolites proposed the evidence of their mission, which was the most proper; and the other, from the result of the scrutiny and examination of infidels. There are other arguments, deducible from the permanence of the politive inflitutions of Chriftianity, which are a kind of monuments of its truth and divine original; and others again, of the presumptive kind, furnished by the history of the Aas of the Apostles; which fee. Dr. Leland has given an excellent summary of the evidences of Christianity, in his "View of the Deistical Writers, vol. i. p. 417, &c." See also Beattie's "Evidences, &c." and Paley's "View of the Evidences of Christianity, vol. i." Macknight's "Truth of the Gospel History." "An Answer to the Question, Why are you a Christian ?" by John Clarke, minister of a church in Boston, 6th ed. Lond. 1803. See Apostles, Bible, Canon, Gospel, Religion, Revelation, Testament, &c."

The argument in proof of the truth of Christianity, to which we have above referred, deduced from its sudden and extensive propagation, and permanent duration, deserves, on various accounts, to be more amply stated, and to be vindicated from the objections that have been alleged against it. No just and satisfactory reason can be given for its speedy diffusion, general prevalence, and continued sublistence in the world; without admitting its divine original, and the Supernatural efficacy that contributed to its reception and propagation. In its own nature and avowed defign, it had to encounter with a host of enemies both among Jews and Heathens; whose passions and prejudices, secular interest and honour, and established habits and usages, would combine in discouraging its advocates and raising obstacles, which it would be difficult to furmount. More especially when we confider that independently of its claims to a dirine origin, and of the supernatural power which accompanied it, the missionaries in the Christian cause laboured under a variety of perfonal and local difadvantages. They were destitute of those natural talents and acquired accomplishments, and of that authority and influence usually refulting from rank and opulence, which would of themfelves have contributed to their favourable reception with the multitude. Nevertheless, Christianity " grew mightily and prevailed;" of the weapons that were wielded against it by prejudice and error, talents and learning, wealth and worldly power, none eventually prespered. Many circumthances concurred, indeed, to favour its reception and spread foon after the time, when it was introduced. This was the precise period, which had been predicted many ages before it occurred. This was the time in which a general expectation of the Messiah or Saviour prevailed. At this time the Tewish system both of doctrine and practice was become ex-

tremely corrupt, and the inquiries of the studious heathens had been found infufficient to fatisfy them on the most important and interesting subjects. There are also several other collateral circumstances, which mark the period in which our Saviour appeared as the most proper for the introduction, establishment, and propagation of the religion which he communicated to mankind. This was an age of general knowledge and inquiry, when genius and science were cultivated and promoted, both in Greece and Rome, and when the human mind was beginning to emancipate itself from that blind and obstinate attachment to old opinions and fystems, venerable merely on account of their antiquity, which is inseparable from ignorance and barbarity. This was an age in which men began to discover a very general disposition for moral inquiries; and in which fome of the most destinguished fages and philosophers flourished. The Augustan age is proverbially celebrated for its refinement and culture; for the knowledge and investigation by which it was diftinguished. This was a period of general peace through the whole Roman empire. It was likewise a period of general toleration and liberty; it was also a time, in which by the wide extent of the Roman empire, an intercourse was opened and maintained between the inhabitants of very diffant nations; and this intercourse was farther promoted by the dispersion of Jews and Christians in confequence of the destruction of Jerusalem and the dissolution of the Jewish state. The Greek language at this time was almost universal; and, therefore, the inspired writers, whose gospels and epistles were published in this language, enjoyed peculiar advantagefor extending the knowledge of the facred doctrines, precepts, and institutions of Christianity. Our limits will not allow our colarging on these particulars; and we must, therefore, content ourselves with merely suggesting

Of the fuccefs and prevalence of Christianity, during the apostolic age, we have already given a brief account under the article Apostles. In process of time, it made a wonderful progress through Europe, Asia, and Africa; and its progrefs was much accelerated by means of the wide extent of the Roman empire, and by a variety of circumstances which took place, at and foon after the period of its first introduction. In the third century there were Christians in the camp, in the fenate, and in the palace; in short, every where, as we are informed, except in the temples and the theatres; they filled the towns, the country, and the islands. Men and women of all ages and ranks, and even those of the first dignity, embraced the Christian faith; infomuch that the Pagans complained that the revenues of their temples were ruined. They were in such great numbers in the empire, that, as Tertullian expresses it, if they had retired into another country, they would have left the Romans only a frightful folitude. For the further illustration of this argument, we may observe that the Christian religion was introduced everywhere in opposition to the sword of the magistrate, the craft and interest of the priests, the pride of the philosophers, the passions and prejudices of the people, all closely combined in support of the national worship, and to crush the Christian faith, which aimed at the subversion of heathenism and idolatry, and the abrogation of the Jewish law. Moreover, this religion was not propagated in the dark, by persons who tacitly endeavoured to deceive the credulous; nor delivered out by little and little, fo that one doctrine might prepare the way for the reception of another; but it was fully and without difguife laid before men all at once, that they might judge of the whole under one view of it. Confequently mankind were not deluded into the belief of it, but received it upon proper examination and convic-

tion. Belides, the gospel was first preached and first believed by multitudes in Judana, where Jesus exercised his ministry, and where every individual had access to know whether the things that were told him were matters of fact; and in this country, the scene of the principal transactions on which its credibility depended, the history of Christ would never have been received, unless it had been true, and known to all as truth; again, the doctrine and history of Jesus were preached and believed in the most noted countries and cities of the world, in the very age when he is faid to have lived. On the 50th day after our Lord's crucifixion, 3000 perfons were converted in Jerusalem, by a fingle fermon of the apostles; and a few weeks after this, 5000 who believed were present at another fermon preached also in Jerusalem. (Acts ii. 41. iv. 4. vi. 7. viii. 1. ix. 1. 20.) About 8 or 10 years after our Lord's death, the difciples were become fo numerous at Jerusalem and in the adjacent country, that they were objects of jealoufy and aiarm to Herod himfelf. (Acts, xii. 1.) In the 22d year after the crucifixion, the disciples in Judæa are said to have been many myriads. (Acts, xxi. 20.) See APOSTLES. The age, in which Christianity was introduced and received, was famous for men, whole faculties were improved by the most perfect state of social life, but who were good judges of the evidence offered in support of the facts recorded in the gospel-history. For it should be recollected, that the success of the gospel was not restricted to Judga; but it was preached in all the different provinces of the Roman empire. The first triumphs of Christianity were in the heart of Greece itself, the nurfery of learning and the polite arts; for churches were planted at a very early period at Corinth, Ephesus, Berwa, Theffalonica, and Philippi. Even Rome herfelf, the feat of wealth and empire, was not able to relift the force of truth, at a time when the facts related were recent, and when they might, if they had been falfe, have cafily been disproved. From Greece and Rome, at a period of cultivation and refinement, of general peace, and extensive intercourse, when one great empire united different nations and distant people, the confutation of these facts would very soon have palled from one country to another, to the utter confusion of the persons who endeavoured to propagate the belief of them. Farther, although most of the early converts were persons in the middle and lower classes of life, yet even these, in an age of fuch general knowledge and intercourse, were fufficiently fecured against every kind of false pretensions; and as for the more ignorant, their attachment to their fiest religious notions would be firong; and confequently, miracles, or unqueltionable operations of divine power, would be necessary to convince persons of this rank and character, and to induce them to change their principles. Their converfion, therefore, affords an incontestible argument in proof of the facts by which it was accomplished. It should here be confidered that the religion to which they were profelyted was exclusive. It denied, without referve, the truth of every article of heathen mythology, the existence of every object of their worship. It accepted no compromise; it admitted no comprehension. If it prevailed at all, it must prevail by the overthrow of every statue, altar, and temple in the world. It pronounced all other gods to be falfe, and all other worship vain. These are confiderations which must have strengthened the oppofition to it, augmented the holbility which it must encounter, and enhanced the difficulty of gaining profelytes. More efpecially when we recollect, that among the first converts to Christianity in the earliest age, a number of persons remarkable for their flation, office, genius, education, and fortune, and who were personally interested by their emolu-

ments and honours in the continued subfillence either of Judailm or heathenism, appeared among the Christian profelytes. Its evidences approved themselves, not only to the multitude, but to men of the most refined sense and most distinguished abilities; and it dissolved the attachments which all-powerful interest and authority created and upheld. Among the profelytes to Christianity we find Nicodemus, and Joseph of Arimathea, members of the senate of Israel; Jairus, a ruler of the synagogue; Zaccheus, the chief of the publicans at Jericho; Apollos, distinguished for eloquence; Paul, learned in the Jewish law; Sergius Paulus, governor of the island of Cyprus; Cornelius, a Roman captain; Dionysius, a judge and senator of the Athenian Areopagus; Erastus, treasurer of Corinth; Tyrannus, a teacher of grammar and rhetoric at Corinth; Publius, governor of Malta; Philemon, a person of considerable rank at Colosse; Simon, a magician in Samaria; Zenas, a lawyer; and even the domestics of the emperor himself. These are noticed in the facred writings; and the heathen historians also mention some persons of great note who were converted at an early period. To all the preceding circumstances we may add a confideration of peculiar moment, which is, that the profession of Christianity led all, without exception, to renounce the world, and to expose themselves to the most ignominious and excruciating fufferings. On the other hand, we should reflect on the character and condition of the persons, who persuaded mankind to change their belief, and to abandon all their former connections and habits. They were a few, felected from the meanest of the people, and they belonged to a nation that was defpifed on account of the ill-will which they bore to the rest of mankind. By such persons were thousands prevailed upon in a very short time to change their belief and to reform their lives. And, without adding any more in this way, the Christian religion, thus introduced by the power of God and of truth, has been supported in the world by the same powers through a course of many ages, amidst the corruptions of its friends, the opposition of its enemies, the dangers of prosperous periods, and the persecutions and violence of adverse circumstances; all which must have destroyed it, if it had not been founded in truth, and guarded by the protection of an Almighty providence.

Mr. Gibbon, the elegant and instructive historian, has endeavoured to account for the wonderful propagation of Christianity, independently of its truth and divine original, in a manner which tends, in our opinion, to make an impression on the mind of his reader not at all advantageous to our holy religion. To the inquiry by what means the Christian faith obtained so remarkable a victory over the ellablithed religions of the earth, he fays, an obvious but fatisfactory answer may be returned; that it was owing to the convincing evidence of the doctrine itself, and to the ruling providence of its great author. But afterwards, in affigning for this altonishing event, five fecondary causes, derived from the passions of the human heart and the general circumstances of mankind, he feems to have infinuated, that Christianity, like other impostures, might have made its way in the world, though its origin had been as human as the means by which he supposes it was rapidly spread. Whether it was his intention to depreciate the primary means by which Christianity prevailed, and to intimate his diffatisfaction with the obvious answer which others have returned to the inquiry concerning its reception and foread, we shall not prefume to determine; but we may be allowed to fay, without incurring the charge of want of candour, that his reasoning on this subject has a tendency to divert the attention of his readers from the principal cause of the triumph of Christianity to other causes less favourable to its truth

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and divine original, and altogether inadequate to this great a few contemptible fishermen of Judga. Mr. Gibbon himevent. As the subject is in a high degree important and interciting, we shall here avail ourselves of the replies that have been made by the advocates of Christianity, and particularly by the learned and ingenious Dr. Watfon, bishop of Landaff, to the reasoning of the acute historian.

The first cause, which he alleges, is, " the inflexible, and, if we may use the expression (he says), the intolerant zeal of the Christians, derived, it is true, from the Jewish religion, but purified from the narrow and unfocial fpirit, which, instead of inviting, had deterred the Gentiles from embracing the law of Moses." The zeal of the Christians is allowed to have been inflexible, as far as it concerned a fleady adherence to their religious principles and profession, and intolerant, in not admitting to Christian worship those who supplicated the image of Casar, who bowed down at the altars of Paganifm, who mixed with the votaries of Venus, or wallowed in the filth of Bacchanalian feltivals; but, inflead of deducing it, as Mr. Gibbon does, from the Jewish religion, it ought to be ascribed to a full perfuasion of the truth of Christianity. The zeal of the apostles or primitive Christians did not bear the slightest similitude to the fierceness and bigotry of the Jews; it was derived from very different causes, and aimed at far nobler ends. It is not conceiveable, that a zeal refulting from the Jewish religion should urge the Christians to propagate the gospel amongst Iews as well as Gentiles; and that fuch a zeal as Mr. Gibbon has described, whatever might be its principle, should ever have been devifed by any human understanding as a probable mean of promoting the progress of a reformation in religion; much less that it should have been thought of or adopted by a few ignorant and unconnected men.

The fecond cause to which Mr. Gibbon has attributed the rapid growth of Christianity is, "the doctrine of a future life, improved by every additional circumstance which could give weight and efficacy to that important truth." Such a doctrine is unquestionably congenial to the nature of man as a moral and accountable agent; it is repeatedly inculcated in the gospel, and must ultimately, and in a favourable state of things, have increased its efficacy; but, considering the circumstances of the persons to whom this doctrine, in its whole extent, as comprehending punishments and rewards, and the immortality of the foul, in connection with the refurrection, was delivered, it is not likely that, abstracted from the supernatural testimony by which it was enforced, it could have met with any very extensive reception among them. It was not the kind of future life, which they expected. Future punishments, which constituted a prominent part of this doctrine, were reckoned by the philosophers among the aniles fabulas; nor was the abfurdity of this part of the Christian doctrine confined to the writings of the philosophers, and to the circles of the learned and polite; but Cicero makes no fecret of it in his public pleadings before the people at large. Befides, its rewards were not attractive, nor were they fuch as the multitude wished. The pride of the philosopher was shocked by the doctrine of a resurrection, the mode of which he was unable to comprehend: and the imaginations of other men were feebly imprefied by the representation of a future life, which did not pourtray the ferene fky, the verdant garden, and the luxurious enjoyments of an Elysium. Upon the whole, the Christian doctrine of a future life was neither agreeable to the expectations, nor corresponding with the wishes, nor conformable to the reason of the Gentiles: and it, therefore, afforded no inducements for their receiving it, and, in consequence of their belief, regulating their loofe morals according to the rigid standard of gospel purity, upon the mere authority of

felf observes in another place, that the " Pagan multitude, referving their gratitude for temporal benefits alone, rejected the inclinable present of life and immortality, which was offered to mankind by Jesus of Nazarcth." When this writer ascribes the conversion of the Gentiles to the influence of their fears, excited, as he pretends, but without fufficient reason, by the expectation of Christ's speedy appearance. of the millennium (which fee,) and of the general conflagration; it is natural to ask from what source they derived those fears which converted them? not, we may fay, from the labours of fuch men, as the apostles and first preachers of Christianity, who from their mean condition and rude speech were very ill adapted to inspire the haughty and the learned Romans with any other passions than those of pity or con-

"The miraculous powers afcribed to the primitive church," are the third of the secondary causes to which Mr. G. ascribes the rapid propagation of Christianity. It must be allowed that the miracles, not merely ascribed to the primitive church, but really performed by the apostles, ought to be confidered not only as a fecondary, but as one great primary cause of the conversion of the Gentiles. But the miraculous powers attributed by Mr. Gibbon to the primitive church, and which he defcribes with a degree of derifion, implying his fcepticism or incredulity concerning them, were by no means calculated, at least in any eminent degree, to spread the belief of Christianity amongst a great and an enlightened people. When we confider that the pretended miracles of the heathens were so numerous as to have infensibly lost their force, and funk in their elteem, those that were ascribed to the first propagators of Christianity must have created an immediate and stubborn prejudice against their cause; and nothing could have subdued that prejudice, but miracles, really and visibly performed. See Miracle.

The utility of Mr. Gibbon's fourth cause, viz. "the vir-

tues of the first Christians," cannot be disputed; as they very much conduced to the spread of their religion: but these virtues are depreciated by his representation of them, as proceding from their mean and timid repentance for having been the most abandoned sinners, or from an impetuous zeal in supporting the reputation of the sect or society to which they belonged. "After the example of their divine master," says Mr. G. in language that more than infinuates unmerited reproach, "the missionaries of the gospel dis-dained not the society of men, and especially of women, oppressed by the consciousness, and very often by the effects of their vices." The pernicious tendency of fuch a declaration, connected with the gross misrepresentation implied in it, reflects reproach on the character of the hiltorian, and feems to indicate a defign to degrade the importance of Christianity and to expose it to contempt. But whatever may be its effect on the heedless and dislipated, it supplies its own antidote in the estimation of the impartial, thoughtful, and judicious, who will not fail to dillinguish between affertion and fact. Very contrary to the declaration of Mr. G. was the conduct enjoined on the first teachers of Christianity; for they were ordered to turn away from, to have no fellowship or intercourse with, such as were wont "to creep into houses, and lead captive filly women laden with fins, led away with divers lufts." And if a few women, who had either been seduced by their passions, or had fallen victims to the licentious manners of their age, should be found amongst those who were most ready to receive a religion that forbade all impurity; this circumstance cannot warrant an infinuation of diferedit, either upon the fex, or upon

those who wrought their reformation. The attention manifested by the primitive Christians with regard to their conduct is invidiously ascribed to improper motives; whereas their folicitude to avoid reproach in this respect might as candidly, perhaps, and as reasonably, be derived from a fense of their duty, and an honest endeavour to discharge it, as from the mere delire of increasing the honour of their confraternity by the illustrious integrity of its members. After all, the auftere morality of the primitive Christians, which Mr. G. describes as adverse to the propenfities of fense, and abhorrent from all the innocent pleafures, and amusements of life, is exhibited under such difmal colouring, that instead of alluring persons to a closer inspection of it, it must have made every man of pleasure or of fense to turn away from it with horror or disguit; and so far from contributing to the rapid growth of Christianity, it must excite wonder, how the first Christians ever made a fingle convert. The aversion of Christians from the business of war and government is charged upon them by Mr. G. as a criminal difregard to the public welfare. By way of general reply it may be observed, that Christianity does not concern itself with ordering the constitutions of civil societies, but levels its whole influence at the hearts of individuals who compose them; and, as Origen faid to Celfus, if every individual in every nation was a gospel Christian, there would be neither internal injustice, nor external war; there would be none of those passions which embitter the intercourse of civil life, and desolate the globe. It can therefore be no reproach to the Christian religion, that it should inculcate doctrines, which, if univerfally practifed, would introduce univerfal tranquillity, and the most exalted happiness amongst mankind. Nothing but a total misapprehension of the design of the Christian dispensation, or a misinterpretation of particular injunctions, forbidding its votaries to make riches or honours a primary pursuit, or the prompt gratification of revenge a first principle of action, can lead any one to infer, that a Christian is obliged to offer his throat to an affaffin, and his property to the first ' plunderer; or that a fociety of Christians may not repel, in the best manner they are able, the unjust assaults of hoftile invalion. No precepts of the golpel, whatever may be afferted or infinuated to the contrary, debar a man from the possession of domettic comforts, or deaden the activity of his private friendships, or prohibit the exertion of his utmolt ability in the service of the public.

The fifth and last secondary cause of the rapid and extensive fpread of Christianity, mentioned by Mr. G. is "the union and the discipline of the Christian church." Union, it must be allowed, is strength to every affociation; and it is much to be wished, that it could be found even in the early period of the Christian dispensation, and much to be lamented that the too general defect of it has been the reproach of Christians from the apostolic age to our own. There was, indeed, a certain community of doctrine, an intercourse of holpitality, and a confederacy of discipline established among the individuals of every church; fo that none could be admitted into any affembly of Christians without undergoing a previous examination into his manner of life, and without protesting in the most folemn manner that they would not be guilty of murder, adultery, theft, or perildy. It may be also granted, that those who broke this compact were ejected by common confent from the confraternity into which they had been admitted; and this confederacy extended itself to independent churches; so that those who had, for their immoralities, been excluded from Christian community in any one church, were rarely, if

admitted, that this feverity and this union of discipline could ever have induced the Pagans to forfake the gods of their country, and to expose themselves to the contemptuous hatred of their neighbours, and to all the severities of persecution, exercifed with unrelenting burbarity, against the Christians. After this brief abstract of the reasoning of Mr. Gibbon, and the replies of the advocates of Christianity on the subject of its propagation, we must refer to Gibbon's History of the Decline and Fall of the Roman Empire, vol. ii. chap. 15. Bp. Watson's Apology for Christianity, passin; White's Sermons, Serm. III. and other writers who have either directly or indirectly written on the same subject. See Com-MUNITY of Goods, Excommunication, Penance, Per-SECUTION, &c.

CHRISTIAN I., in Biography, king of Denmark, fon of Theodoric count of Oldenburg, was elected to the throne in the year 144S, and in him we behold the founder of the royal house of Oldenburg, which still possesses the throne of Denmark. He owed his elevation as well to his lineal defcent from Eric VII. as to the moderation of his ungle Adolphus, duke of Slefwick, to whom the crown was offered upon the death of Christopher of Bavaria without iffue. Adolphus declined the honour on account of his advanced age, and recommended, in his flead, Christian, then twenty-two years of age. In the fame year that he afcended the throne of Denmark, he was crowned king of Norway, in right of his descent from one of their ancient kings. After some thruggles he obtained also the crown of Sweden in 1558, upon the deposition of Charles Canutson. About the same time the duchy of Sleswick reverted to the crown of Denmark, and Christian obtained possession of the counties of Holltein and Stormar. The Swedes, in a short time, grew discontented with the government of Christian, who neglected to vifit them, and had applied the public money in the purchase of Holstein and Stormar. To put an end to their machinations, Christian seized the archbishop of Upfal, whom he suspected, and sent him prisoner to Denmark. This action caused an open revolt, and led to the deposition of the king. From this period Christian abandoned all projects of ambition, and attended to the concerns of his own kingdom. He was diffinguished for his liberality to the clergy, and in 1473 made a pilgrimage to Rome, where he was received with extraordinary honours. On his return he founded the university of Copenhagen, and died in 1481, after a reign of thirty-three years. He was a fovereign of great moderation and humanity, whose qualities, being less shining than solid, were more adapted to the administration of his own government, than to the exploits of war. By Mallet, the most celebrated of Danish historians, Christian I. is characterised as one of those princes who do not attract the admiration of mankind, yet whom Providence never bestows upon a nation but as a figual mark of favour. Christian was fucceeded by his fon John, whom he had already affociated with himself in this throne.

CHRISTIAN II. king of Denmark, was born in 1481, the same year in which his grand-father died. In his youth he discovered a lively genius and a good understanding, which, if they had been properly cultivated, might have rendered him the ornament, instead of becoming, as he proved, the difgrace of his country. The young prince was first entruited to the care of a common burgher of . Copenhagen, and was afterwards removed to the house of a school-matter. who was canon of the cathedral. In this fituation his chief employment confided in regularly accompanying his mafter to church, where he diftinguished himself beyond the other scholars and choristers in chanting and singing plalms. He ever, admitted to this privilege by another :- but it is not was afterwards placed under the tuition of a German pre-

ceptor, under whom he made a confiderable proficiency in the Latin tongue. From this humble education, or from other circumstances not known to the world, Christian imbibed a talke for bad company; was accustomed to haunt common taverns, to mix with the lowest of the populace, and was, in fhort, guilty of almost every excess. The king, his father, who had, unintentionally, been the cause of his fon's misconduct, was now indignant at the irregularities which were become notorious to the whole country, but the bad habits which the prince had contracted were too strongly rooted to yield to any effort. He nevertheless feigned contrition for his past behaviour, and recalled his father's affections by his military prowefs and fuccesses in Norway, and by an unwearied application to the affairs of government. He succeeded his father in 1513, and during the first years of his reign, his administration was in many respects worthy of praise, and the excellence of his laws induced Holberg to affirm, that if the character of Christian II. were to be determined by his laws, and not by his actions, he would merit the appellation of Good, rather than of Tyrant. Foreseeing the difficulties he should meet with in obtaining the crown of Sweden, he refolved to strengthen himself by an alliance with the house of Austria, and accordingly married Ifabella, fifter to the emperor Charles V. Notwithstanding this marriage, which was merely political, he kept a miltress named Columbula, in whose favours he sufpected that Torbern Oxy, a young nobleman, had participated. The monarch, amidst the festivity of banquet, urged him to avow the fact. The young man possessed a mind in-capable of falsehood; he acknowledged, that he had loved Columbula, and had folicited, but never obtained her favours. He was instantly arrested, imprisoned, and arraigned; but by the fenate Torbern was acquitted, because the law had affigued no punishment for simple concupiscence. Diffatisfied with this decision, Christian affembled another tribunal, where he had him convicted and immediately executed. In 1517 Lutheranism began to excite attention; and in Denmark it was favoured by the king, who hoped it might lead to the confication of the church lands. He was, however, obliged to submit to the pope, and to sue, through the house of Austria, for a reconciliation with the holy fee. The domestic government of Christian became more oppreffive, chiefly through the extortions contrived by Sigebrette, the mother of Columbula, who had the complete confidence of the king. This base woman, who selt no compassion for the poor, nor regard for the rich: who paid no respect to the laws, and who acknowledged no other rule than the passions of the monarch, commanded with despotic authority, disposed of all places and preferments, imposed taxes at pleasure, and exacted them with such rigour, that the household furniture and cloathing of those who did not pay them were feized and publicly fold. In 1519 Christian renewed the war against Sweden, defeated and killed the administrator of that country, and through the treachery of the archbishop of Upsai, he was in the succeeding year recognized king of Sweden. He fixed upon the following November for his coronation, and then returned to Denmark, where, with two of his prelates, he concerted one of the most atrocious and sanguinary projects that stands recorded in hiltory. Returning to Sweden, he convoked the affembly of the flates, and was publicly crowned at Stockholm. After the ceremonial, the Swedish nobility were invited to a splendid entertainment, and received with the utmost affability. In the midst of the festivity, he caused the foldiers to arrest the administrator's widow, the fenate, and the principal nobility; and after accusing them of various stimes for which there was no pretence, he inflituted a mock

profecution by Danish commissioners. The process was, however, too flow for his blood-thirfly disposition; he caused a fummary condemnation to be pronounced, and they were led to inflant execution. Fourfcore or ninety noblemen and fenators of the first rank, both of the laity and clergy, were in one day hanged on gibbets, as felons or traitors. Not contented with this exhibition of his favage cruelty, to conclude the scene, the foldiers were ordered to butcher the furrounding spectators, and the burghers of the city. He even caused the administrator's body to be dug from its grave, which, in its putrid state, he tore to pieces with his teeth and nails like a wild beast. His progress on his return to Denmark was marked with blood, and he left no memorials behind him but those of cruelty.

The massacre of Stockholm, in which fix hundred persons were murdered in cold blood, and amidit the rejoicings of a coronation, exhibited fuch a striking instance of the malignant and implacable character of the king, that upon the revolt of Gullavus Vafa, the spirit of resistance disfused itfelf rapidly from Sweden to Denmark, where he had exasperated his subjects by repeated cruelties and oppressions. In 1523 he was publicly deposed by the states of Denmark, and the crown transferred to his uncle Frederic, duke of Holflein. The deposition of this infamous tyrant was in confequence only of the just abhorrence in which he was held by all ranks of people. For feveral years he submitted without a flruggle to the ignomiay of banishment, but in 1532 he invaded the Danish dominions, and was taken prifoner. The place of his confinement was a dungeon in the cattle of Sunderborg, in the ifle of Alfen. Having enter-ed the gloomy cell, with a favourite dwarf, the fole companion of his mifery, the door was inflantly blocked up. In this state he remained till the year 1546, when he made a folemn renunciation for himfelf and heirs of all claims to the crowns of Denmark and Norway, and promifed never to go out of the fortress of Callemburg without the king's confent, and never to fpeak to a stranger but in the governor's presence. On these conditions he was allowed the privilege of hunting and fifhing, within certain limits, and received a handsome appointment, and other advantages were tlipulated for him in a treaty concluded between the king of Denmark and the emperor at Spires. In this retreat did Christian reach his feventy-eighth year, enjoying a degree of comfort to which his many crimes gave no title whatever. He died in 1559, leaving two daughters, one electress Palatine, the other, duchess first of Milan, then of Lorraine. Of himself is left the character of the Nero of the North. It is faid, that during his imprisonment, he was occasionally fo much affected with reflections on his past conduct, that he would burit into tears, throw himself upon the ground, utter the most bitter lamentations, and continue for some time in a state approaching to infanity.

There were feveral other monarchs of Sweden of the

name of Christian, concerning whom little need be faid.

CHRISTIAN III. succeeded Frederic in 1534; he embraced the Lutheran religion, introduced it among his fubjects, and at length established it as the religion of the state. This prince united in his character firmness and moderation : he was a lover of letters and learned men, and founded a valuable library at Copenhagen. He died in 1558, and was fucceeded by Frederic II., who was followed in 1388 by

CHRISTIAN IV. This prince afcended the throne before he was twelve years of age. The regency paid every attention to his education, and mafters were procured in all the various accomplishments of mind and body from different parts of Europe, to whose exertions the prince did the greatest credit. He was able to converse with all the ambasfadors from foreign courts, and, at an early period, to dictate to his own ministers who were abroad. In 1611 he made war against Sweden, and was elected chief of the Protestant league against the emperor for the re-establishment of the prince palatine in 1625. The several wars in which he was engaged were detrimental to the sinances of his country. He died in 1648, leaving a high character for vigour of mind and body. He was a slave to violent passions, which gained strength with increasing years. He was addicted to women, a circumstance that injured his reputation. It must, however, he admitted in his praise, that he was a firm and intrepid warrior, a prince of extensive genius, and possessing

great generofity and magnanimity. CHRISTIAN V. ascended the throne of Denmark in 1670. He found his kingdom involved in various foreign and domestic disputes, which led him to employ the first years of his reign in putting the revenue into a flate of order, reftoring discipline among his troops, and strengthening his fortifications. In 1675 he joined the league against Sweden, and in the war between the Danes and their allies with the Swedes, Christian displayed great activity and enterprise. His fleet, in conjunction with that of the Dutch under Van Tromp, completely defeated that of the Swedes. For two years the king was generally fuccefsful in all his undertak-ings, but in 1677 the tide of victory feemed to turn againt him, and in 1679 he was glad to conclude a peace. From this period he aimed to fettle all difputes with foreign powers by means of negociation. He attempted to gain possession of Hamburgh, and obtained at first a considerable tribute from that city, but his conduct there led the neighbouring princes to guarantee its protection. Christian died in 1699, at the age of fifty-four, when his subjects were enjoying the fruits of his mature wildom and reputation. As a prince he had established a high character, and claimed respect throughout Europe. As a man, he spoke with fluency most foreign languages, was a promoter of the sciences, and had made great progress in those branches of the mathematies which relate to the military art. See DENMARK. Mod. Univers. Hilt. Coxe's Travels. Du Fresnoy.

Christian, Andrew, born at Rippen, a small town in Denmark, in 1551. He received the rudiments of his education at Wittenburg, which he perfected at Balle, where he took his degree of doctor in medicine. Being called to Copenhagen, he taught medicine there for fifteen years, at the end of which time he was sent by his sovereign, Christian IV. to preside in the college of noblesse lately established at Sora. In this situation he died in 1606. The work by which he is known, is entitled "Enchiridion Medicum, de cognoscendis, curandisque externis et internis Humani Corporis Morbis." Bassiae, 1583, 8vo. It contains, in episome, the method, then most approved, of treating diseases; as such it was several times re-printed. Haller. Bib. Eloy. Dist. Hith.

CHRISTIANA, in Geography, a post-town of America, in the state of Delaware and county of Newcastle, scated on a navigable creek of the same name, which falls into Delaware river from the south-west, a little below Wilmington. The town, consisting of about 50 houses and a Presbyterian church, stands on a declivity, commanding a pleasant prospect of the country towards the Delaware, and carries on a confiderable trade with Philadelphia in slour. This is the greatest carrying-place between the navigable waters of the Delaware and Chesapeak, which are here 13 miles apart. It was built by the Swedes in 1640, and derived its name from that of their queen. It is 9 miles S.W. of Wilmington, and 37 S.W. of Philadelphia.

CHRISTIANA, Great and Little, two iflets in the Grecian Archipelago, fituated 2 leagues S.W. of Santorin.

CHRISTIANA, or CHRISTINA, Santa, one of the Marquefas iflands, called by the natives Obitaboo, or Waitaba, lying under the fame parallel with St. Pedro, or Onateaya, 3 or 4 leagues more to the west. Resolution bay, near the middle of the west coast of the island, lies in S. lat. 9° 55' 30", and W. long. 139° 8' 40"; and the west end of Dominica, or Ohevahooa, lies N. 15° W. Capt Cook gave this bay the name of his ship. By the Spaniards it was called Port Madre de Dios. It is not more than 2 miles across at its mouth by 3/4 of a mile in depth; and the two points which form it lie, with respect to each other, in a north by east and fouth by west direction. The south point is terminated by a fleep rock, and a hill of gentle declivity terminates the north point, which is formed by bold and excavated rocks, and is covered with "casuarinas," the large trees, whose hard and heavy wood is used for making clubs and other weapons. The lands at the bottom of the bay present a chain of high hills, flightly broken at their fummits, and fleep in feveral places. Mr. G. Forster says, that the bottom of the harbour is filled up with a very high ridge, level at top, and refembling the Table-mountain at the Cape of Good Hope. With the exception of two fmall coves, which both receive a rivulet, and where an accessible beach occurs, the remainder of the circumference of the bay exhibits, throughout, nothing but bold rocks, close to which the lead indicates a coral bottom, with a depth of water of 20 fathoms and upwards. One of these coves is called the "North Cove," the other the "South Cove." Two vallies, well covered with trees, terminate at the north cove, and a pretty rivulet, after having fertilifed the lands, affords, at its mouth, a good watering-place for ships. The bottom of the bay is sandy, excellent for holding, over a depth of water, which shoals, towards the shore, from 36 to 13 or 14. fathoms. Fresh water of the best quality is procured in the North Cove, and wood is also easily obtained. It appears from different accounts, that the fprings and rivers of the island are subject to considerable augmentations and diminutions; and alternate inundations or drought oblige the natives to remove their dwellings from one part of the island to another. The huts or cabins occupied by the inhabitants are built on a little platform of flones, raifed fomewhat above the level of the ground. 'The walls are formed with bamboo-canes, 7 or 8 feet high, placed close together; and the roof, the middle of which rifes 9 or 10 feet above the foundation, is formed by other bamboos laid in a parallel direction, one above the other, and covered with leaves of a species of the fan-palm, or of the bread-fruit tree. The roofs are ridged, fo as to carry off the water by a double flope; and in one of the fronts are a door and window. These cabins are, in general, 9 or 10 feet long, by 5 or 6 broad, and some are square. The stoor is paved with large stones, joined together very neatly, and covered with mats. On the outfide of these habitations are platforms, on which the natives sit down and amuse themselves; and these are paved, in order to guard against damp in the rainy feafon. The religious ceremonies of the inhabitants refemble those of the Society Islands. The French, during their stay here, discovered nothing that had the appearance of worlhip to a Supreme Being. Pleafure is the divinity of the country; they have no superstition, no ceremony, no priests or jugglers, says Marchand. In each district they have a moral, where the dead are buried beneath a pavement of large flones. They have a multitude of deities; and they only offer hogs in their farifices, but never men. They have no regular government, established law, or punishments; but custom is the lours, but none red; some have it long, but the general custom general rule. Their chief food is the hog, which they eat five or fix times a day, without having any regular meals. Their pork, and also their fowls, they dress in ovens dug in the ground, and heated with flowes; fometimes in wooden veffels, where the water is made to boil by means of hot flones, which they throw into it repeatedly. Not unfreto extract from the cocoa-nut an oil, which is probably employed in the dreffing of their diffies; but which is principally used for anointing the whole body: the women confume great quantities of it in maintaining the gloss and beauty of their hair. When they are destitute of animal food, they use the roafted bread-fruit, fish, mahie, pudding made of it and other vegetables, a kind of walnuts, and a paste made of a root refembling the yam. Their common drink is pure water, and also cocoa-nut milk. They also prepare a strong liquor, either of pepper-root, which they use as a token of peace, or of the root of ginger; but they are temperate in the use of it, and no instance of intoxication occurs amongst them. To their friends they manifest their civility in a fingular manner, by offering to them bits which they have previously chewed, in order to put them to no other trouble than that of swallowing what is thus prepared. The women are not allowed to eat hog, and are probably under other prohibitions, as at Otaheite, and feem much more fervile to the men, and more harshly treated. It has been said that the women are not allowed to mels with the men, as is the cafe in other islands; but Capt. Chanal fays that he was several times at their meals, and that he faw the men, women, and children eat in common, and feed on the same dishes. They are employed in making cloth and matting, but not in cookery, except for themselves. The men seldom work, fome old persons excepted, who make cords and nets. The rest bask indolently in the sun, telling their stories, and thus beguiling their time. The chief is faid to have three wives, and has feveral children; but polygamy feems to be a privilege restricted to the chief. From what is known, however, of the disposition and manners of the natives of St. Christiana, we may hefitate in admitting that they are at all acquainted with conjugal union; at least it is certain, that the men know no more of jealoufy than the women do of fidelity. Every woman feems to be the wife of all the men; and every man the husband of all the women. Every man makes to strangers the offer of every woman without any diffinction. The Spaniards lead us to believe that the women are common without any diffinction of age or kindred; but furgeon Roblet affures us, that the intimate union of the fexes between relations is rigorously prohibited; but he cannot assign the degree of relationship to which the prohibition extends. These people appear to be very fond of their children. Before the age of puberty, the operation of flitting the prepuce, is performed; and all the men are tattooed (fee TATTOOING), even to the lips and eye-lids. They have few difeafes, and, as the miffionaries fay, are yet happily free from the fatal malady which has made fuch ravages in the Society Islands. Capt. Cook, in his Second Voyage, describes them as surpassing all other nations in fymmetry of shape and regular features. His ob-fervations have been confirmed by those of Capt. Chanal and formed or ill-proportioned person was seen on the island; all were flrong, tall, well-limbed, and remarkably active. The men are from 5 feet 10 inches high to 6 feet. Their eyes are not fo full, nor their teeth fo good as those of many other nations; but Capt. Chanal fays, that they have fine large black eyes and handsome teeth; their hair is of various co-

was to wear it short, except a bunch on each side of the crown, which is tied in a knot. In these respects there is a great variety; and also in their treatment of the beard. Those who preserve it at full length, which is commonly the case, arrange it in different ways; generally parting it into two tufts, and either shaving or plucking out the portion which belongs to the chin. When it is suffered to grow to braids, or to which they fasten the teeth of fishes, or of men, or small pieces of bone, shells, and beads of coloured glass, which they receive from the Europeans. Some eradicate the whole of the beard. On their heads they place various which they suspend pearl oyster-shells, tortoise-shell, and pieces of mother of pearl, of various fizes and differently arranged; all which pieces being concentric, and of unequal This kind of diadem is fometimes furmounted by a plume. are composed of small pieces of light wood, with small red feeds attached to them with gum or fize, or of red husks, or of polished bone, shells, white coral, or stone. Men and women have, in general, their ears pierced; but none habitually wear pendants. In the number of their most curious ornaments, they reckon all that they receive from flrangers, and even all that they can freal from them; and every thing is hung to the neck, the ears, and the waift. They also adorn their heads, arms, waift knees, and even infleps, as well as clubs and other weapons, with treffes or locks of hair, which tion, that of their friends or deceased relatives. To their waith, and on their fhoulders, they suspend one, two, and sometimes three foulls; but they are not fo highly appreciated as the of the fibres of grafs and whitened with line, which they use for cooling themselves, and paralols made of large paimare pleafing and open, and difplay much vivacity. Their complexion is tawny, and rendered almost black by the punctures of the whole body. Capt. Chanal thinks there are no fuch differences among individuals as warrant an interence, that there exist among them species essentially different. But the blet, feemed to him to indicate a difference in the species. It is also known, that in order to delignate the same object, they have feveral names which feem not to belong to the lame language. Possibly the Mendogans, from their mild and hospitable disposition, have been induced to receive strangers among them, thrown by ftorms or the chances of war on their coalls, and to incorporate them in the primitive nation, tirely naked, except a small piece of cloth round their waift and loins. Their punctures were disposed with the utmost regularity, fo that the marks on each leg, arm, and cheek, were in general fimilar. The women, who are extolled for tioned, and their general colour inclining to brown. Some few are punctured or tattooed. They wear a long narrow piece of cloth wrapped two or three times round their waitt, and having the ends tucked up between their thighs; above der, and the garment, hanging loofe, reaches half-way down the leg. Their garments, however, are of little use to the

females; as they are a fort of amphibious animals, who fpend a great part of the day in water; and appear there as much at their eafe as if they were reclined on a mostly carpet, or fporting on a feather-bed. Among these females a very great degree of libertinism prevails; and they either fell or gratuitoufly give their favours to any indifcriminately who feek them. Surgeon Roblet describes the licentiousness of their amours, though in guarded language, in a manner that must difgult every chafte reader, and that shews their extreme degeneracy and indecorum. Their canoes are made of wood, and the bark of a loft tree, which grows near the fea; they are from 16 to 20 feet long, and about 16 inches broad. The head and stern are formed out of two folid pieces of wood; the former is curved, and the latter ends in a point, which projects horizontally, and is decorated with a rude carved figure, having a faint refemblance to a human face. Some of the canoes have a latteen fail, but they are generally rowed with paddles.

Their naval architecture, however, is still in its infancy, if we compare it with that of the Otaheitans. Sometimes two of their ill-contructed and leaking canoes are joined together; but they most commonly content themselves with adapting to them an outrigger, composed of two bamboos projecting laterally, and fallened at their outer extremities by a branch of a light wood, which forms the gunwale of the frame. These canoes carry from three to seven men, and from ten to fifteen when two are lashed together. If a canne overfets, an accident not uncommon, the men jump overboard, right her, bale her out, and get into her again very quietly. Capt. Chanal fays, that the construction of their houses and canoes evinces no inconsiderable share of induftry and patience. In the fabrication of their weapons, they display great care and ingenuity. These confit of lances from nine to eleven feet long, a fort of labre, pikes or javelins, and clubs, having at one extremity a large knob, and made of cafuarina wood, ornamented with carving. In the rainy scason they maintain intercourse with one another by means of stilts, composed of two pieces, so adapted to each other, as to admit of being accommodated to shallow or deep

Their tools, rude as they are, their fishing implements, differing very little from ours, and the various utenfils, articles of furniture, garments and dreffes, all announce intelligence and industry in the persons by whom they were invented, and also in those by whom they are fabricated. Their hatchet, which is a black and sharp stone, shaped like an elongated wedge, or a mortife chifel, and fastened to a piece of crooked wood by small sennit made of cocoa-nut bass; their pieces of shell, formed in sharp-edged instruments and faws, and their rough skin of some sish, serve to fashion and polish their different works of carpentry and of sculpture. Their fishing implements, confilling of the scoop-net and the sweep-net, are made, some of them with cocoa-nut bass, others with the cortical fibres of a species of nettle. The same materials are employed for making ropes, fennit, and mats. Their houshold utenfils confit of calabashes of different capacities, which they contrive to stop so hermetically, that they may be employed for the conveyance of liquids, and of various wooden veffels used for their food; and on these they amuse themselves in carving and engraving figures of r. en, fishes, and birds. The substance of their cloths is the bark of the paper mulherry tree; and tome are also made of the cortical fibres of the bread-fruit tree; and these not only wear tolerably well, but are fometimes dyed yellow. After all, the principal occupation of the natives of St. Christiana is to fing, clance, and amufe themselves. The music of Otaheite and of this island are much the same, and the inhabitants of both VOL. VII.

make use of the same kind of drums. They ammse themselves in running on their stilts, and also in swimming, to which exercise they devote whole days, without any other noutishment besides the stells and the milk of cucoa-nuts. Thus devoted to amusement and pleasure, the Mendogaus are an amiable, hospitable, and generous people. Although, from the levity and indolence that are natural to them, they are addicted to thest, yet they restore on the first demand, and even with laughter, the articles which they have purloined. Nevertheless robbery is not authorized, nor even tolerated at Santa Christiana: and whilst they steal from strangers, they observe the most ferupulous sidelity among one another. It is not easy to estimate the population of this island; but Marchand, alsowing 1000 inhabitants for every league of coast, estimates the whole number at 7000.

On making a general comparison between the island of St. Christiana and that of Otaheite, it is evident that the former does not exhibit the opulence, the luxury, the profusion of food, the studied variety and vast quantity of cloth, which are remarked in the principal island of the great equinoxial occan. The Taheiteans have many superfluities; they have made great advances towards civilization, and great progrefs, not only in the uleful, but even in the agreeable arts. The Mendoçans possess a respectable competence, and in every respect a desirable degree of comfort, and their disposition inclines them not to wish for more than they enjoy; divided between pleafure and idleness, they appear sheltered from the political storms which must frequently disturb the government, partly monarchical, partly feudal, which is established among the Taheiteans. The latter have lost in liberty what they have acquired in civilization; one part lives by the labours of the other, and this is the natural and ordinary routine of great focieties; they lead a fenfual life; and hereditary difeafes already begin to punish them for their excesses. The Mendoçans have preserved their primitive liberty in its full perfection; and every one lives through himfelf and for himfelf : the robust health which they enjoy is, without doubt, far preferable to that voluptuousness to which they are yet strangers. An European, I conceive, (fays Marchand) would for himself prefer Taheitee to Wahiheto; but a Mendoçan would be much to blame, if he envied the lot of a Taheitean: by deviating more from nature, he could have little to gain, and, perhaps, much to lofe.

The only tame fowls are cocks and hens, and their quadrupeds only hogs; but the woods are inhabited by imall birds, whose plumage is exceedingly beautiful, and their notes sweetly varied.

The Oceanic birds, which frequent the bay, are man-ofwar birds, tropic birds, boobies, and different species of terns and swallows.

Captain Cook, Mr. Reinhold Forster, and Messer's Chanal and Roblet, have given a vocabulary of the words commonly used in this island; from which it appears, that the Mendo-cans employ no difficult articulation, and that their language, notwithstanding the frequent aspirations, and the vehencence with which they are accustomed to express themselves, possesses the control of the

The language of this island has a great affinity to that of the Society islands, or it is rather, as Marchand fuggests, the fame tongue; and if this be true, it proves, that, although the two archipelagos are separated by an interval of sea of 260 leagues, and although it may be prefumed, that their canoes do not maintain between them an habitual communication, the people who inhabit them must have had a common origin. A native of the Society islands, who was embarked in the Resolution, conversed fluently with the na-

tives of La Madre de Dios; but captain Cook fays, that the English, who must in their visits to Otaheite have acquired a knowledge of most of the words spoken there, could never succeed in making themselves understood at Santa Christiana. As far as it has been examined, the language of this island employs 5 wowls, a, e, i, o, u, but the consonants, in 95 words that have been collected by captain Chanal, are only 8 in number, and perform the office of 12 of ours; viz, b or p, d, c hard, g hard, k and g, f, m, n, t, v. The natives of Santa Christiana cannot articulate our r, and they supply the defect by a fort of aspiration. Our consonants z, f, w, make no part of the articulations of the language of this island. Missionary Voyage, 1797, p. 144,

&c. Marchand's Voyage, vol. i. and ii.
In Marchand's Voyage, (vol. i.) we have an account very much in detail of this island; together with a statement of the circumstances in which the Spaniards, English, and French, differ from one another. This island, it is faid, prefents itself under an agreeable aspect; being very lofty, as well as the other islands of the group. A narrow chain of high hills extends through its whole length, and from the fhore run other chains of equal elevation, which branch out and join the principal chain; these hills are separated by confined and deep vallies, into which run fome rivulets or cascades, that water every part of the island; fruit trees of various species here occasion coolness, and yield abundance to its inhabitants. According to the statement of captain Cook, the island is in length, from N. to S. 3 leagues, of 20 to a degree, and in circuit 7 leagues, whereas Quiros extends it to o Spanish leagues of 172 to a degree; but as neither of them examined more than a portion of the west coast of the island, its absolute extent and circumference remain still undetermined. The shores of this island present hollow rocks, the black, spongy, hard, and brittle itone of which indicates the effect and the produce of a great volcanic eruption; fo that in regard to its origin and the nature of its minerals it is similar to the higher of the Society islands, which appear to have been the feat of ancient volcanoes. The foil of the vallies is a very strong mould, fometimes black, fometimes red, and very fit for yegetation, and it produces various species of lichens, grasses, purslains, and shrubs. These vallies are covered with trees; fuch as the cocoa-palm, the bread-fruit tree, the plantain tree, the cafuarina, the paper-mulberry tree, (morus papyri-fera,) the fibres of the bark of which are employed by the natives in the fabrication of their cloths, &c. &c. Besides the fruits of the cocoa-nut, plantain, and bread-fruit tree, the island furnishes a fort of sweet potatoe, a species of apple, ginger, cucumbers like those of the West-India islands, water-cress, and purslain, the yam, the chefnut, the walnut, &c. Santa Christiana possesses the sugar-cane; but the inhabitants are ignorant of its value. European animals, though left there by captain Cook, either could not accommodate themselves to this climate, or were neglected, and perhaps exterminated, by the inhabitants, fo that later voyagers could not discover any of them; neither could they find any of the European utenfils or commodities, fuch as looking-glasses, knives, hatchets, nails, glass-beads, &c. left there by captain Cook, in 1774. The only quadruped found in Santa Christiana was the hog, small in size, but of delicate and well-tasted flesh; if we except the rat, which, to the great detriment of the inhabitants, has exceedingly multiplied in the island. Poultry are fearce; and apparently reared merely for the lake of plucking the cocks, whose large tail feathers, afforted for forming plumes, are employed in shad-

the bonito is very common. The bay is often frequented by porpoifes and shark. The climate is falubrious, and the natives appear healthy and robust; but the temperature is subject to great variations from one season to the other. In 1774 the variation observed by Mr. Wales was 4° 22′ 1.5″ E. and in 1791, it was observed by captain Marchand to be 3° 1.1′ 18″. From comparing the observations of Mr. Wales and captain Marchand, it may be concluded, that in the space of 17 years, the variation of the compass has not undergone any material change in this latitude.

CHRISTIANIA, a city and fea-port of Norway, in the government of Aggerhuus; fituated at the extremity of an extensive and fertile valley, forming a semicircular bend along the shore of a beautiful bay, which, being enclosed by hills, uplands, and forests, has the appearance of a large lake; and about 30 English miles from the open sea. The navigation of the bay is fomewhat difficult, but it is fufficiently deep for the largest vessels, having fix or seven fathoms of water close to the quay. It is effeemed the capital of the kingdom; because it contains the supreme court of justice. It lies in N. lat. 59° 56' 37", and E. long. 10° 50', on the northern extremity of the bay of Biorning, an inlet of the fea, forming the northern extremity of the gulf of Christiania, whose rocky shores are overspread with thick forests. The town is divided into three parts, viz. the city and the three suburbs of Waterlandt, Peterwigen, and Fierdingen, the fortress of Aggerhuus, and the old town of Opfloe, or Apfloe. The city contains 413 houses, the fuburbs 682, Opfloe 400, including the epifcopal palace, (the bishop of Christiania being metropolitan of Norway, and the see yielding an annual revenue of 400l.); and the formerly occupied the scite of Opfloe, and was rebuilt in its present lituation by Christian IV. in 1624, after a plan defigned by himself: the streets are carried in straight lines, and at right angles to each other, and are uniformly 40 feet broad, and very neat and clean. It has a Latin school, founded by Christian IV. in 1635, and a public library. The castle of Aggerhuus is built on the well side of the bay, at a small distance from the city; and was erected in 1310 by the Swedes, and threngthened in 1633 by Christian IV. and by succeeding kings of Denmark at subfequent periods. See AGGERHUUS.

Christiania has an excellent harbour, and carries on a considerable trade. The principal exports are tar, soap, iron, copper, planks, and deals; allum manufactured at Mr. Cooper's works for about 3000l.; iron from the four works of Borum, Ediwold, Narkedahl, and Ondahlen, 14,000l.; copper from Foldahl, 10,000l.; planks and deals, 90,000l., principally to England. The planks and deals are faid to be of superior estimation to those sent from America, Russia, and the different parts of the Baltic; because the trees grow on the rocks, and are therefore firmer, more compact, and less liable to rot than the others, which chiefly shoot from a landy or loamy foil. The planks are either red or white fir or pine. The red wood is produced from the Scotch fir, and the white wood, which is in fuch high eftimation, from the spruce fir. Each tree yields three pieces of timber, eleven or twelve feet in length, and is usually fawed into three planks; a tree generally requires 70 or 80 years' growth before it arrives at the greatest perfection. The greatest part of the timber is hewn in the inland country, and floated down the rivers and cataracts. Saw-mills are used for cutting the planks; but they must be privileged, and they are restricted to cut only a certain quantity. The proing their head-dreffes. The fea furnishes excellent rock-fish; prictors are bound to declare on oath, that they have not

exceeded that quantity: and if they do, the privilege is Christians," which the Portuguese were fond of bestowing taken away, and the faw-mill destroyed. At Christiania there are 136 privileged faw-mills, of which 100 belong to the family of Anker. The quantity of planks permitted to be cut amounts to 20,000,000 standard deals, 12 feet long, and 141 inches thick.

CHRISTIANIA, a government of Norway, otherwise called

AGGERHUUS; which fee. CHRISTIANAO, Sr. a Portuguese town on the coast of Brafil; off which is a fmall bay without the northernmost reef of the river Serugippa, which is fix leagues from the

river Francisco, where is good anchorage.

CHRISTIANOFLE, a fortified fea-port town of South Gothland in Sweden. N. lat. about 56° 26'. E. long. 15° 41'. It is four leagues from the S. end of the island of Oeland to the point of Christianople, which is the breadth of the S. entrance of Calmar found.

CHRISTIANOPOLIS, in Ancient Geography, an epif-

copal town of the Peloponnesus, in Arcadia.

CHRISTIANS of St. John, in Ecclefiaflical History, a corrupt feet of Christians, very numerous in Bassora, and the

neighbouring towns.

They formerly inhabited along the river Jordan, where St. John baptized: and it was thence they had their name. But after the Mahometans became masters of Palestine, they retired into Mesopotomia and Chaldea.

They hold an anniversary feast of five days; during which, they all go to their bishops, who baptize them with the baptism of St. John; their baptism is always performed in

rivers, and that only on Sundays.

They have no notion of the third person of the Trinity; nor have they any canonical books, but feveral which are full of charms, &c. Their bishoprics descend by inheritance, as our estates do; though they have the ceremony of an election. There is no fatisfactory account of the origin or principles of this feet. See SABEANS

CHRISTIANS of St. Thomas, or San Thomé, a feet of ancient Christians found in the East Indies, when the Europeans touched at the port of Calicut; who pretend to be descend. ed from those of St. Thomas converted in the East Indies;

whence the name

The natives call them, by way of contempt, Nazarenes; their more honourable appellation is Mappuleymar.

Some learned men in Europe fav, it was not St. Thomas the apostle that converted that country, but another St. Thomas: others fay, it was a Nestorian merchant, called Thomas. It is certain they are Nestorians, and have been fo a long time; infomuch that Christians of St. Thomas now passes for the name of a sect. They have a patriarch, who refides at Mosul. The pope has made several attempts to reduce them under his obedieuce, but to no purpofe. number of these Christians must have been very considerable in the beginning of the 16th century, when the Partuguese became first acquainted with them, since they possessed about 110 churches, in the countries now subject to the Travancore and Cochin rajahs; and, at the present time, after the manifold perfecutions, oppressions, and successive revolutions, that have almost depopulated the whole coast, they are computed to amount to no less than 150,000 persons. They are indifcriminately called St. Thome Christians, Nestorians, Syrians, and sometimes the Malabar Christians of the mountains, by the Portuguese writers of that time, and by the subsequent missionaries from Rome. The most common name given to them by the Hindoos of the country is that of "Nazaranee Mapila," and more frequently "Surians," or "Surianee Mapila." The appellation of "St. Thomé

upon them, probably originated from the chief who fettled the first colony of Syrians on the coast, and who, according to their tradition, was their first bishop and founder of their religion in these countries, whose name was "Mar Thome." His arrival may, perhaps, be afcertained to have occurred during the violent perfecution of the fect of Nettorius, under Theodofius II., or fome time after. The Portuguele, however, pretend that St. Thomas the apostle arrived in India, and, having converted a great number of idolaters on the coast of Malabar, and afterwards on the other side of India, as far as Malliapoor, now St. Thomé, suffered martyrdom there. The Malabar Christians, as they say, remained a long time without ecclefialtical chiefs, and without intercourse with the rest of the Christian world, till they procured bishops from Moful in Syria, who introduced into this country the herefy of Nestorius. This story, though very improbable, and unsupported by any historical proof, has been repeatedly afferted, even by Protestant writers. Common tradition, which has been admitted by the Portuguese writers of the 16th century, probably on the foundation of written records in the Syriac language, which then existed, and were afterwards all destroyed by the famous archbishop De Menezes at the fynod of Odiamper, mentions Mar Thomé as the first who introduced the Christian religion into Malabar. The Nestorians consider him as their first bishop and founder, from whom they derive their name of St. Thomé Christians. His arrival may be placed towards the middle of the 5th century; as notice is taken by Cofmas Indepleustes of Christians in the pepper country or Malé, who received their bishops from Persia, where the Nestorian patriarch of that period resided, whose first feat was at Seleucia in Perfia, afterwards removed to Babylon, and at last to Mosul.

In the Malabar histories the first mention of a Syrian colony of Christians is made in the reign of Cocoorangon Perumal, who probably lived in the 6th century; and again we have an account of two Syrian or Chaldwan bishops, named Mar Sapor and Mar Perofes, who arrived at Coilan, about 100 years after its foundation, where they were extremely well received by the raja, and permitted to build a church, which Subfifted when Cabral first visited Coilan. The grants and privileges, which they received from the raja, were engraved upon copper-plates, which many centuries after were thewn to archbishop de Menezes, probably the same that are now in possession of the Jews at Cochin. Other circumstances, fuch as the name of Syrians retained by the St. Thome Christians, their peculiar features and complexion, the style of their buildings, especially of their churches, and above all, the general use of the Syrian or rather Chaldwan language preserved in all their religious functions, concur in confirming the opinion, that the St. Thomé Christians were originally a colony of Nettorians. They formerly possessed, according to the Portuguese account, upwards of 100 villages, fituated mostly in the mountainous part of the fouthern division of Malabar. They were distinguished from the other inhabitants in a variety of respects; and as to their religious tenets, they generally followed the doctrine of Nestorius. Upon the arrival of the Portuguese, attempts were made to profelyte them to the church of Rome; and, when persuasion failed, recourse was had to open sorce. At length Menezes, archbishop of Goa, made a personal visit to the Malabar Christians, and having appointed a fynod at Odiamper, in the vicinity of Cochin, in 1599, he affembled the Syrian priests of "Cassanas" and 4 elders from each village, and after some shew of disputation and explanation of the controverted tenets of the church of Rome, he die-

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tated the law to them; and overpowering them by his au- fee of Rome for a new bishop subject to their controll; and thority, effected in appearance an union of the Neltonians of Malabar with the Romish church; and they were for fome time governed by Roz and his fucceffors, under the title of archbishop of Cranganore. But this union was neither general, fincere, nor permanent; for foon after fome Maronites, or Nestorian priests, found their way to the mountains of Travancore, where they revived the old doctrines and rites, and ever fince kept up their communication with the Jacobites, Maronites, and Neltorians of Syria. At present there are 32 churches of this description remaining, which are called Schismatic Christians by the Portuguefe and Roman clergy. They have a bishop or "Mar Thome," who resides at Narnatte, about 10 miles inland from Porca, and was confecrated by fome Jacobite bishops fent from Antiochia, for that purpose, in 1752. He adheres more to the doctrine of Eutyches than of Neitorius. About 84 of the old St. Thomé churches remain united to the Roman catholic religion, and are governed by the archbishop of Cranganore, or, as he styles himself, the archbishop of the Malabar Christians of the mountains. Since the death of the latt archbishop, the government of Goa, which had formerly the nomination, has thought proper to appoint only a vicar-general, who refides at prefent at Packepalliporte. The Chaldwan language is still used in their churches, and they are furnished with the necessary books by the

" Congregatio de propaganda fide."

The St. Thome or Syrian Christians, of both descriptions, never claimed the particular protection of either the Portuguese or Dutch, as the new Christians do, but considered themselves as subjects of the different rajas in whose districts they lived, and for a considerable time remained unmolested. But when the rajas of Travancore and Cochin had fucceeded in subjecting the petty rajas and chiefs, that were fituated within the lines of Travancore, they established an oppressive despotism. The new or Portuguese Christians confilt of that race of new converts, gained by the Portuguele mostly from the lowest casts along the sea-shore, where they built many churches; which, by way of diffinction from the Syrian churches, are generally called the Latin churches. They formerly enjoyed the protection of the Portuguese and Dutch governments, without considering themselves as subjects of the rajas in whose territories they refide; and acknowledged only their jurifdiction in civil and criminal matters, and paid no taxes to their native princes. This exemption they maintained till the year 1785, when the governor of Cochin entered, for the preservation of their privileges, into a written agreement with the raja of Cochin, which stipulated that they should pay a yearly sum to the raja, and in delay or failure of payment, the Dutch, and the raja, were to enforce it; the raja, however, did not adhere to his flipulations; but compelled, by oppressive treatment, a great part of them to abandon his dominions. The number of these Christians who consider themselves as under the protection of the fort of Cochin, is estimated at about 36,000. In ecclesiastical matters they were formerly subject to the Portuguese bishop of Cochin; but being expelled by the Dutch, when they got possession of the fort, he fixed his residence at Coilan, retaining his former appellacion of bishop of Cochin, and also his eccletialtical jurifdiction over fuch churches as were not under the immediate controll of the Dutch. His successors continue to prefide over the fame diocefe, which extends as far as the Cavery river, on the other coast, including the ifle of Ceylon; comprehending more than 100 churches of the new or Latin Christians. When the Dutch had expelled the Portuguese bishops from Cochin, they applied to the

the pope fent out a Carmelite prior, with episcopal powers, under the name of vicar-general, to whom the States-General granted a diploma to that purpose in 1698. This eccle-sialtical dignitary has an annual stipend of about 400 rupees, paid him by the "Congregatio de propaganda fide;" and he refides at Varapoly, in a convent of his own order, supported by the "Propaganda." His diocese and power gradually declined; and at prefent only 14 churches are fubject to his episcopal jurisdiction. The St. Thomé Christians formerly possessed a great number of churches or temples, fumptuously built, in the inland parts of the Travancore and Cochin dominions; fome of these have cost upwards of a lack of rupees, and few less than half that sum. Now they are reduced to a wretched condition, being scarcely able to erect a shed for their religious meetings over the splendid ruins of their famous churches. As their opnlence has decreafed, their population has also diminished. Formerly the converts to Christianity were allowed to retain their patrimonial estates; and under the ancient mild Hindoo government, and even in modern times, till Hyder Ally made his first irruption, imposts on landed property were unknown in Malabar. Another fource of the opulence of the St. Thomé Christians was trade; for they were, in fact, the only, or at least the principal merchants in the country, till the Arabs fettled on the coaft. See Afiatic Refearches,

CHRISTIANS AND, in Geography, one of the governments into which Southern Norway, or Norway Proper, is divided. It occupies the fouth western part of the kingdom; and contains 113,024 inhabitants. It is a bishopric

vielding an annual revenue of 600l.

CHRISTIANSAND, a fea-port town of Norway in the government or diocese of Christiansand, opposite to the island of Flekker or Fleckeren. N. lat. 58° 10'. E. long. 8° 14'.

CHRISTIANSBURG, a fortress of Africa on the gold coast, belonging to Denmark. It was taken by the negroes in 1693, who pillaged it, and kept it for fome time.

CHRISTIANSBURG, the chief town of Montgomery county, in the state of Virginia, North America. It contains few houses; has a court-house and gail, situated near a branch of Little river, a water of the Kenhaway. N. lat.

CHRISTIANSHAFEN, a part of the city of Copen-

hagen, built on the isle of Amak. See AMACK.

CHRISTIANSOE, a fortress of Denmark, built on a rock, on the east coast of the island of Bornholm.

CHRISTIANSTADT, a strong fortisted town of Sweden, in the province of Skone, or Scania, built in 1614, by Christian IV. king of Denmark, when this province belonged to the Danes, and finally ceded to the Swedes by the peace of Roschild in 1658. The town is small, but neatly built, and is esteemed the strongest fortress in Sweden. The houses are all of brick, and mostly stuccord white. It stands on a marshy plain close to the river Helge-a, which flows into the Baltic at Ahus, at the distance of 20 miles, and is navigable only for small craft of 7 tons burden. English veffels annually refort to this port for alum, pitch and tar. The inhabitants have manufactories of filken cloth and stuffs, and carry on a small degree of commerce : 57 miles W. of Carl-

ferona. N. lat. 55° 58'. E. long. 14" 6'.

CHRISTIANSTADT, a town of Silefia, on the west fide of the Bober, 32 miles W. of Glogau, and 54 N.E. of Dref-

CHRISTIANSTED, the principal town in the island of Santa Cruz, feated on the north fide of the island, with a

fine harbour. It is the refidence of the Danish governor, and is defended by a stone fortress.

CHRISTIANSUND, a fmall island of the Northern Ocean on the Western coast of the province of Drontheim in Norway. N. lat. 63° 10'. E. long. 7° 58'.

CHRISTIGNETH, a river of North Wales, which runs

into the Dee, in the county of Denbigh.

CHRISTINA, in Biography, queen of Sweden, the only child of the great Gustavus Adolphus, who succeeded to the throne of her father in 1632, when she was only five years of age. During her minority Sweden enjoyed internal repose, but involved in a long state of warfare with the German empire, in confequence of the invalion of Gustavus, as fupporter of the protestant league. The war was conducted by able men whom the king left behind him. The abilities of Oxentiern, who purfued the plans laid down by Guftavus, preserved for Christina that preponderancy which the cabinet of Sweden possessed in the affairs of Germany. The young queen, at an early age, discovered but little taste for the fociety and occupations of her fex. Her education was conducted upon a very liberal plan. She possessed a strong understanding, and a great turn for abstract studies. At an early age she was capable of reading the Greek historians. Thucydides, Polybius and Tacitus were her favourite authors, and as the advanced in life, the love of letters became her ruling passion, which influenced the fortune and conduct of her whole life. At the age of eighteen she assumed the reins of government, and proved herfelf fully able to conduct the affairs of a powerful kingdom. The general peace of Westphalia had in 1648 restored tranquillity to Sweden on terms fufficiently honourable and advantageous to a nation which had attained to a military reputation in no wife inferior to that of any European state. Several princes of Europe aspired to the hand of Christina, but she rejected their proposals, pleading as the motives of her conduct, political interests, contrariety of religion, and diversity of manners. Her people, anxious for her marriage, recommended to her Charles Gustavus, count palatine, her cousin; she rejected their folicitations, having an insuperable aversion to the marriage state, of which she made no secret, declaring, in reply to one of the remunstrances made to her on the occasion, " that there were certain duties required in the nuptial ceremony with which she could not persuade herself to comply." These words were variously interpreted, but she probably regarded the conjugal connection, as a complete humiliation, as it regards the female fex. To prevent a renewal of applications on this subject, she solemnly appointed Gustavus her successor, but without the smallest participation in the rights of the crown during her own life. In the year 1650 she was crowned with great splendour. From this time the entertained a philosophical contempt for pomp and parade, and a kind of difguit for the affairs of flate. She feemed to be only interested in that part of the sovereign power which gave her the opportunity of acting as the patron of the learned throughout Europe, and the encourager of the fine arts. She invited to her court men of the first reputation in various studies; among these were Grotius, Descartes, Bochart, Huet, Vossius, and others who were highly celebrated. Her choice with regard to these seems to have been directed more by general fame, than by her own judgment, or taile for their feveral excellencies, and in general estimation she has derived no great credit either as a learned lady, or as a discriminating patroness of literature. She was much under the influence of a Bourdelot, a physician who gained his afcendancy by outrageous flattery: and her inattention to the high duties of her station disgusted her subjects. She was a collector of books, manu-

fcripts, medals, paintings, antiques and other curiofities, and by her profusion, and indifcreet grants, she soon brought the finances of her country into a state of disorder.

In 1652 the resolved to resign the reins of government to her fucceffor, and communicated her intentions to the states, who diffuaded her from the purpofe; Charles Gustavus, who had manifelted no defire to reign in her flead, and who fince the fettlement of the crown had avoided meddling with state affairs, joined the states in their remonstrances. For a time the renounced the project, but in 1654, when the was only in the twenty-eighth year, Christina abdicated the crown, in order that the might live a life of freedom, and indulge unrestrained in the pursuits to which she was irrevocably addicted. With her crown, the renounced the Lutheran, and embraced the Roman catholic religion: the had however exhibited too great an indifference to the duties and modes of any religion to be suspected of having taken this step through conscientious motives. It was probably preparatory only to her refidence in those countries of Europe which for other reasons were most agreeable to her. In quitting the scene of her regal power, she appeared, or affected to appear, as one who had escaped imprisonment; at Inspruck she made her abjuration, and proceeded from thence to Rome, where the intended to fix her abode. Some difgust which the received at Rome, induced her in the space of two years to determine to visit France. Here she was treated with respect by Louis XIV, but the ladies were shocked with her masculine appearance and demeanor, and the unguarded freedom of her conversation. The learned of Paris paid her every attention, but the person whom she most diffinguished was Menage, whom she appointed master of the ceremonies, an office rarely conferred upon a man of letters. Apartments were affigued to her at Fontainbleau, where the committed an action which has indelibly stained her memory, and for which in other countries she would have paid the forfeit of her own life. This was the murder of an Italian, Monaldeschi, her master of the horse, who had betrayed some fecret entrusted to him. He was summoned into a gallery in the palace, letters were then shewn to him, at the fight of which he turned pale, and intreated for mercy. but he was infantly flabbed by two of her own domestics in an apartment adjoining that in which the herfelf was. The French court was juftly offended at this atrocious deed, yet it met with vindicators, among whom was Leibnitz, whole name was difgraced by the cause which he attempted to justify. Christina was fensible that she was now regarded with horror in France, and would gladly have vifited England, but she received no encouragement for that purpose from Cromwell; the therefore, in 1658, returned to Rome, and refumed her amusements in the arts and sciences. Her deranged finances were put in order by cardinal Azzolini, but the still manifested much levity and inconstancy in her plans and character. In 1660, on the death of Charles Gustavus she took a journey to Sweden for the purpose of recovering her crown and dignity. She found, however, her ancient subjects much indisposed against her and her new religion. They refused to confirm her revenues, caused her chapel to be pulled down, banished all her Italian chaplains, and, in short, rejected her claims. She submitted to a second renunciation of the throne, after which the returned to Rome, and pretended to interest herfelf warmly, first in behalf of the island of Candia, then belieged by the Turks, and afterwards to procure supplies of men and money for the Venetians. Some differences with the pope, made her refolve, in 1662, once more to return to Sweden; but the conditions annexed by the fenate to her residence there, were now so mortifying, that she proceeded no farther than HamTourgh. She returned to Rome, and cultivated a correfpondence with the learned men there and in other parts of Europe, which was her chief folace under the neglect of persons in power. At the peace of Nimeguen, she fent a plenipotentiary to take care of her interests, who with difficulty procured remittances of her arrears. In 1670 the took a decided interest in the doctrines of Molinos, the founder of the fect of Quietifls, who was perfecuted by the French government: and on the revocation of the edict of Nantz, in 1685, she wrote to the French embassador in Sweden, animadverting with much freedom and good fenfe on the project of making converts by perfecution, and the want of real policy in banishing useful artisans on account of differences in religion. Bayle published this letter, with his own remarks, which offended Christina, but the dispute was amicably fettled. In a letter written in 1687 to mademoifelle Scudery, the expresses herfelf with great tranquillity on the prospect of approaching death, an event, however, which did not take place till \$689. The last scene she passed with philosophical composure; she died at the age of fixty-three, leaving behind her many letters; a "Collection of Miscellaneous Thoughtsor Maxims;" and "Reflections on the Life and Actions of Alexander the Great." In Christina we behold qualities worthy of commendation and even high applause; but it cannot be concealed that she possessed faults meriting a strong and decided reprobation. In her we fee a princess discrediting her great endowments by a vain parade and affectation of fingularity, and apostatizing to a religion which she sometimes affected to ridicule and despise. While upon the throne, she was desirous of a private station, and after she had attained her wishes by the voluntary facrifice of her authority, inceffantly repining, and anxious to recover, upon the most humiliating conditions, that crown which she had so capriciously refigned. Coxe's Travels. Univerfal History.

CHRISTINA, Santa. See CHRISTIANIA, St.

CHRISTINESTADT, in Geography, a fea-port town of Sweden, in the province of East Bothnia, built in

CHRISTIPOLIS, in Ancient Geography, an episcopal

town of Cappadocia.

CHRISTISEE, in Geography, a town of Poland, in the palatinate of Braclaw; 44 miles S.S.W. of Braclaw. CHRISTMAS, the feaft of the nativity of Jefus Chrift.

It appears from St. Chryfoftom, that in the primitive times, Christmas and Epiphany were celebrated at one and the same feast; that father observes, that it was but of a little while that Christmas had been celebrated at Antioch on the 25th of December, as a distinct feast; and that the use thereof came from the West. The Armenians made but one feast

of them, as low as the 12th century.

It is commonly maintained, that pope Telefphorus' was the first who ordered the feast of the Nativity to be held on the 25th of December. John, archbishop of Nice, in an epistle upon this subject, relates that at the instance of St. Cyril of Jerusalem, pope Julius procured a strict inquiry to be mad; into the day of our Saviour's nativity, which being found to be on the 25th of December, they began thenceforth to celebrate the feast on that day. However, the precise day, or even the month, in which our Saviour was born, is extremely uncertain. Some, as Clemens Alexandrinus informs us, affixed it to the 25th of the month Pachon, corresponding to the 10th of May. But there are some circumstances which should rather lead us to conclude, that he was born in autumn; as this was, in every respect, the most proper season of the year for a general assemble, which took place at the birth of Christ, and which required personal at-

tendance; and as there were shepherds watching their slocks by night at the time when Christ was born; and therefore it is probable, that the ara of the Nativity was either in September or October, A. U. 748 or 749. See EPOCHA.

Christmas karbour, in Geography, a fafe and commodious harbour, with good anchorage and plenty of fresh water, situated on the N.E. coast of Kerguelen's land, otherwise called Desolation island. S. lat. 48° 41'. E. long.

69° 4'. Variation, in 1777, 27° 45' W.

Christmas ifland, an island of the Pacific ocean, so called by capt. Cook, on account of his sirst landing there on Christmas day. It is situated between the Sandwich islands on the N., and the Marquesas on the S., at about an equal dislance from the one and the other. It is about 15 or 20 leagues in circumference, covered with wood, and bounded by a reef of coral rocks; having on the W. side a bank of fine sand, which extends a mile into the sea, and affords good anchorage. In digging no fresh water could be found; and this almost desolate and uninhabited island furnishes nothing but turtle, sish, and a few birds. Capt. Cook caused the feeds of the occoanuts, yams, and melons to be planted in this island. N. lat. 10 50. E. long. 202 30. Christmas rose, in Botany. See Helebbrus siger.

CHRISTMAS found, a bay on the S. coast of Terra del Fuego, at the extremity of S. America, in S. lat. 55° 22'. W. long. 70° 3'. The entrance into this bay is 3 leagues wide, and bears from St. Ildefonfos' islands, at the distance of 10 leagues, N. 37° W. The shore is generally a rocky bottom, so that ships should not anchor very near it. The E. point of this found is named Point Nativity; and the E. fide of York Minster forms the W. point of this found; the variation here is 23° 30' E., and it has high water on full and change days at half past two o'clock. The adjacent land appeared to capt. Cook, when he visited this coast, defolate beyond any thing which he had yet experienced. It feemed to be entirely composed of rocky mountains, without the least appearance of vegetation. These mountains terminate in pointed precipices, the craggy fummits of which rife to a valt height, fo that fearcely any thing in nature can present a more barren and favage aspect than the whole country. Barren and dreary, however, as the coast was, it was not totally deflitute of accommodations about Christmas found. Fresh water and wood for fuel were found about every harbour; and the country every where abounds with fowl, particularly geefe. A confiderable number of plants was also found upon it, almost every species of which was new to the botanilts.

CHRISTO, Monte, an island in the Mediterranean, S.E. from Corfica, in N. lat. 42° 17′. E. long. 10° 55′.— Alfo, an island, due W. from Port Plata, on the N. lide of the island of Hispaniola.—Alfo, a remarkable mountain on the coalt of Peru in S. America, a little to the southward of

Point de Cames.

CHRISTO, Ponta, a point of land on the Afiatic fliore, forming the S. limit of the gulf of Nicomedia; nearly S. from Scutari, and almost due E. across the Hellespont, from Constantinople.

CHRISTOFHER, in Geography, a town of Poland; in the palatinate of Sandomirz; 16 miles S.S.W. of Sandomirz.

CHRISTOGENON, from Xiso; Chrift, and Yusqua, I am lorn; in the Greek Church, a falt of 40 days, immediately preceding the supposed time of Christ's nativity.

CHRISTOLYTI, from Nissoi, Chrift, and hex, I diffolve, a feet mentioned by Damascenus; so called, because they maintained that Christ descended into hell, body and foul; and that he left both there; ascending to heaven with his divinity alone.

CHRISTOMACHI, Χριτομαχαι, from the Greek Χριτος, Chrift, and μαχομωι, I fight or oppole, a delignation given to all forts of heretics who deny the divinity of our Saviour, or hold heterodox opinions concerning his incarnation.

CHRISTOPHER, HERB, in Botany. See ACTEA

Spicata. CHRISTOPHER'S, St. commonly called St. Kitt's, in Geography, is one of the leeward Charibbee or Charaibean Dands in the West Indics, which was called by its ancient possessions, the Charaibes, Liemuiga, or the fertile island. It was discovered, in November 1493, by Columbus, who, pleased with its appearance, gave it his own Christian name. It was neither planted nor possessed by the Spaniards; nevertheless it is said to have been the most early British territory in the West Indies, and the common parent both of the English and French settlements in the Charaibean islands. It was fuggested by an experienced friend to Mr. Thomas Warner, that St. Christopher, though despised and deserted by the Spaniards, afforded the profpect of a favourable fettlement for a colony; and in 1620 he formed the resolution of executing the project of his friend. Accordingly, he and 14 other companions took their passage in a ship bound for Virginia, and from thence they failed to this island in January 1623, and by the following September they had raifed a good crop of tobacco, which they proposed to make the staple commodity. Thus it appears, that the first actual establishment in this island was prior to that in Barbadoes, which did not take place before the latter end of 1624. The plantations of the English settlers were destroyed by a hurricane before the close of the year 1623; and Mr. Warner was obliged to return to England, where he fought and obtained the powerful patronage and support of James Hay, earl of Carlifle, and thus by a feafonable supply in 1624, he preserved the existence of the settlement. In the following year Mr. Warner returned to the island, accompanied by a large body of recruits, and at the same time arrived M. D'Esnambuc, captain of a French privateer, who, after a fevere engagement with a Spanish galleon, fought refuge in these islands. Having brought with him to St. Christopher's about 30 hardy veterans, they were hospitably received by the English, who thought themselves thus secured against an apprehended attack on the part of the Charaibes. The fact feems to have been, that Warner's first colony lived on friendly terms with these favages, who liberally supplied it with provisions; but when their lands were feized by the planters, the latter, confcious of meriting retaliation, apprehended an attack, though none was really intended. The French and English feeling, or perhaps feigning, the alarm of a projected revolt, determined to feize the conspirators. With this view they fell on the Charaibes by night, and having in cold blood murdered from 100 to 120 of the Houtest, drove all the reft from the island, except such of the women who were young and handsome, of whom, fays Pere Du Tertre, they made concubines and flaves. The Charaibes who had escaped the massacre, united with their countrymen in the neighbouring islands, made a vigorous attack in order to revenge themselves; and, after a severe conslict, the Europeans, indebted to the superiority of their weapons more than to that of their valour, obtained a complete conquett, purchafing their triumph with the loss of 100 men, who were left dead on the field of battle.

After this exploit the Charaibes quitted this and some of the small islands in the neighbourhood, and retired towards the south. Warner and d'Esnambue returned to Europe in order to solicit farther succour. The former was

knighted, and was fent back as governor in 1626, with 400 new recruits, amply supplied with necessaries; and D'Esnambuc, patronized by Richelieu, then minister of France, projected the establishment of an exclusive company for trading to this and some of the neighbouring islands. The French, however, in general, either misunderstood or difapproved the project; and though D'Esnambuc sailed from France in 1627 with 532 recruits, they were fo fcantily fupplied with provisions and necessaries, that the greater part perished miserably at fea for want of food. The furvivors were kindly received by the English; and for preventing future contests, the commanders of each nation agreed to divide the whole island pretty equally between their respective followers. In May 1627 they figned a treaty of partition, which comprehended a league defensive and offensive; but this was of little avail against the Spanish invasion in 1629. For some time the French and English lived amicably; but at length national rivalry and hereditary animofity rendered the island a scene of internal contention and bloodshed. Who were the first agressors it is not now easy to ascertain; it is probable, however, that each nation would lay the blame on the other. In the reign of Charles II., during the first Dutch war, the French king declared for the United States, and his subjects in St. Christopher's, disdaining an inglorious neutrality, attacked the English planters, and drove them out of their possessions; which were afterwards restored to them by the treaty of Breda. In 1689 the French planters, taking part with the interest of the abdicated monarch, again attacked and expelled their English neighbours; and laying waste their plantations, committed outrages that are unjuffifiable among civilized nations, even in a time of open and avowed hostility. So cruel and treacherous was their conduct, that it was assigned by William and Mary as one of the causes which induced them to declare war against the French nation. The French, after having continued about eight months fole masters of the island, were compelled by the English, under the command of general Codrington, to surrender, and 1800 of them were transported to Martinico and Hifpaniola. In 1705 many of the English possessions were again laid waite by a French armament, which committed fuch ravages that the British parliament found it necessary to distribute the sum of 103,000/, among the sufferers, in order to enable them to re-fettle their plantations. At the peace of Utrecht, this island was ceded wholly to the English, and the French possessions were publicly fold for the benefit of the English government; part of this fum, viz. 80,000/. was appropriated in 1733, as a marriage portion to the princess Anne, who was betrothed to the prince of Orange. Some few of the French planters, who confented to take the oaths, were naturalized, and permitted to retain their effates. In 1782 it was compelled by a superior force to furrender to the French, after a very vigorous and noble defence; but by the general peace of 1783 it was reflored to Great Britain.

St. Chrittopher lies in N. lat. 17° 15′, and W. long. 63° 17′. It is about 14 leagues in circuit, and contains 43,726 acres of land, of which about 17,000 acres are appropriated to the growth of fugar, and 4000 to pafturage. Sugar is the only commodity of any account that is raifed, except provisions and a little cotton, and confequently it is probable, that nearly one-half of the island is unfit for cultivation. The interior part consists of many rugged precipices and barren mountains. Of these the highest is Mount-Misery, (evidently a decayed volcano), which rifes 3,711 seet in perpendicular height from the sea. The sterility of the mountains is, however, amply compensated by the sertility of the plains. The foil, which is peculiar to this island, is in gene-

ral a dark grey loam, very light and porous; and conceived to be the production of subterraneous fires, the black ferruginous pumice of naturalists finely incorporated with a pure loam, or virgin mould. The under stratum is gravel, from 8 to 12 inches deep. Clay is only found at a confiderable height in the mountains. Sugar-canes planted in particular spots of this island yield 8000 lbs. of Muscovado sugar from a fingle acre. The general average produce for a feries of years is 16,000 hogsheads of 16 cwt., which, as one-half only of the whole cane-land, or 8.500 acres, is annually cut, (the remainder being in young canes) gives nearly 2 hogsheads of 16 cwt. per acre for the whole of the land in ripe canes; and even this is a return fuch, it is conceived, as is not equalled by any other fugar country in any part of the globe. The planters of St. Christopher's, it is faid, are at a great expence for manure; they never cut ration-canes, i. e. thoots from old roots; and although springs and rivulets are sufficiently plentiful in the country for the fublillence of the inhafub-firstum does not long retain moifture.

and hamlets; viz. Baffe-terre, the pr. fent capital, containing about 800 houses, Sandy-Point, Old Road, and Deep Bay Of these, the two first are ports of entry estab ished by law. The fortifications confilt of Charles-fort and Brimstonehill, both near Sandy-Point; three batteries at Baffe-terre, one at Figtree bay, another at Palmeto point, and some

fmaller ones of inferior importance.

The proportion which St. Christopher's contributes, with the other islands, towards an honourable provision for the governor-general, is 1000/. currency per annum; which is lettled on him by the affembly immediately on his arrival. He has also some perquifites, which, in time of war, are confiderable. Each island within this government has a separate council, and each of them an affembly, or house of reprefentatives. In St. Christopher's the council should confiit of 10 members, but more than 7 are feldom present. The house of assembly is composed of 24 representatives, of whom 15 make a quorum. The requisite qualification is a freehold of 40 acres of land, or a house worth 40% a year. Of the electors, the qualification is a freehold of 10% per annum. The governor of this, and the other islands in the fame government, is chancellor by his office, and in St. Christopher's fits alone. In this island the jurisdiction of both the King's Bench and Common Pleas centres in one fuperior court, in which jultice is administered by a chief justice and 4 puisne judges. The chief is appointed by the erown, the other by the governor in the king's name; and they hold their commissions during pleasure. The office of chief judge is worth about 600%. The emoluments of the affiftant judges are trifling. The present number of white inhabitants is computed at 4000, and taxes are levied on 26,000 negroes; and there are about 300 blacks and mulattoes of free condition. All the white men from the age of 16 to 60 are obliged to enlift in the militia, and they ferve without pay. They form two regiments of foot, although the whole number of effective men in each regiment feldom exceeds 300. There is also a company of free blacks. The natural strength of this island is such, that a garrison of 2000 effective troops, properly supplied with ammunition and provisions, would, in all human probability, have rendered it impregnable to the formidable invalion of 1782. St. Christopher's is separated from the island of Nevis by a narrow strait about 3/4 of a league broad; W. from Antigua, as some fay, 15 leagues, and according to others 21; and St. Eustatia is about 3 leagues W. by N. from the W. point of this island. Edwards's Hist of the West Indies, vol. i. the other side of the Danube till a later period. Besides,

CHRISTOPHER'S, St. an island in the channel between the island of Madagascar and the coalt of Africa. S. lat. 17° 20'. E. long. 42° 13'

CHRISTOPHER'S, St. River, lies on the S.E. coaft of Afri-S. lat. 32° 47'. E. long. 27° 33'.

CHRISTOPHORIANA, in Botany, Africana ranun-

culvides, Boerh. Lugdb. See Adonis capenfis. CHRISTOPHORIANA, Cluf. Hilt. See ACTEA Spicata. CHRISTOPHORIANA arbor aculeata, Pluk. Alm. See ARA-

CHRISTOPHORIANA virginiana, Pluk. Alm. Sce ARA-

CHRISTOPHORIANA canadensis, Morif. Hist. See ARA-

CHRISTOPHORSON, JOHN, in Bizgraphy, a learned divine, a native of Lancashire, who studied at Cambridge, and afterwards was malter of Trinity college. He was promoted to the deanery of Norwich, but his attachment to papacy obliged him to retire from the kingdom during the reigns of Henry VIII. and his fon Edward VI. He returned to England in the reign of Mary, and was by her made bishop of Chickester in 1557, an office which he enjoyed only a fingle year, when he paid the debt of nature. He was a man of great industry, and translated from the Greek the works of Philo, Eufebius, Socrates, Sozomen, and Evagrius. His tiyle is obscure, and from an almost total ig-

of errors in the names and duties of civil and military em-CHRISTOPOLIS, in Ancient Geography, an ancient epifeopal town of Afia, under the metropolis of

norance of the Roman antiquities, he has made a multitude

CHRISTOPHORUS pifeis, a name by which fome have called the faler, or as we call it the dores, or jaune dorce, the gildest fish.

CHRISTORF, in Geography, a town of Bohemia, in

the circle of Boiellau; 6 miles S.S.E. of Krottau. CHRISTOVAL, St. Bay, a bay on the W. coast of California, in N. lat. about 26° 45'.

CHRIST'S THORN, in Botany. See RHAMNUS paliurus. CHROÆ, in the Music of the Ancients. See COLOURS.

CHROASTACES, in Natural History, a genus of pellucid gems, comprehending all those of variable colours as viewed in different lights, of which kind are the opal

and the ASTERIA, or the cati oculus.

CHROBATI, in Ancient Geography, the denomination of a people who formed a part of the Slavi, as well as the Avari. They were armed by Heraclius, the fucceffor of Phocas, against the Avari. They were under the direction of a prince called "Porga," who with several persons of the fame tribe, left their habitations, advanced along the maritime coasts of Dalmatia, put the Avari to flight, and took possession of their provinces. Heraclius tent them priests and bishops, from whom they received baptism. These Chrobati migrated from the north of Bohemia and of Poland, where the Sclavonian language prevailed, and they continued to speak it when they arrived on this side of the Danube. Some authors, according to M. de Peyffonel, pretend that the word Chrobati fignifies poffeffors of large territories. Mr. Dodwell fays this name was derived from that of their prince, Chrowatus; and Constantine Porphyrogenitus says they were the same people with the Bulgarians; but this opinion has been contelted by Theophylaet and others, who allege that the Bulgarians did not commence their incursious to the Chrobati submitted to the emperors of Constantinople; whereas the Bulgarians remained independent.

CHROBERG, in Geography, a town of Poland, in the palatinate of Sandomirz; 52 miles W. of Sandomirz. CHROKIEL, in Ornithology, the common quail, Tetrao

coturnix, called Chrokiel, or Grande Caille de Pologne, by

CHROMA, in the Botanical Writings of the Ancients, a word used to express a famous root brought from Syria into Greece, and used by the women of that country to paint their cheeks red. It was also called rhizium and fucus, and by the Latins radicula.

CHROMA, in Geography, a river of Siberia, which runs into the Frozen fea. N. lat. 73°. E. long. 139° 14'.

CHROMA, in the Italian Music. The Italians take this term from the Greeks, but use it to fignify a note or character of time, by us called a quaver, and when the word femi is added thereto, it means our femiquaver. Eight of the former are contained in a bar, and fixteen of the latter in common time.

CHROMA, in Rhetoric, a colour or fair pretence.

The word is Greek, and literally denotes colour.

CHROMA is also a graceful way of finging, or playing with quavers and trilloes.

CHROMA also sometimes signifies the same as the chromatic DIESIS or semitone minor.

CHROMA is also used to fignify the genus chromaticum. In this fense we find it used by Aristoxenus, and in Ptolemy's Harmonics.

CHROMATIC, in the Ancient Music, the second of the three genera, or kinds, in which the confonant intervals

were fubdivided into their concinnous parts.

The other two kinds were, the enharmonic and the diato-The chromatic confifted of femitones, and minor thirds: it had its name, either because the Greeks marked it with the character of colour, which they call young; or as P. Parran fuggetts, because the chromatic kind is a medium between the other two, as colour is between black and white; or elfe because the chromatic kind varies and embellishes the diatonic kind, by its semitones; which have the same effect in music, with variety of colours in painting. M. Rousseau says, that this species of music was written in coloured notes. Aristoxenus divides the chromatic genus into three species; the molle, bemiolion, and tonicum: Ptolemy, into molle or antiquum, and intenfum.

These species were also called chroai, or colours of the genera; the molle expresses a progression by small intervals, the

intensum by greater.

The chromatic and enharmonic kinds only contain the fmallest of the diatonic degrees; fo that they have the same proportion to the diatonic, as fractions have to integers.

Boethius, and after him Zarlin, attribute the invention

of the chromatic genus to Timotheus, a Milefian, in the time of Alexander the Great. The Spartans banished it their city, on account of its foftness. The characters of this genus, according to Aristides Quintilianus, were sweetness and pathos.

Mr. Malcolm observes, that we are at a loss what use the ancients could make of these divisions and subdivisions, into genera and species. All acknowledge the diatonic to be the true melody; the others feem only humourous irregularities, calculated to pleafe the fancy by their novelty and oddness; and were besides so very difficult, that few, if any, are faid to have ever practifed them accurately.

The moderns have been much perplexed to understand the different species of the chromatic music in use among the ancient Greeks. Most of our musicians have no other notion of the chromatic than of a melody proceeding by femitones, major and minor. This is what Broffart fays of it. But this is not sufficient to convey a true notion of the chromatic. Dr. Pepulch has given us a clearer light in this affair: his doctrine is as follows.

The ancients diffinguished three forts of chromatic, which were denoted by the names, molle, fefquialterum, and to-

The ebromaticum molle, was a divition of the diatesfaron, or fourth, into three intervals, which were two subsequent femitones minor, and the interval, which is the complement of thele two to the fourth; and this interval will be found equal to a third minor added to an enharmonic diefis. This species is not to be met with among the moderns.

The chromaticum sesquiaiterum, or hemiclium, was a division of the fourth into a semitone major, a semitone minor, and a third minor. This is mentioned by Ptolemy as the chromatic of Didymus. It occurs in modern compositions.

The chromaticum toniaum, or tonicum, was a division of the fourth into a femitone major fucceeded by another femitone major, and the complement of these two to the fourth, which is the interval, commonly called a superfluous tone. This often occurs in modern music. Diet. de Musique, p. 19. Phil. Tranf. No. 481. p. 272. Wallis, Append. Ptolem. Harm. p. 164.

Of the modern chromatic, the scale of which is so different from the ancient, we can eafily exp'ain the principles upon which it is built, by giving it a fundamental base: The regular chromatic feale in modern music, confisting entirely of a feries of major and minor femi-tones, such as the temperament of our keyed and wind instruments allows, ascending and defeending, may receive the following fundamental bases. As it can very seldom happen that a complete octave of half notes can be wanted with a base to them, in order to avoid double tharps and flats, we have divided the chromatic octave into two tetrachords.



ancient and modern chromatic. But the abbé Feytou, who has meditated on these matters more perhaps than any other modern theorift, has furnished an article to the musical Encyclopedists, which, though very ingenious, will, we fear, Vol. VII.

These are the general ideas throughout Europe of the puzzle the cause, and destroy the sew ideas concerning this genus, which had been formed from the perufal of ancient and modern authors on the subject. The first period of this article is, however, clear and indisputable.

" CHROMATIC. The femi-tone is the element, the precise

interval which conflitutes the chromatic genus; as the tone is that of the diatonic; and the quarter-tone that of the enharmonic; the haif-quarter tone that of the diacommatic. This is evident, but it remains to be difcovered, what ancient Greek, and modern authors, understand by a femi-tone.

"If. It is more than probable that Ariftoxenus did not understand himself, in speaking of half tones, or a third or fourth part of a tone; it is in vain for him to say that he was accused wrongfully of dividing a tone rigoroully into halves, (Merbonius, p. 46. Ariftox.) of consulting in his civition of tones, only the judgment of the ear, (ib. pp. 14 and 33) rejecting musical ratios of intervals (ib. pp. 32) which are their natural signs, and the proof of their degree of consonance and dissonance, i. e. of their harmonic or exharmonic character, it is wholly impossible for him to prove that a nominal femi-tone is, or is not, the precise half of a tone given.

2dly. The Pythagoreans of the last ages of Greece, those who dared to assume that title, after the total extinction of the Italic feet, were not much more reasonable than the Aristoxinians, their opponents. Neglecting to confult the founds themselves in their theory, they were carried away by certain metaphysical prejudices, to calculations too complicated to lead to the simplicity of the ratio of founds. Did they think that the ratio of the interval from the 7th to the 8th of a key (as in C, BC) which is 15 to 16, was with them 243 to 256: that of the major 3d (which is 4 to 5) to be 64 to 81? which rendered it fo diffonant, that they agreed with the Ariffoxinians, that it ought not to be ranked among concords. Aristoxenus pp. 20 and 45; Nichomachus, p. 20 and 21; Bacchius, pp. 3; Arid. Quint. p. 16. N. B. Thefe three lait were Pythagoreans, that is to fay, pretended to poffels the numerical theory of Pythagoras. Arist des Quint., indeed, (p. 114.) tells us, that the ancients, meaning the Pythagoreans, had determined the ratio of the femi-tones to be 16 to 17, and 17 to 18; but we do not find that this division had been adopted in the Chromatic genus, when the femi-tones were from 243 to 256.

"3dly. The moderns make the Chromatic feale proceed by femi-tones, major and minor, alternately: the fifth in the ration of 15 to 16, the other of 24 to 25. Now an interval from 15 to 16, is not a femi-tone, but a true diatonic interval, a real found of the natural feale. Modern chromatic, therefore, admits but a fingle chromatic interval, which therefore cannot conditiote a group; for the chromatic genus ought to proceed by femi-tones. Now it is impefficile in practice, to the two equal intervals without changing the key. Chromatic melody, therefore would not have place in any of our keys. We must then either suppose that the racederns have no chromatic genus, or that they the many laines of semi-tones, which are only equalized by tempera-

ment."

It has long been faid by writers on the fulject, that modern elements is totally different from the ancient; but the derivates to affian reasons for the difference, we thall traditite, not with a very lively hope that we

fall be understood

as in Greek Might. It would be of little the to employ our time on the ratio of the thromatic things he tetracher let fixtum. What ferms necessary to obtain the all the formula of the three genera have in common, the lowest and the highest. Thus the firings common to the three genera; these we styled Charle Jabiles. Whence I contracts out the first contracts of their different formula ely; whence we may infer, that they were not the inventors of their formula.

" 2dly. That in each formula of the chromatic genus, the Arithoxenus's fyltem at the head of his treatife). Hence I conclude, that the Greeks had not the least notion of what' we call a key; because they had not the curiofity, I durit not fay the science, to use every tetrachord in one sole key. tervals in one fingle key. But Protemy, in re-establishing the ratios of the Greek fystem in their ancient simplicity, demonth ates that thefe femi-tones were rendered equal only by temperament. (What fays the abbé Rouffier to this?) ignorance of its harmonic character, its modulation, and its tem of the Greeks, we must not conclude that it was the only one in each genus; they had likewife pentachords and diapafons, of which the intrinsic form has not been always the fame: (could the dispason or office have a latitude?) But in the last analysis, each of these systems is resolved, ultimately, in the tetrachord, which is, properly speaking, the gamut of the Greeks.

"CHROMATIC, in Modern Music. The chromatic may be practited in modern music by using at pleasure different gamuts, passages, transitions, and chromatic graces or em-

ellihments.

" 1st. Of Gamuts. The natural, physical, and primitive form of a gamut is progressive, fince every scale is included in a progression of the harmonics of a generator, that is, of a key note. Thus the diatonic gamut is the result of the regular production of founds, comprehended between the extremes of the 4th octave from C the generator. The chromatic gamut immediately follows the diatonic in the acute, and is comprised between the 16th and 32d harmonic of C. Thus this gamut forms the 5th octave of the key note C, C*, D, D*, E, E*, C. But much is wanting to render our chromatic gamut progressive, in which the femi-tones decrease uniformly from grave to acute. For including only femi-tones major and minor, its melody is lefs natural than a melody formed of progressive founds; and the accompaniment is forced, being reduced to three or four chords at most. For, when the chromatic melody proceeds by femi-tones major, in afcending each note is fuccessively 7th and 8th of a key, or 3d and 4th, and reciprocally in descending. When the melody proceeds by femi-tones minor, we are driven to different combinations of the chord of the extreme flat 7th. When a fuccellion of founds alternately major and minor is used, we have a feries of minor tones. But it is easy to procure a chromatic accompaniment faperior to all those which have been in use hitherto, in supposing our gamut really pronatural gamut, C, C, D, D, D, E, and we accompany it with this fundamental base only C, C, C, C, C, C, C, (which is making the intermediate half notes between C and E passing ing, allowing a base to the first and last note is sufficient. tonic fucceffions.) "CHROMATIC Paffages, which we have hitherto accompa-

"CHROMATIC Paffages, which we have hitherto accompanied by the feveral revolutions of the extreme flat 7th, and extreme flatp oth, may be regarded as parts of the natural garant. With a little use we may refer them to the true chord to which they appertain; in remembering that the

major

major semi-tone has no place in the chromatic scale, and that its true and only place, even in the modern gamut, is between the sharp 7th and 8th of the key note; and, confequently, in ascending, it may be accompanied by all the chords which include the sharp 7th; as in the key of C: GBDF, CEGB, DFAB, DFG&B, FABD, &c. and by the chords upon which they sught to be resolved; and in descending, by a contrary motion; i. e. in making the resolved chord precede and solve the discord.

"But a general rule is, that every time the femi-tones fucceed each other chromatically, that is, without being feparated by wider intervals, we ought never to fuppofe them equal; but always graduaily, and progreffively unequal. If this rule is violated, you will have passages, but never chromatic melody, and a harmony which, far from d-termining the key of the treble, will have no other effect, than to

puzzle and missead the hearer.

"Chromatic transitions confish in changing thekey at each note of the melody; which is supposing all the half notes equal. But this supposition is more favourable to the ignorance of the composer than to the effect of the harmony and melody. The composer regards each found as 7th and 8th of a key successively, as supershous 5th and 6th, or indeed as 3d and 5th below the key note, so that one form only of resolution serves him for the most considerable traits in harmony; an harmonic mechanism more likely to degrade the melody than to enforce the effect. In general, it is the ignorance of the key of a chromatic melody, and of its true harmony, which drives composers to transitions (modulations). To this there are some exceptions, but they are rare.

"Curomatic graces, or embelij/ments, are passages not allowed for in the time, by which piano-forte players, when the right hand is low on the keys, mount up to the point where the melody re-commences. It is, however, a feat which destroys all idea of the key of the piece, if such runs are not very thort and rapid, and the performer has not the taste and address to make the principal chords of the key heard; which would require a profound knowledge of harmony, and a very active singer. But good harmonists leave to mediocrity these childish ornaments, which are truly offen-

five to delicate ears."

For our own parts, the running up and down the keys in femi-tones is now become so common, affected, mechanical, and unpleasant a trick, that we never wish to hear it performed

more frequently than once a year.

The nice discriminations of major and minor semi-tones in the abbé Feytou's ingenious article Chromatic, whence we have made fuch long extracts, are speculations for discussion, and materials for disputation, rather than practice. In compofing for our keyed instruments, and in playing on them, both the composer and performer are at the mercy of the tuner, and of his habitual temperament. The composer writes, and the performer plays, as if the instrument were perfect. forefathers, knowing where the welf lay in the organ and harpfichord, touched that key and its relatives as feldom as possible. A composition in Eb or Eb, with a sharp 3d, is hardly to be found in music of 200 years old; and we have old organs where Eb and Ab feem, by the dust with which they are covered, as if they had never felt the finger fince the instrument was erected. But now the bold modulations of Emanuel Bach, Haydn, and Mozart, have provoked another temperament; the tuners have, by degrees, been obliged, much against their will, to try at equal harmony; and compofers and performers may now ramble about, without the fear of offending nice ears by one key more than another. There is not time for calculation during the performance of a written piece, much less of a voluntary. If a keyed-instrument is out of tune, the

auditor knows that it is the fault neither of the composer nor player, and accommodates his auricular organ to the evil; but if a vocal performer fings out of tune, or the intonations of a violin player are falle, it is never f rgotten or forgiven. Imperfection of intervals in finging, however, depends on the chell of the finger, and on the itrength of hand in the violin player, more than on the ear of either; the mischiel being done before the ear of either is off-inded. The abbé Feyton jully calls chromatic pallages in which the key is for diguiled as not to be known, chromatic graves; very different things from chromatic modulations. See in Plates of Music examples of modern chromatic to a fundamental base; of and of oppio in genero chromatics; and of Rousseau's et auto fuections.

CHR

CHROMATIC, in Painting, is sometimes used to fignify the

colouring. See Colour.

CHROMATICS, in Philosophy, denote that branch of the feience of optics, which fixtes and explains the properties of the colours of light and of natural bodies. See the detail

under Colour and REFRACTION.

CHROME. Chrome is a metallic fubstance of a greyish-white colour, extremely brittle, acidinable with great
difficulty by nitric acid, and then capable of combining with
caustic potash into a lemon yellow felt. This falt being
added to a folution of nitrat of lead occasions a deep orangered precipitate of chromated lead.

Chrome has hitherto been found only in the acid state

combined with Icad and with iron.

Sp. 1. Chromat of Lead. Red Lead Spar, of Kirwan. The colour of this mineral is aurora red, patting into hyacinth red. It occurs fometimes diffeminated, but most commonly crystalized, either in rectangular prilms, or in fix or eight-fided prilms. The crystals are of moderate size, adhering laterally to each other, and generally very imperfect and ill defined; they have a brilliant external lustre. The fracture is sine-grained uneven, passing into conchaidal and irregularly lamellar. It breaks into blunt e ged in letterminate fragments. It is translucent, passing into semi-transparent, is brittle, easily frangible, and, when scraped, gives a yellowish orange-coloured powder. Sp. gr. 6.02.

Chromat of lead, when exposed to the blow pipe, crackles a little, and melts into a blackish slag. With borax it is, in part, reduced to the metallic state, and communicates a green colour to the flux. It has been analysed by Vanque-

lin with the following refult :

69.96 Oxyd of lead 36.40 Chromic acid

100.36

This mineral has hitherto been found only in the gold mine of Berezof, to the north of Ekateriaenburg, on the eaflern fide of the Uralian mountains: it is thinly disperfed in a vein palling through gnells and micaecous febritus, accompanied by quartz, galena, and auriferous pyrites: none of the crystallized varieties have been found for fome years.

Sp. 2. Chromat of iron. The colour of this mineral is greyifh, or blackish brown; it occurs in mast; it possesses a slight degree of metallic luffer; its fracture is compact uneven, fometimes imperfectly lamellar; when pulverized, it is of an ash-coloured geey. It is hard enough to feratch glass, is difficultly frangibie, opaque, and gives an argillaceous odour when breathed upon. Sp. gr. 4-03.

It is infufible before the blow pipe without addition, but, with borax, melts into a beautiful green-coloured glais. It contains, according to an analyfis by Vauquelin,

s, according to an analytis by vauquenn,

43 Chromic acid

35 Oxyd of iron 20 Alumine

2 Silex

100

Chromat of iron is faid to have been found in Siberia; it has also been discovered in France near Gossin, in the department of Var, forming nodules and veins in serpentine.

The method of analysing the chromat of lead is very simple: Vauquelin has pointed out two ways, both of which

we shall mention.

Take one part of finely pulverized chromat of lead, three parts of perfectly faturated carbonat of potash, and forty parts of water, and boil the mixture for the space of an hour. As foon as the fubiliances begin to act on each other a brifk effervescence will take place, the orange-colour of the lead will change to brick red, and finally, when the effervescence has ceased, there will remain at the bottom of the vessel a powder of a dirty yellow colour, confifting of carbonat and chromat of lead, covered by a liquor of a bright golden yellow, which is chromat of potash. The liquor being poured off, and the powder well washed, some very dilute nitric acid is to be poured on the powder till it ceases to effervesce; the colourless solution, thus obtained, is nitrat of lead, while the undecomposed residue of chromated lead will remain unaltered, and is afterwards to be decomposed by a second digestion with thrice its weight of carbonated potash. The nitric folutions of lead being mixed together are to be decomposed by sulphat of soda, and the lead contained in the ore is to be estimated from the sulphat of lead thus procured. The alkaline folutions of chromated potash are to be mixed with weak nitric acid, as long as any carbonic acid from the undecomposed carbonat of potash is given out, and the liquor, by subsequent evaporation and cooling, depolits crystals of chromat of potash mixed with nitre.

The other method of decompoling this substance is, to digest together, at a moderate temperature, equal parts of chromat of lead very finely pulverized, ftrong and pure muriatic acid, and water; taking care to ftir the mixture from time to time. The chromat of lead will change to a white colour, and will be decomposed, being converted for the most part to muriat of lead. When the acid has ceased to act, the liquor must be poured off, and fresh muriatic acid, (diluted as before with water,) to the amount of about one-fourth of the former quantity, is to be digested with the residue, till no more orange-coloured grains appear among the white muriat. This liquor being added to the former, together with the washings, the whole, after being heated, is to be placed for a few days in a cool place, that the fmall quantity of muriated lead that it holds may be depofited; when this is removed, some oxyd of filver (precipitated from its folution in nitric acid by pure potath), is to be added very gradually till the last portions acquire a red purple colour; thus the whole of the muriatic acid will be got rid of, and the liquor will contain only chromic acid, which, by flow evaporation, is deposited in small prismatic ruby-red

cryitals.

The decomposition of chromat of iron is not effected by any means so eaily as that of chromated lead. The action of either muriatic or oxymuriatic acids upon it is very slow and imperfect; nor is a boiling solution of either pure or carbonated potash attended with better success. The most effectual way of proceeding is, to sue in a platina crucible the sinely pounded ore, with an equal weight of caustic potash; then to separate by water all that is soluble in this

fluid, and treat the refidue with hot muriatic acid. By the alternate use of these mentions six or seven times each, the whole of the ore will be taken up and diffolved. The munatic folution being evaporated to dryness, and then left to cool, will become gelatinous, thus announcing the prefence of filex, which may be separated by drying the jelly, and then digefting the refidue in boiling water, in confequence of which the filex will remain undiffolved : the clear liquor being then treated with ammonia, the iron will be obtained in the state of oxyd. The muriatic solution being thus exhausted, the alkaline folution is to be carefully neutralized by nitric acid, by which means the alumine will be precipitated, and nothing will remain in the liquor but chromat of potash and nitre, from which the chromic acid may be obtained pure, by adding nitrat of lead till no further precipitate takes place, and then treating the chromat of lead thus formed with muriatic acid, as mentioned above.

Chromic acid is of an orange-red colour, and a pungent metallic tafte; it is very foluble in water, and by gentle evaporation cryftallizes in lengthened prifms. Like other acid it combines with the falifiable bafes, whence refults a genus of compound falts called *chromats*, the chief of which we

shall proceed to describe.

Chromat of barytes is formed by mixing together the aqueous folutions of barytes and chromic acid: it appears as a pale lemon-yellow precipitate, is sparingly foluble in water, and has no perceptible taste. When heated, it gives out oxygen gas, and assumes a green colour.

Chromat of lime is prepared, like the preceding, by adding the liquid acid to lime water; an orange yellow precipitate falls down; differing from the chromat of barytes only in being lefs foluble, and in a fomewhat different order of

affinities.

The carbonated alkalies are decomposed with effervescence by chromic acid, forming very foluble and crystallizable falts of a lemon yellow colour. Chromat of ammonia is destroyed by a red heat, the alkaline base being decomposed, and deoxygenating the acid, so that only a green oxyd of chrome remains behind. The alkaline chromats are decomposable with abstraction of their acid by barytes, lime, and strontian, and with abstraction of their base by the mineral acids; when added to any of the foluble metallic salts a double decomposition takes place, and the chromated metal is precipitated in the form of a coloured powder; mercury gives a vermilion red precipitate, filver a carmine red, lead an orange yellow, tin a green, &c.

Chromic acid appears to be very eafily reducible to the flate of oxyd, in which flate it is generally of a green colour. Thus, when heated on charcoal before the blowpipe, it first boils, and when the moilture is evaporated, a green pulverulent infusible oxyd remains. By fusion with borax and glass of phosphorus, it affords vitreous globules of a bright emerald green. With tan it forms an infosible yellowish brown flocculent sediment; and with hydrosulphuret of potash a

brownish green one.

Muriatic and chromic acids, when heated together in a retort, occasion a considerable effervescence; part of the muriatic acid is converted into oxymuriatic, which sies off, and the chromic acid is changed into the green oxyd. Ether or alcohol, when heated for a sew minutes with this acid, produce on it a similar effect; as does also muriat of tin, and the same metal in the reguline state, also iron, zinc, and most other metallic substances. Even light will decompose chromic acid, for a paper wetted with it, and exposed for a few days to the sun, assumes a permanent green colour.

In order to reduce chromic acid to a regulus, it is sufficient to heat it strongly in a crucible lined with chargoal; the re-

2

fult will be a brittle, brilliant, greyish white, metallic button, amounting to about 67 per cent. of the acid employed. At a high temperature it assumes the form of feathery crystals. A fragment of this metal, when exposed to the blowpipe, first tarnishes, and then acquires a thin coating of greenish oxyd. When finely pulverized, and treated with boiling concentrated nitric acid, it is oxydated, though with extreme difficulty, and gives the acid a light bluish green colour; by repeated abstractions it is at length completely acidised, and then exhibits exactly the same characters as the native acid.

Chrome, on account of its fearcity, and the fhort time that it has been known, has not yet been applied to any ufe; it is probably, however, capable of furnishing fome fine pigments to the painter and chambler; in particular it will tinge glass with a true cmerald green; the colouring matter of this beautiful gem having been recently proved to be this very metallic oxyd.

CHROMIS, in Ichihyology, the name of a little fish caught frequently in the Mediterranean, the chief colour of which is dusty brown. Linnous describes it after Artedi as a fparus, with the second ray of the ventral fins setaceous. See

SPARUS chromis.

CHRONIC disease, in Medicine, from χεδοος, time, is a disease which, from its nature, may be of long duration. The term chronic is used in contradistinction to acute, which implies a state of violent and sebrile action in the constitution, which must necessarily soon terminate, either in recovery

or death. See DISEASE.

CHRONIC weakness, a term employed by some physicians in a vague and somewhat general sense, to denote a variety of modifications of disease, which have often been called nervous, and which are accompanied with a general debility of the constitution, and a failure in the performance of certain functions, especially that of digestion. It includes those varieties which Dr. Cullen included in his genus of dyspessia, and Sauvages in that of assemble as hypochondriasis, chlorosis, and other diseases, where the dybility is symptomatic of some derangement of the stomach and bowels, or of the other viscera. The causes and the means of cure are such as belong to the varieties of dyspessia and althenia. This term is rejected from the more correct medical vocabulary of the present day. Wither on Chronic Weakness. See Dyspessia and Asthenia.

CHRONICLE, CHRONICON, denotes a history digested in order of time; though the term is seldom used but in speaking of our old English histories, as Holinshed's Chro-

nicle, Stow's Chronicle, &c. See Annals.

CHRONICLE, Parian. See ARUNDELIAN Marbles, and

PARIAN Chronicle.

Chronicles, in the Canon of Scripture, are two facred books called by the Greeks Paralipomena, Therefore because they contain many supplemental relations omitted in the other historical books. The Hebrews, fays Dupin, (Complete Hill, of the Canon, &c. p. 86.), make but one book of them, under the title of "Dibre-Haiamim," the fayings or actions of days or years, i. e. journals or annals; either because the order of time is more exactly observed in them, or else because they were taken out of the records, journals, or annals of history. They are an abridgment of facred history from its beginning, to the return of the Jews from the Babylonish captivity, taken out of the books which we have, and out of other annals which the author had by him in his time. The design of the author was to represent to the Jews the scries of their history, which might have been obliterated from their memory during the captivity, and thus to put them in mind of their original. Accordingly, the

first book traces the genealogies of the Israelites from Adam, relates the death of Saul, and gives a brief account of David's reign. The scood traces the progress of the kingdom of Judah, its various revolutions, its period under Zedekiah,

and the restoration of the Jews by Cyrus.

It has been generally supposed, that these books were compiled by Ezra; and that they were written after the termination of the Babylonish captivity, and the first year of the reign of Cyrus, who is mentioned in the last chapter of the fecond book. Some passages feem to have been transcribed verbatim from the hiltories and records that were made at the time when the temple stood, and when the Jews were in possession of Judwa; and others were probably interpolated or added after the time of Ezra. Dr. Kennicott has fatisfactorily shown (Differtations, vol. i. and ii.) that feveral apparent contradictions between the accounts in Chronicles and in the books of Kings, with regard to numbers, have arisen from the corruption of the Hebrew text; which may be eafily accounted for when we confider that numeral letters, used to express numbers, might easily be changed into one another by transcribers. See CHARACTERS, Hebrew. Several words are also omitted, e. g. 34 in 1 Chron. xi. 13, preferved in the parallel place in 2 Sam. xxiii.; and others are interpolated, c. g. two whole verses at the end of Chronicles; which interpolation is discovered by means of the beginning of the book of Ezra, which has the fame words, fully proving that part, and a very abript part, of the decree of Cyrus had been subjoined to Chronicles, through the inadvertence of some transcriber. Thus, the two verses at the end of the book, which are far from being chronologically connected with the preceding, mention, and merely mention, the decree of Cyrus. They begin that memorable decree, but leave it unfinished; breaking off in the very midst of a sentence, in a manner perhaps unparalleled. Those two last verses have, probably, been added improperly. Some transcriber, having finished the book of Chronicles at verse 21, proceeded, without leaving the usual distance between different books, to write the book of Ezra, but, finding his mistake, he broke off abruptly; and so began Ezra at the cultomary diffance, without publishing his error, by erafing or blotting out those lines, which he had carelefsly subjoined to Chronicles. Hence we may perceive, that the book of Ezra once followed that of Chro-

CHRONOGRAM, a kind of composition, whose numeral letters, joined together, make up some date, or epocha.

See ANAGRAM.

The word is compounded of xxxxxx time, and xxxxxx the CHRONOLOGICAL, belonging to CHRONOLOGY. Chronological characters, are characters by which times are diffinguished. See CHARACTERS. Of the forme are natural, or aftronomical; others are artificial, or historical. Natural chronological characters are fuen as depend on the motions of the stars, as eclipses, solutioes, equinoxes, the different aspects of planets, &c. Artificial chronological characters are those which men have chabithed, as the solar cycle, the lunar cycle, &c. Historical chronological characters are those which are supported by the testimonies of historians, when they fix the dates of certain events to certain periods. We say also chronological tables, abridgments, machines, &c. See Chronometers, and Chronological. Table at the colose of the next article.

CHRONOLOGY compounded of xeeos, time, and xopes, diffeourfe, is the art of measuring time (See Time), dillinguishing its feveral conflictment parts, such as centuries or ages, years, months, weeks, days, hours, &c. (which fee respectively,) by appropriate marks and characters, and of

ad'ulting these parts, in an orderly manner, to past transactions, by means of zeras, epochas, cycles, &c. (which see respectively) to the illustration of history. See HISTORY.

Sturmius divides chronology into five diffinct branches; viz. metaphytical, phytical, political, historical, and eccleficalical; according to the various relations, or habitudes, in which Jubj cted to the affections, states, and alterations of natural things; as accommodated to civil uses; as matched with events that pass in the world; and particularly as it relates to the celebration of Easter, which fee. The importance and utility of chronology, as it comprehends the diffribution hittorical events by means of thefe feveral divisions in the order according to which they occurred, fo that their reacknowledged. Chronology has been, therefore, not unaptly denominated "one of the eyes of hillory;" and it also It derives necessary affiltance from altronomy and geography, and also from arithmetic, geometry, and trigonometry, both plain and fpherical; and likewife from a fludious and and inferiptions. Its history, however, is comparatively of modern date, as we shall show in the fequel of this article?

CHRONOLOGY, Chinefe. No nation has boatled more of its antiquity than the Chinefe: but though we allow them as five hundred years before the Christian zra. This, however, may probably be owing to the general destruction of ancient remains by the tyrant Tiin-chi-hoang, in the year 213, or, as some say, 246, before the Christian æra. We which we are obliged to an illustrious Tartar, who was viceroy of Canton in the year 1724, and a Latin translation of which was published at Rome in 1730, that the most remote epocha of the Chinese chronology does not surpass the first year of a prince called Guei-lie wang, who began his reign four hundred and twenty-four years before the vulgar wra. approved hiltorians of China, who admit nothing into their putation make use of a cycle of fixty years, called kiats, from the denomination given to the first year of it, which ferves as the basis of their whole chronology. Every year of this cycle is marked with two letters, which diffinguish it from the others; and all the years of the emperors, for above two thousand years, have names in hillory common to them with the corresponding years of the cycle. Phil. Tranf. abr. vol. viii. part iv. p. 13, &c. According to M. Freret, in his Estays, the Chinese date the epocha of Yao, one of their first emperors, about the year 2145, or as others thate it, 2057, or according to Du Halde 2357 years before Christ; and reckon their first astronomical observations, and the composition of their famous calendar, to have preceded Yao a hundred and fifty years: and thence it is inferred, that the altronomical observations of the Chinese and Chaldmans coincide. Accordingly Mr. Whiston (Short View of the Chronology of the Old Tellament) maintains that the Chinese chronology, when rightly understood, is exactly agreeable to that which he has deduced from the Hebrew text of the Old Tellament. Later authors date the rife and

progrefs of the fciences in China from the grand dynafty of Teheou, about twelve hundred years before the Chriffian era, and fhew, that all historical relations of events prior to the reign of Yao are fabulous. Mem. de l'Historie des Sciences, &c. Chinois; a work compiled by the missionaries of Perkin vol. 1 Paris 1276 Sec Curva New York

of Pekin, vol. i. Paris, 1776. See China.
Chronology, History, and Newtonian principles of. Many ages mult have elapted before the mode of computing time, or of duting events, was brought into established ufe. The most ancient philosophers and historians wrote in verfs, and were unacquainted with chronology. In the age of Homer, a formal calendar feems to have been unknown; and at that early period time was measured by the season, and at that early period time was measured by the season, and at the revolutions of the fun and moon, and the free-silve returns of labour and rest; but we read of no positional distribution of time into such parts, as months, weeks, or hours, ferving the purpose of guides to bishory or as registers of events; nor do we discover any allusions to clocks, citals, or clopydex. Several centuries intervened between the O'ympic ara, and the first historians; and feveral more elected before the period in which the first chronologies appeared. We find that even after the computation of time commenced, its first measures were very indeterminate. See the fequel of this article.

began to keep exact accounts of time, have been prone to advance their antiquity. Thus Herodotts informs us (lib. Sethon was estimated at 11340 years. The Chaldwans also boatled of their antiquity; for Callifthenes, the disciple of Arittotle, fent aftronomical observations from Babylon to Greece, which were faid to have comprehended an interval of 1903 years before the time of Alexander the Great; and they farther boasted, that they had observed the stars 473000 years. There were also others, who made the kingdoms of reign of Ogyges unknown, because they had no history of them; those between his flood and the beginning of the Olympiads, fabulous, because their history was very much blended with poetical fables; and those after the beginning of the olympiads, historical, because their history was free from such fables. The fabulous ages, however, wanted a good chronology; and fo also did the historical, for the first 60 or 70 olympiads. Hence it appears, that the chronology of ancient kingdoms was involved in the greatest uncertainty; and this illustrious philosopher has thewn, that the Europeans in particular had no chronology before the Persian empire, which began 538 years before Christ, when Cyrus conquered Darius the Mede, and that the chronofince framed by reasoning and conjecture. In the beginning of that monarchy, Acufilaus made Phoroneus as old as truth; and in order to warrant this computation, his folfables, because their writings were composed only in verse. The ancient philosophers, as Orpheus, Hesiori, Parmenides, Xenophanes, Empedocles, and Thales, anciently delivered tinued. Piutarch farther informs us, (Oper. tom. ii. p. 402.)

that Ariftarchus, Timocharis, Ariflillus, and Hipparchus, described astronomy in profe, without rendering it the more contemptible, after Eudoxus, Hefiod, and Thales had written concerning it in verfe. We learn from Pliny (Nat. Hift. 1. vii. c. 56.) that Pherecydes Syrius taught to compole discourses in profe in the 50th olympiad, or the reign of Cyrus; and Cadmus Milefius to write history. In another place, (l. v. c. 20.) he fays, that Cadmus Milesius, who flourished at a period somewhat earlier than the Perlian monarchy, was the first who wrote in profe. Josephus (Cont. Apion.) informs us, that Cadmus Milefius and Acufilaus, the oldest historians among the Greeks, flourished a little before the expedition of the Perlians against the Greeks; and Suidas says of Acusiläus, not only that he was a most ancient historian, but that he wrote genealogies out of tables of brass, found in a corner of his father's house. Pherecydes, already mentioned, wrote of the antiquities and ancient genealogies of the Athenians, in ten books, and was one of the first and best of the European writers of this kind, whence he obtained the name of Genealogus;" and Dionysius Halicarnassensis (l. i. c. 13.) esteems him to be second to none of the genealogers. Epimenides, the historian or genealoger, who was a different person from the Cretan philosopher of the same name, wrote of the ancient genealogies; and Hellanicus, who was 12 years older than Herodotus, digested his history by the ages, or successions of the priestesses of Juno Argiva. Others digested theirs by the archons of Athens, or kings of

the Lacedæmonians

Ephorus, the disciple of Isocrates, digested his records by generations. Accordingly Polybius is of opinion, (lib. v. f. 33.) that this hiltorian of Cume was the first who attempted to reduce chronology into a regular science, under the form of an universal history; and we know that he sourished in the time of Philip of Macedon, about 350 years before Chrift. He began with the return of the Heraclide into Peloponnesus, and ended his chronological history with the fiege of Perinthus, in the 20th year of Philip, the father of Alexander the Great, that is, cleven years before the fall of the Perhan empire. We may observe, however, that the Arundelian marbles (which fee), composed 60 years after the death of Alexander the Great, take no notice of olympiads, and reckon backwards from the then present time by years; and that in the histories of Herodotus and Thuevdides, the dates of events are not afcertained by any fixed epochs; nor were the olympiads applied to this purpose at so early a period. Timzus of Sicily, who flourished in the reign of Ptolemy Philadelphus, about the middle of the third century before Christ, or in the 129th olympiad, was the first who attempted to establish an ara, by comparing the dates of the olympiads, the Spartan kings, the archons of Athens, and the priestelles of Juno, and adapting them to one another, according to the best of his judgment. Where he left off Polybius began, and continued the history. Before this time nothing fatisfactory on the subject of chronology feems to have appeared; and the true reason is obvious, because before the conquetts of Alexander, the Greeks had very feanty materials for fuch a work, as their knowledge was confined to a very narrow tract of country, and to the annals of a very fhort period of time. Their travellers could not eafily impart the hiltorical memoirs of the countries through which they paffed, as they wanted the necessary advantages for this purpose; such were a thorough knowledge of the language of the country, a free accels to all their principal records, and a perfeverance in fuch laborious refearches for feveral years. But general wars, notwithstanding the numberless disattrous calamities

that attended them, afforded opportunities for observing the fituation, nature, and improvements, of other countries; and thus the progress and circulation both of learning and of other ulcful arts were the more early propagated into different countries. Strabo informs us (Geog. lib. i.) that the Greeks derived great advantages, even in their knowledge of geography, from the conquetts of Alexander; for by his means they became more perfectly acquainted with the larger tracts of Afia, and all the northern parts of Europe to the river Ifter; and he might have added the who.e extent of Egypt; fo that, at the same time, they obtained the full policinion of Babylon and Egypt, the two great fountains of ancient learning. The Romans, fays Strabo, in like manner diffused the same light over the western parts of Europe, up to the river Elbe, which divided Germany into two parts; and they went beyond the Ister even to the Tyra; and as for the countries round the lake Mæctis, and the fea coast to Colchis, they were undiscovered till the days of Mithridates firnamed Eupator, king of Pontus; and the Parthian empire made Hyrcania, Bactria, and the Scythians that lived beyond them, to be better known. We may therefore take it for granted that no general history could be properly composed, till the geography of these countries was sufficiently known, in order to describe the strength of each particular kingdom, the number of its inhabitants, the progress of its armies, or the provinces that might be lost or acquired in its quarrels with other kingdoms. But whenever the access to all these countries was laid open by the conquefts of Alexander; when fo many new kingdoms were established under the Macedonian government, into which the citizens of all the Greek states were freely admitted; when it extended the Greek tongue, as an universal language, over Asia and Egypt; it gave the most favourable opportunity to feveral eminent men to write the hittories of different nations. Berofus compiled the hillory of Chaldwa, from the records of Babylon; and Manetho that of Egypt, from the records of Memphis and of Thebes; and the Arundelian marbles gave a complete feries of the annals of Greece from their earliest times; all of which were composed in that age, by contemporary writers. And when we add to this, that the great library of Alexandria was first formed under Ptolemy Philadelphus, into which the writings of all nations were collected; we may well conclude from this induction of particulars, that it was at this period, and not before, that chronology became a fcience. Moreover, if we confider the fituation of the world at this time, we shall be confirmed in the same opinion. For, till there was a collection of proper materials brought together, fuch as the manuscripts of all nations mult contain, it was impossible to separate the truth of history from the rubbith of fable; because facts are only to be canvalled from a multitude of circumstances, which combine together to give light to each other, while the cotemporary hiltory of one country corresponds to the cotemporary state of another. As a library was necessary to furnish the materials for this purpole, we accordingly find that the first "great father of chronology" was Eratofthenes, appointed by Ptolemy Euergetes, the librarian of Alexandria, who flourished about 100 years after the death of Alexander the Great, who had ascefs to that invaluable treasure of learning. The possession of such a multitude of historical memoirs both prompted and enabled him to determine the dates of many remote facts. And we are informed by Dionysius of Halicarnaffus (lib. i. 6. 46.) that in the execution of this work, he had laid down to himfelf certain "chronological canons," which that great writer declares he found to be accurate and uncorrupted; having examined them, in a treatife written . written upon that subject, which, to the regret of the learned originals of Rome as attended with great uncertainties; nor world, has been irrecoverably loft. The chronographic canons, or general principles of the chronology of Eratofthenes, are found in the Stromata of Clemens Alexandrinus (p. 145); and they are as follow:

From the taking of Troy to the return of the From the return of the Heraclida to the fettlement of Ionia From the fettlement of Ionia to the guardianship From the guardianship of Lycurgus to the year next preceding the 1st olympiad From that year to the invation of Xerxes From the invation of Xerxes to the beginning of the Peloponnefian war 48 From the beginning to the end of that war 27 From the end of the Peloponnesian war to the battle of Leuctra From the battle of Leuctra to the death of Philip From the death of Philip to the death of Alex-12

These numbers are fortunately confirmed by a passage of Dionyfius Halicarnassensis (p. 60); from which we learn, that the 432d year from the taking of Troy was, according to the canons of Eratofthenes, the 1st of the 7th olympiad; which agrees with the Clementine numbers. Eratothenes was fucceeded by Apollodorus, the disciple of Panætius, the floic philosopher, who flourished in the time of Ptolemy Physcon. The following circumstances may lead us to prefume, that in his fyttem of chronology, he followed Eratolthenes. They both agreed concerning the interval, that elapsed between the taking of Troy and the return of the Heraclidæ, both making it So years. They also agreed concerning the age of Homer, and likewife concerning the age of Lycurgus; and they purfued the same method in determining it. Apollodorus adopted Eratosthenes's list of the kings of Thebais. Eratosthenes and Apollodorus have been followed by all fucceeding chronologers. Nevertheless, after all the improvements made in chronological computation by the writers above-mentioned, chronology was still, in a very confiderable degree, uncertain; and that it was reputed doubtful by the Greeks of those times is evident from several passages in the beginning of Plutarch's life of Lycurgus, and also in his life of Solon, to which we refer the reader.

As Cambyles deflroyed all the records of Egypt, imperfect and dubious as they were, we have no account of its inhabitants, which can be depended upon before their intercourfe with the Greeks, from whom we derive all that is known of them, and that was not before the time of Psammetichus, whose reign began in the year 600 B. C. Of this we are informed by Herodotus, who, speaking of those Grecians who had aided in fetting Pfammetichus on the throne of Egypt, fays, that the Ionians and Carians continucd for a long time to inhabit those parts which lay near the fea, below the city of Bubaltis, on the Peluliac branch of the Nile, till in succeeding times Annalis, king of Egypt, caused them to abandon their habitations, and settle at Memphis, to defend him against the Egyptians. But from the time of their establishment, he fays, they had so constant a communication with the Greeks, that one may juffly fay we know all this gs that passed in Egypt from the reign of Piammetichus to our age.

The chronology of the Latins was still more uncertain than that of the Greeks, &c. Plutarch (in Romulo et Numa), and Servius (in Æneid. vii. v. 678.) represent the

can we wonder at this, when we confider that the old records of the Latins, or at least a confiderable part of them, were burned by the Gauls in the year 390 B.C., or 120 years after the regifuge, in 509 B.C., and 64 years before the death of Alexander the Great, in 454 B. C. Quintus Fabius Pictor, the oldest historian of the Latins, lived 100 years later than Alexander, and took almost every thing from Diocles Preparethius, a Greek. At the time when the Greeks and Latins were forming their technical chronology, there were among them great-disputes about the antiquity of Rome. (See EPOCHA and ROME.)

The chronologers of Gallia, Spain, Germany, Scythia, Sweden, Britain, and Ireland, are of a flul later date; for Scythia, beyond the Danube, had no letters, till Ulphilas, its bishop, introduced them, about 600 years after the death of Alexander the Great; and Germany had none till it received them from the western empire of the Latins, above 700 years after the death of that king. The Huns had none in the days of Procopius, who flourished 850 years after the death of that king; and Sweden and Norway received them at a still later period. And it must be allowed, that things. faid to be done above one or two hundred years before the

use of letters, are of little credit.

After a general account of the defects and obscurity of the ancient chronology, fir Isaac observes, that, though many of the ancients computed by generations and fuccessions, yet the Egyptians, Greeks, and Latins, reckoned the reigns of kings equal to generations of men, and three of them to a hundred, and fometimes to a hundred and twenty years; and this was the foundation of their technical chronology. He then proceeds to evince, from the ordinary course of nature, and a detail of historical facts, the difference between reigns and generations; and that, though the latter, from father to fon, may at an average be reckoned about thirty-three years, or three of them equal to a hundred years, yet when they are taken by the eldest fons, three of them cannot be computed at more than about feventy-five or eighty years; and the reigns of kings are still shorter, so that eighteen or twenty years may be allowed a jult medium. He then fixes on four remarkable periods, viz. the return of the Heraclidæ into Peloponnesus, the taking of Troy, the Argonautic expedition, and the return of Sefostris into Egypt, after his wars in Thrace; and fettles the epocha of each by the true value of a generation. We shall confine ourselves at present to his estimate of that of the Argonautic expedition. Having fixed the return of the Heraclidæ to about the hundred and fifty-ninth year after the death of Solomon, and the destruction of Troy, to about the seventy-fixth year after the same period (fee HERACLIDE and TROY), he obferves, that Hercules the Argonaut was the father of Hyllus, the father of Cleodus, the father of Ariltomachus, the father of Arithodemus, who conducted the Heraclidæ into Peloponnefus; fo that their return was four generations, reckoning by the chief of the family, later than the Argonautic expedition, which therefore happened about forty-three years after the death of Solomon. This is farther confirmed by another argument. Æsculapius and Hercules were Argonauts. Hippocrates was the eighteenth inclusively from the former by the father's fide, and the nineteenth from the latter by the mother's fide; allowing twenty-eight or thirty years to a generation, the feventeen intervals by the father, and the eighteen intervals by the mother, will, at a medium, give five hundred and feven years; and thefe, reckoning back from the commencement of the Peloponnefian war, or four hundred and thirty-first year before Christ, when Hippocrates began to flourish, will place the Argonautic expedition in the forty-third year after Solomon's death, or nine time in which arguments drawn from generations and succeshundred and thirty feven years before Christ.

If we date the commencement of the Peloponnelian war in the 2d year of the 87th olympiad, and count back 507 years, we shall come to the 162d before the olympiads, which is about the 37th year after the death of Solomon.

Sir Isaac Newton ascertains the Argonautic expedition, and feveral other principal events in the Grecian hiltory, by fuch a variety of independent arguments, drawn from the same and different mediums, ail so agreeable to the prefent course of nature, that it feems impossible for a person who pays a fufficient regard to it not to be determined by them. It is furprifing, indeed, that the manifest inconsistencies of the commonly received chronology with the course of nature, should not have prevented the establishment of it; and it is absolutely unaccountable, but upon the disposition which all men have discovered, to admit any hypothesis which tends to give dignity to their nations and families, by adding to the antiquity of them. But must it not be a more unaccountable attachment to established hypotheses, which can induce any person of the present age, after these inconsistencies have been so clearly pointed out, still to adhere to a chronology, which, in those turbulent unsettled times, supposes kings to have reigned one with another in some successions 35, in some 38, in some 40, in some 42, in some 44, and in some 46 years a piece; and which generally allows about 60 years to a generation, and in one inflance 85?

With respect to the chronology of the kings of Rome, Mr. Hooke has shewn, by several independent arguments, deduced from the connexion of events in the history of their reigns, that to suppose them to have reigned one with another 19 or 20 years, makes a more confiltent feries of facts, than to imagine them to have reigned 35 years a-piece, which

is the common hypothesis.

The chief inconveniencies attending the old chronology in the Roman history are, that it supposes an interval of 63 years of peace in that reftless nation before the accession of Tullus Hostilius. It makes the reign of Servius Tullius so long in proportion to the few censuses, which (according to the most authentic records) were taken in his reign, as would argue a most unaccountable neglect of his own favourite in-Ritution. It obliges us to suppose Tarquinius Superbus not to have been the son of Tarquinius Priscus, Dido not to have been contemporary with Æneas, or Numa with Pythagoras, as well as Solon with Croefus in the Grecian history; all which have the unanimous voice of all tradition in their favour, and what Dionysius Halicarnassensis, Livy, and Plutarch, express their extreme unwillingness to give up, but that they were compelled to it by a regard to a chronology which in their times was unquestioned. Indeed, the congress of Solon and Croefus Plutarch expresses his determination not to give up, notwithstanding his general attachment to a theory which would not admit of it, and the fallacy of which he did not expect. To this purpose he says, 'The congress of Solon with Crossus some think they exaconsute by chronology. But a history fo illustrious, verified by fo many witnesses, and, which is more, so agreeable to the manners of Solon, and worthy of the greatness of his mind and of his wildom, I cannot perfuade myself to reject because of some chronological canons, as they call them; which 200 authors correcting have not been able to constitute any thing certain, and have not been able to agree among themfelves about repugnances."

If the number of kings that reigned at Alba be joined to those who reigned at Rome, and they be allowed to have reigned 19 or 20 years a-piece, they will place the coming

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fions in Greece, as well as aftronomical calculations (as we shall shew in the sequel), place that event, which is a reciprocal confirmation of the jult correction both of the Greek and Latin chronology. For from Latinus to Numitor are 16 kings, who reigned at Alba: Romulus was contemporary with Numitor, and after him Dionysius and other historians reckon 6 kings more at Rome to the beginning of the confuls. Now these 22 reigns, at about 18 years to a reign one with another (for many of these kings were flain), took up 396 years, which, counted back from the confulhip of J. Brutus and Valerius Poplicola, the two first confuls, place the Trojan war 78 years after the death of Solomon.

This computation likewife agrees, as Sir Isaac has shewn, with what Appian, in his History of the Punic Wars, relates. out of the archives of Carthage, which came into the hands of the Romans, viz. that Carthage flood 700 years. This is a round number, but Solinus adds the odd years when he fays, "Carthago polt annos 737 quam fuerat extructa exciditur," which places Dido, the founder of Carthage, about 76 years after the death of Solomon. See Carthage. It likewise agrees with the Arundelian marbles, which say that Teucer came to Cyprus 7 years after the destruction of Troy, and built Salamis, in the days of Dido. It is indeed an argument very much in favour of Newton's computations, that they agree very nearly with all the most ancient monuments, the most correct traditions of antiquity, and the oldest bistorians; particularly Herodotus and Thucydides, who wrote before chronology was corrupted by the vanity of their nation, or the absurd systems of later historians. Moreover, it conduces very much to the credibility of the Old Testament history, that the courses of generations and descents which are mentioned in it, parallel to those in the fabulous period of the Grecian hillory, fall within the fame intervals of time with those which have been measured since history has been authentic. Consequently, it is another argument in favour of Newton's correction of the ancient. Greek chronology, that it brings the courses of generations and fuccessions in the one to correspond to those in the other. Besides, in several other respects it brings them to a greater harmony than can be attained on any other principles; and, in particular, it places the expedition of Sefothris (probably the same person with Sesac) at the precise time in which it is spoken of in the Scriptures. See SESOSTRIS.

The other kind of reasoning, by which Sir Isaac endea-vours to establish the epocha of the Argonautic expedition, is purely astronomical. The sphere was formed by Chiron and Musæus at the time, and for the use of the Argonautic expedition, as feveral of the afterisms, mentioned by Aratus, and referring to this event, plainly shew; and at this time (as feveral ancient writers tellify) the cardinal points of the equinoxes and folitices were placed in the middle of the con-flellations of Aries, Cancer, Chelz, and Capricorn. Our author ellablishes this point by a confideration of the ancient Greek calendar, which conflited of 12 lunar months, and each month of 30 days, and which required an intercalary month. Of course this lunisolar year, with the intercalary month, began fometimes a week or a fortnight before or after the equinox or folftice; and hence the first astronomers were led to the above-mentioned disposition of the equinoxes and folflices; and that this was really the case, is confirmed by the testimonies of Eudoxus, Aratus, and Hipparchus, On these principles, Sir Isaac proceeds to argue in this manner. In the end of the year 1689, the star called the Prima Arietis was in op 28° 51' with north latitude 7° 8' 58"; of Eneas into Italy, and the fiege of Troy, exactly at the and the flar called the Ultima cauda Arietis was in 8 100 3'

42" with north latitude 2° 34' 5"; consequently the equinoctial colure at this time cut the ecliptic in 8 6° 44', or sphere drawn through P and O; and bifect the arc PC by the calculations of bishop Horsley in 8 6° 50' 20", and in H. Then is H the middle point between P and C, noctial colure at this time cut the ecliptic in 8 6° 44', or by the calculations of bishop Horsley in 8 6° 50' 20", and by this reckoning the equinox was then gone back (according to Newton) 36° 44′, and according to his editor Horfley 36° 50′, so", fince the Argonautic expedition. But it recedes 50″ in a year, or 1° in feventy-two years, and consequently 36° 44' in 2645 years; which counted backward from the beginning of 1(90, will place this expedition about twenty-five years after the death of Solomon. According to Horsley's calculations the equinoctial points recede 360 50' in 2642 years. From the end of the year 1689, i. e. of the Julian period 6402, count back 2642, and you come to the year of the Julian period 3760, the 22d from Solomon's death, according to Petavius. But, as there is no necessity for allowing that the middle of the constellations, according to the general account of the ancients, should be precisely the middle between the prima Arietis, and ultima Cauda, Sir Isaac Newton proceeds to examine what were those stars, through which Eudoxus made the colures to pass in the primitive fphere, and in this way to fix the polition of the cardinal points. From the mean of five places he finds, that the great circle, which in the primitive sphere, described by Eudoxus, or at the time of the Argonautic expedition, was the equinoctial colure, did, in the end of 1689, cut the celliptic in 8 6° 29′ 15″; or according to the calculations of bishop Horsley, in 8 6° 30′ 5″, and according to Raper's copy of Newton's chronology, 8 6° 30′ 17″, written by his own hand in the margin. He likewife, in the same manner, determines the mean place of the folfitial colure to be & 6° 28' 46", or, as Horsley states it, & 6° 28' 48"; and as it is at right angles with the other, concludes that it is rightly drawn. Hence he infers, that the cardinal points, in the interval between that expedition, and the year 1689, have receded from these colures I fign 6° and 29'; which, allowing feventy-two years to a degree, amounts to 2627 years; and these counted backwards, as above, will place the Argonautic expedition forty-three years after the death of Solomon, or about 37 years after this event, as placed by Petavius.

The principles on which the preceding calculation is founded are these: Let \pp pc (Plate III Aftronomy, fig. 22.) be an arc of the ecliptic, or being the equinoctial point at the end of the year 1689. Let the point P be the place of the first star in Aries (y of Bayer) and C the place of the

through which the equinoctial colure of the primitive sphere paffed. Therefore through H draw a great circle H A; which may make an angle of 66° 30' with the ecliptic, the acute angle looking eastward. Then H A will be the equinoctial colure of the primitive sphere, and A the equinoctial point of that sphere.

To find the diffance of A from γ, the equinoctial point of the fphere of 1690; find II the pole of the ecliptic; and through P, C, and H, draw circles of latitude, II P, II C, II H, meeting the ecliptic in the points p, c, and h: and from P and H draw arcs of great circles, PB and HD, perpendicular to II Ce. Now the arcs mp, me, are given; being the given longitudes of the flars P and C at the end of the year 1689. Therefore pc, the difference of these arcs, is given, and the angle p II c, which is measured by that given are pe. But the arc IIP is given, being the complement of the given latitude Pp. Consequently in the right-angled spherical triangle, PBI, the hypothenuse PII is given, and the angle PII B. Therefore both the legs; PB, II B, will be given by trigonometry. But IIB being given; since II C is also given, being the complement of the given latitude Cc; their difference, BC, is given. Therefore in the right-angled spherical triangle, PBC, the two legs, PB and BC, are given. Confequently the hypothenufe PC, and the angle PCB will be given by trigonometry. But PC being given, its half, HC, will be given. Therefore, in the right-angled spherical triangle, H D C, the hypothenuse CH being given with the angle HCD; the legs HD, DC, will be given by trigonometry. But DC being given, fince II C is also given, their difference, II D, is given. And in the right-angled spherical triangle, II DH, the two sides II D, D H, being given, the angle DII H and the hypothenuse II H will be given by trigonometry. But ΠΗ being given, its complement, Η b, which is the latitude of the point, Η, is given. And in the right-angled fpherical triangle H hA, the fide Hh being given with the angle HAb; the fide bA, will be given by trigonometry. But the arc bc is given, being the measure of the given angle D π H. Therefore the arc cA, the sum of cband hA, is given. But Yc is given; confequently YA is given. Q. E. I.

Computation.

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Given \gamma p = 28^{\circ} 51' 00"
                                     \begin{cases} confequently & pc = 20^{\circ} 12' 42'' \end{cases} 
          \Upsilon c = 49 \quad 03 \quad 42
Pp = 7 \quad 8 \quad 58
                                       consequently \Pi p = 82 51
                                       confequently IIc = 87
                        34
Hence, in the right-angled triangle II BP,
                                                       \Pi p = 82^{\circ} 51' 02''
                                                     P \pi B = 20
                                                                      12
                                                                           42
                            Therefore the legs
                                                       PB = 20
                                                                        2
                                                       11 B = 82
                                                                      23

    \text{BC} = 87 \\
    \text{BC} = 5

                                             But
                                                                      25
                                     Therefore
                                                                            43
Hence, in the right-argled triangle PBC,
                                                        PB = 20^{\circ}
                                                                            52"
                                                        BC = 5
                                                                        2
                                                                            43
                                                     PCB = 76
                                      Therefore
                                                                      27
                                                                           CO
                                            And
                                                       PC = 20
                                                                      38 51
                           Therefore
                                            HC = \frac{1}{2}PC = 10
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Hence, in the right-angled triangle HDC, And Therefore And But Therefore	$HD = 10$ $CD = 2$ $\Pi C = 57$	27 1 26 25	59
Therefore	HD = 10 $D\Pi H = 10$ $\Pi H = 85$	1 4 3	$\frac{59}{15} = b \epsilon$
Therefore But Therefore	$Hb = 4$ $HAb = 66$ $bA = 2$ $cb = 10$ $cA = 13$ $\varphi c = 49$ $\varphi A = 36$	30 9 4 13	7 15 22

It should be observed, says bishop Horsley, that in finding the place of the equinoctial colure of the primitive sphere on the sphere of 1600; the obliquity of the celiptic, on the primitive sphere, has been supposed to be just 23° 30', and the complement of the obliquity 66° 30'; and computing from these elements, we have found reason to conclude, that the primitive sphere of the Greeks was 2627 years older than the sphere of 1690. But at that distance of time, before the commencement of the year 1690, Dr. Horsley shads, by Mayer's tables, that the obliquity of the celiptic was 23° 48' 54". He therefore assume 23° 48' 30" for the obliquity on the primitive sphere, and repeating his calculations, he sound the following sive places of the primitive equinox on the sphere of 1690:

The primitive equinoctial colure being drawn

: €

Through n of Persus 4 39 39
The mean place of these sive is 8 6° 25′ 23″: and if this be the place of the primitive equinoctial point on the sphere of 1600, the place of the summer solution on the sphere of 1600, the place of the summer solution should be \$0.6° 25′.

But by the description of the solutions it should be \$0.6° 25′. It may be reasonable, therefore, to take \$0.6° 27′ and \$0.6° 27′ for the places of the primitive equinox and solution on the sphere of 1600; by which reckoning these points will be less advanced by 2′ than sir Isaac Newton has supposed. But these two minutes will not make a difference of 3 years in the age of the primitive sphere.

Our illustrious author hath, by other methods of a similar nature, established the epocha of the Argonautic expedition, as well as others, and reduced the age of the world about 500 years. What gives great weight to this argument, from the precession of the equinoxes is, that if we reckon from whatever time the position of the equinoxes hath been mentioned by altronomers whose age is known, this motion, counted backwards, fixes that great event in the same year. It likewise demonstrates, that the observations of the ancients, though coarse enough, as fir Isaac Newton acknowledges, are sufficiently exact for the purpose. This being a remarkable circumstance, the particulars of it are as follow. According to Pliny, and the calculations of Petavius, Thales, who wrete a book of the tropics and equinoxes, fixed the

equinoxes and folitices in the 11th degree of their respective figns; so that they had receded 4° 26′ 52″ from their original place at the time of the Argonautic expedition. This answers to 320 years, and calculated backwards from the 41th olympiad, when Thales was a young man, fit to apply to astronomical studies, will place that event 44 years after the death of Solomon.

Petavius, in the calculation above referred to, deriving information from Pliny (l. xviii. c. 25.), who fays, that Thales determined the "occafus matutinus" of the Pleiades to be upon the .25th day after the autumnal equinox, thence computes the longitude of the Pleiades in 923° 53', and confequently that the Lucida Pleiadum had, fince the Argonautic expedition, moved from the equinox 4° 26' 52", as above stated. From the passage of Pliny, to which we have now referred, an objection has been deduced against the chronological computation of Newton. Pliny's authority, it is faid, avails as much to prove, that Hefiod places the morning-fetting of the Pleiades on the very day of the equinox, as that Thales placed it 25 days later. And if it be true, that Lucida Pleiadum did really fet at fun-rife on the day of the autumnal equinox, in the age of Hefiod; this will much more refute fir Isaac's date of the Argonautic expedition than the assumption, that the morning-setting of the fame star was 25 days later in the age of Thales, confirms it. For it is agreed, that Hefiod was some time later than the Argonautic expedition; for we have his own testimony, that he lived after the war of 'Troy. The Argonautic expedition happened, according to fir Isaac Newton, in that age when the longitude of Lucida Pleiadum was in the 20th degree of the fign of Aries. But when this star fet at fun-rife, on the day of the autumnal equinox, its longitude must have been rather behind the vernal equinox; as any aftroromer, who will take the trouble to make the necessary calculations, may eafily perceive. So that between the age of Hefiod, as thus defined by the morning fetting of the Lucida Pleindum, and that time which fir Isaac Newton affigus to the Argonautic expedition, the stars must have advanced more than 20 degrees in longitude; and a change of 20 degrees, at the rate of 1" in 72 years, requires 1440 years. Consequently, it may be faid, his date of the Argonautic expedition cannot be lefs than 1500 years too late.

To this specious objection Newton might have replied, that Pliny reports the leason of the morning-setting of this star, in the age of Hesiad, from a book of altronomy, of

which he fays only, that it was extant under the name of Plessod: and that this book could not be Hessod's. For Plessod: and that this book could not be Hessod's. For the the winter follice. And it is impossible that any star of the Plessod of Archirus as rising at sun-rise of the autumnal equinox, in the same age when Archirus no see at sun-rise of the Plessod of the winter follice; or that these two circumstances of the sphere should be removed from each other by a less the road of time than the space of 144,0 years. This book of altronomy, extant in Pliny's time, under the name of Hessod, must have been a supposition of some petry retailers of science in the decline of the Grecian learning. The extravagant antiquity, which it gives to the Greek astronomy, entirely destroys its

According to Columella, Meton, and Euctemon, who published the lunar cycle of 10 years (see Cycle), and for this purpose observed the summer solltice in the 316th year of Nabonassar, the year before the Peloponnesian war began, placed the fummer folllice in the eighth degree of Cancer, which is at least 7° more backwards than at first. This interval answers to 504 years, which counted backwards from the year of observation, makes the Argonautic expedition fall upon the 44th year after the death of Solomon. Laftly, Hipparchus, who first discovered that the equinoxes had a regular motion backwards, made his observations about the 602d year of Nabonassar, and fixed the vernal equinox in the fourth degree of Aries. Consequently, the equinoctial points had receded eleven degrees fince the Argonautic expedition, which is equivalent to 792 years, and which counted backwards, places the expedition in the 43d year after the death of Solomon. These coincidences are remarkable, and could not have placed the same event so near the fame year, unless all the observations had been sufficiently exact. And when we confider the coincidences of a great many more independent evidences, derived from the course of generation, and the order of fuccession, with those which are deduced from aftronomical principles, nothing feems to be better established than that the Argonautic expedition, an event on which the whole Greek chronology depends, really happened about 43 years after the death of Solomon, and not in the days of Gideon, above 300 years before, as the common opinion has stated it.

The rifing and fetting of the flars with respect to the riling and fetting of the fun depend also upon the precession of the equinoxes. Any writer, therefore, who mentions the riling or fetting of any star, at any particular time of the year, with respect to the sun, surnishes us with data sufficient to determine the time in which he wrote. Thus Hefiod tells us, that 60 days after the winter folilice the star Arcturus rofe juit at fun-fet; from which circumstance it is easily valeulated that Hefiod flourished about 100 years after the death of Solomon, or in the generation, or age, next after the Trojan war, as Hefiod himfelf declares; and this atfords another independent argument for the date affigned by Newton to that war, and the whole Greek chronology connected with it. Bishop Horsley, in his edition of Newton's works, observes that he cannot deduce fir Isaac Newton's conclusion from his premises. When Arcturus rose at sun-set 60 days after the winter solstice, he finds the longitude of that flar to have been my 13° 28' 38", which exceeds its longitude on the primitive fphere by no more than 1' 46'. Taking the longitude and latitude of Arcturus, each fuch as it was in the primitive sphere, viz. the longitude ng 13" 20' 52", the latitude 30° 52' 18"; he finds, that when the itar role at fun-fet, the fun's true place must have been H 00° 59'; and according to the fituation of the aphelion

when the equinoxes were in 8 6' 27", and m 6' 27" of the sphere of 1690, the sun was in this place 60 days after the winter folitice. So that the conclusion from this passage of Hefied shouldrather be that he flourished in that very age when the Greeks first formed their sphere; that is, according to Newton's fystem, in the age of the Argonautic expedition. The bishop supposes the truth to be, that before the retrograde motion of the equinoctial points was discovered, all writers speak of the risings and settings of the stars, as they were stated by the astronomers who first formed the sphere. This was probably the case with regard to Hesiod in particular, if he lived so near the age of the Argonautic expedition, and the beginning of the Greek sphere, as sir Isaac supposes. No conclusion is therefore to be drawn, concerning the particular age of any writer, much older than Hipparchus, from what he may fay of the phenomena of the fphere; unless it be certain, that he was a practical astronomer, and lived at such a distance of time from the commencement of the Greek attronomy, as might produce fensible changes in the seasons of the rifings and fettings of the stars. Such writers might, indeed, without any knowledge of the motion of the equinoxes, describe the phenomena according to their own observations, and impute the difference, between what they faw and what their mafters had delivered, to the coarfeness of the first observations. Bishop Horsley, when he speaks of the appearances of the primitive sphere, means the appearances in the latitude of 40° N., at that time when the vernal equinox was in 8 60 27' on the sphere of 1690.

Sir Isaac Newton having, by the concurring aids of Scripture and reason, rectified the chronology of the Greeks, made use of this rectified chronology to adjust the cotemporary affairs of the Egyptians, Assyrians, Babylonians, Medes, and Persians. His elaborate system, however, has not escaped censure. M. Freret and M. Souciet have attacked it on much the same ground: the former hath confounded reigns and generations, which are carefully distinguished in this system. The astronomical objections of both have been answered by fir Isaac Newton himself, and by Dr. Halley. Phil. Trans. Abr. vol. viii. part iv. p. 4, &c. Newton's Chronology, ch. 1.

Mr. Gibert, in a letter published at Amsterdam in 1743, has attempted to reduce the Babylonian, Egyptian, and Chaldean annals to our chronology. He begins with shewing, by the authorities of Macrobius, Eudoxus, Varro, Diodorus Siculus, Pliny, Plutarch, St. Augustin, &c. that by a year the ancients meant the revolution of any planet in the heavens; fo that it confilted fometimes only of one day. Thus, according to him, the folar day was the astronomical year of the Chaldeans; and the boalted period of 473,000 years affigned to their observations is reduced to 1297 years, 9 months; the number of years which elapsed, according to Eusebius, from the first discoveries of Atlas in astronomy, in the 384th year of Abraham, to the march of Alexander into Asia in the year 1682 of the same æra; and the seventeen thousand years added by Berolus, to the observations of the Chaldeans, reduced in the same manner, will give fortyfix years, and fix or feven months, being the exact interval between Alexander's march, and the first year of the 123d olympiad, or the time to which Berofus carried his history. Epigenius attributes 720,000 years to the observations pre-ferved at Babylon; but these, according to M. Gibert's system, amount only to 1971 years, three months, which differ from Califthenes's period of 1903 years allotted to the same observations, only by 68 years, the period elapsed from the taking of Babylon by Alexander, which terminated the

CHRONOLOGY.

latter account, and to the time of Ptolemy Philadelphus,

towhich Epigenius extended his account.

Chronology facred. The fystems of facred chronology have been very various. Nor is this to be wondered at, fince our three biblical copies of principal note give a very different account of the first ages of the world. The Hebrew text reckons about 4000 years from Adam to Christ, and to the flood 1656 years; the Samaritan makes this interval longer, and reckons from Adam to the flood only 1307 years; and the version of the Septuagint removes the creation of the world to 6000 years before Christ. The interval between the creation and flood, according to Eusebius and the Septuagint, is 2242 years; according to Josephus and the Septuagirt, 2256 years; and according to Julius Africanus, Epiphanius, Petavius, and the Septuagint, it is reckoned at 2262 years. Many attempts have been made to reconcile these differences; but none are quite satisfactory. See EPOCHA, SAMARITAN, &c.

Walton, and I. Vossius, give the preference to the account of the Septuagint. Walton's Prolegomena. Vossii Chronologia Sacra. Others have defended the Hebrew text. The reader may find an abiliract of the different opinions of learned men on this subject, in Strauchius's Brev. Chron. translated by Sault, p. 166, &c. and p. 176.

The more eminent writers on chronology, among the ancients are, Julius Africanus, in the third century; Dio-

nyfius Exiguus, Eufebius, and Cyril.

Among the moderns, Bede, Funccius, Mercator, Lilius, Clavius, Scaliger, Vieta, Petavius, Cassini, Munster, Calvisus, Hardouin, Capellus, Usher, Newton, Marsham, Helvicus, I. Vossius, Pagi, Strauchius, Perron, Blair, Playfair,

&cc.

period.

It will be proper to add to the above account of the history and principles of chronology a few words on the construction and utility of Chronological Tables. By means of fuch tables history is reduced into a short compass, and the reader is aided in the fludy of it. Thus an entire course of history is eafily comprehended, and at the fame time a proper diffinction may be observed between its several parts. If such tables confift of nothing more than an enumeration of the capital events in history, thrown together promifcuoufly, without any diffinction of kingdoms, regard being only had to the order of time in which the events happened, they have their use. We thus see, at almost one view, the principal things which history records, and from the dates annexed to each article, we form an idea of the interval of time between one and another of them; fuch tables are often compiled for fingle histories; of this kind is the "short Chronicle" prefixed to "Newton's Chronology." But in a more complex and extended history, it will be useful to keep

the separate parts distinct, and, for this purpose, to arrange them in different columns. By fuch means we obtain a distinct idea of the course of any single history; and at the fame time a clear comparative view of the cotemporary state of any other history which was parallel with it. The neglect of this method has introduced confusion into the chronological tables published with the "Universal History," and the advantage resulting from it may be perceived in those of Marshall, Tallents, &c. Besides a distinct view of the succession of events in different histories, it is an advantage to have, in feparate columns, an account of the "great men," in arts or in arms, which each age has produced. This has been exhibited by the lastmentioned authors and others. For this purpose two colums are quite sufficient; one for statesmen and warriors, and the other for men of learning and science. Another improvement in chronological tables has been to annex a variety of dates, in diffinct columns, to every event, to fave the reader the trouble of reducing the different methods of co.nputation to one another. But many chronologers lave multiplied these different epochas far beyond any real use, so as greatly to encumber their page, and leave little room for more valuable matter. Helvicus furnishes an example of this kind. Four zeras are abundantly sufficient, viz. the year before and after Christ, and the Julian period to run through the whole extent of the work; the olympiads for the course of the Grecian history; and the year of the city for the Roman. These are used by Blair. The last, and capital improvement in chronological tables, which has been effected in some measure by Tallents and Marshall, more perfectly in Helvicus, but most completely by Blair, is to dispose the events in such a manner, as that the distance at which they are placed, without attending to the date in the margin, shall give a just idea of the real interval of time between them. This is done by having a single line, or any fit interval appropriated to any certain period of time, or number of years. In the chronological tables engraved by Sturt, we see a great deal of matter, by a fingular method, and the help of arbitrary and fymbolical characters, crowded into a short compass; so that we see the state of the feveral kingdoms of Europe for any century fince the Christian æra in a fingle page. This author has also annexed an alphabetical index to his work, in which, by the help of fymbols, he has expressed the character of every prince mentioned in his tables, and the principal events of his life. This fmall work is valuable for its concileness, but is not fo much recommended by its diffinctness. Genealogical tables are of very confiderable use in subordination to those of a chronological kind; for an account of which, fee Genealogy. Priettley's Lectures on Hittory, &c. 1788.

CHRONOLOGICAL TABLE

OF

Remarkable Events, Difeoveries, and Inventions, from the Creation to the Year 1807.

B. C. 4.004 .--Creation of the world, at the autumnal equinox, on Sunday, October 23, according to archbishop 710 of the Uther and the Hebrew text Tulian 5872, according to the LXX.

4700, according to the Samaritan.

Creation of Adam and Eve, on Friday, Oct.

4003 .- The Birth of Cain, the first who was born of a wo-

3875 .- Abel murdered by Cain. 3874 .- The birth of Seth.

3017.- Enoch translated to heaven for his piety, at the the age of 365.

3317. Birth of Methusalem, who died at the age of 969.

B.C.

2948 .- Birth of Noah, who died at the age of 950. 2446.—Birth of Shem, who died at the age of 600.

2349 .- Noah entered the ark on Sunday, Nov. 30th, and

on Sunday, Dec. 7, it began to rain. 2348.—The deluge.—On Wednelday, May 6, the ark

rested on mount Ararat. On Friday, Dec. 18, Noah left the ark, built an altar, and offered facrifice to God for his deliverance.

2247.—The tower of Babel is built about this time by Noah's posterity in the valley of Shinar, upon which God miraculoufly confounded their language, and thus dispersed them into different na-

2234 .- Celeitial observations begun at Babylon, a register of which was fent by Callisthenes to Arittotle for 1903 years to the capture of that city by Alexander in the year 331 B. C.

2321 .- The Chaldean monarchy founded by Nimrod.

2207.-The Chinese monarchy founded, according to some historians.

2188 .- The kingdom of Egypt commences under Mifraim, the fon of Ham, which latted for 1663 years, to the conquest of Cambyses, in the year 525 B. C.

2089 .- The kingdom of Sicyon established. 2059 .- The kingdom of Assyria begins.

1996 .- Abram born, who died 1821, at. 175.

1921 .- The covenant made by God with Abram, when the 430 years of fojourning commenced.

1897 .- The covenant renewed with Abram, his name changed to Abraham .- Circumcifion inflituted .-The cities of Sodom, &c. deltroyed.

1896 .- The birth of Isaac.

1871.—Trial of Abraham's faith by the command to offer his fon Ifaac.

1856.-The kingdom of Argos begins .- Ifaac marries Re-

1827 .- The 17th dynasty of the fix shepherd kings in Egypt begins, and continues 103 years.

1822 .- Memnon, the Egyptian, invents the letters.

1796 .- The reign of Ogyges begins 1020 years before the first olympiad.

1764.-The deluge of Ogyges, which laid waste Attica for more than 200 years, till the coming of Cecrops.

1759 .- Jacob, bleffed by his father, goes to Haran, and marries the two daughters of his uncle Laban.

1728.—Joseph sold into Egypt. 1715.—Joseph interprets Pharaoh's dreams, and is promoted.—The 7 years of plenty begin. i 708.—The 7 years of famine begin.

1706 .- Joseph discovers himself to his brethren.

1702 .- All the lands in Egypt, fold to Joseph, who let them out with a perpetual tax of a fifth part of their produce.

1689 .- Jacob predicts the advent of the Messiah, and dies æt. 147.

1635 .- Joseph foretels the egress of the Israelites from Egypt, and dies æt. 110, having been præfect of Egypt for 80 years. His death terminates the book of Genesis, containing a period of 2369 years.

1615 .- The Ethiopians, coming from the Indus, fettle in the neighbourhood of Egypt.

1582 .- The chronology of the Arundelian marbles begins, at which time Cecrops is supposed to have come

1574 .- Aaren born, and in the following year Pharaoh pub- 1326 .- The Idhmian games first instituted.

B. C.

lishes an edict for drowning all the children of the Ifraelites.

1571 .- Mofes born.

1556 .- Cecrops brings a colony of Saites from Egypt into Attica, and founds the kingdom of Athens, 780 years before the 1st olympiad.

1546 .- About this period Scamander comes from Crete into Phrygia, and begins the kingdom of Troy.

1531 .- Mofes visits the Ifraelites; flies into Midian, and continues there 40 years.

1503 .- The deluge of Deucalion in Theffaly.

1497.—The council of Amphictyons established.
1493.—Cadmus carried the Phanician letters into Greece and built the citadel of Thebes.

1491 .- God appears to Mofes in a burning bush, and fends him into Egypt, where he performed many miracles, and inflicted on Pharaoh to successive plagues, till he allowed the Ifraelites to depart, in number amounting to 600,000 besides children, on Tuesday the 5th of May, which completed the 430 years of sojourning. On Monday, May the 11th, Moses opened a passage for the Israelites through the Red Sea into the desert of Etham, when Pharoah's hoft attempting to follow them, were drowned; about the 22d of June they arrive in the defert of Sinai, near mount Horeb, where they remain near a year, during which Mofes receives from God and delivers to the people the 10 commandments, with other laws, and fets up the tabernacle, containing the ark of the

1490 .- Sparta built by Lacedæmon.

1485 .- The first ship that appeared in Greece, brought from Egypt by Danaus firnamed Armais.

1480 .- Troy supposed to have been built by Dardanus.

1453 .- The first Olympic games celebrated at Elis by the

1452 .- The 5 books of Mofes written in the land of Moab, where Mofes died in the following year, æt. 110. 1451 .- The Ifraelites, under Joshua, pass Jordan and enter

Canaan, on Friday, April 30. 1445.—Joshua divides the land of Canaan, and rests from

his conquests upon the sabbatical year, which begins from the autumnal equinox.

1426 .- Joshua dies at Timnath-Serah, æt. 110.

1413 .- The Ifraclites, funk into idelatry, continued in flavery under Cuthan, king of Melopotamia, for

1406 .- Minos gives laws to the Cretans, and acquires a great maritime power .- Iron is found by the Idai Dactyli from the accidental burning of the woods

of mount Ida in Crete. 1405.—Othniel, the first judge of Ifract, defeats Cushan, and gives rest to Ifract, in the 40th year after

that given them by Joshua.

1300. Benjamin almost totally destroyed by the other 11 tribes, Phineas being high-prieft.

1383 .- Ceres came to Athens, and taught them to fow corn.

1356.—The Eleufinian myfleries first introduced at Athens. 1344.—The kingdom of Mycenæ begins about this time, when the kingdom of Argos was divided; Mycenæ forming the most considerable part.

1343.—The Ifraclites, relapting into idolatry, enflaved by Eglon, king of Moab, for 18 years.

B. C.

1325 .- Ehud, the 2d judge of the Ifraclites, kills Eglon, and releves them from their 2d bondage; the great Egyptian canicular year began on Saturday, July 20, and confifted of 1460 years.

1307 .- The Olympic games inflituted by Pelops. 1305 .- The 3d fervitude of the Ifraelites under Jabin, king of Canaan, which continued 40 years.

1300 .- The Lupercalia instituted.

1285 .- Deborah the prophetels defeats the Canaanites under Sifera, and Ifrael had reft in the 40th year after that given by Ehud.

1284.—The Siculi pass out of Italy into Sicily, about 3 generations before the Trojan war. Others fay the first colony arrived in 1294, and a second in 1264.

1263 .- The Argonautic expedition, 79 years before the taking of Troy. According to others, in 1225. About this time the first Pythian games were celebrated by Adrastus.

1252 .- The 4th fervitude of the Ifraelites under the Midianites, which continued for 7 years .- The city

of Tyre was built.

1245 .- Gideon routs the Midianites, and Ilrael had rest in the 40th year after that given by Deborah.

1243 .- A colony of Arcadians, conducted by Evander into Italy.

1234.-Thefeus fettles a democracy in Attica, and renews the Isthmian games; others fay in 1231. 1233 .- Carthage founded by the Tyrians.

1225. The Theban war of the 7 heroes.

1222. The celebration of the Olympic games by Hercules.

1213 .- The rape of Helen by Thefeus.

1205 .- The 5th fervitude of the Ifraelites under the Philiftines and Ammonites, which continued 18 years.

1108 .- The rape of Helen by Paris; others fay in 1204. 1104.- The Trojan war begins, and continues to years. 1188 .- Jephtha, the 7th judge of Israel for 6 years, his

rash vow with respect to his daughter.

1184.-Troy is taken and burned by the Greeks, in the night, between the 11th and 12th of June, 408 years, before the 1st olympiad .- Æneas fet fail in the beginning of autumn for Thrace.

1182 .- The kingdom of the Latins begins under Æneas,

who builds Lavinium.

1179. The maritime power of the Mediterranean acquired by the Lydians.

1176 .- Salamis in Cyprus built by Teucer.

1157 .- Eli the high prieft, 11th judge of Ifrael for 40 years. 1156,-The 6th servitude of the Israelites under the Philistines, which continued 40 years.

1152 .- The city of Alba-Longa built by Ascanius, 2d king

of the Latins.

1141. The Amazons burned the temple of Ephefus.

1136 .- Sampson kills 3000 Philiftines.

1124. The migration of the Æolian colonies 80 years before that of the Ionians .- Thebes built by the Bœotians.

1122 .- The 3d dynasty of China, called Tcheou, begins. 1117 .- Sampson betrayed to the Philiftines .- Eli dies.

1116 .- Samuel the 12th and last judge of Israel for 21

1115 .- The mariner's compass said to be known in China.

1104 .- The return of the Heraclidæ into Peloponnesus; they divide it .- The kingdom of Lacedæmon begins .- That of Mycenæ ends .- Others fay that the kingdom of Lacedæmon, or Sparta, commenced in 1102.

1005 .- The Israelites obtain a king, and Saul anointed by

1093 .- Saul rejected, and David anointed king.

1688 .- The kingdom of Sicyon ends; others fay in 1130. 1070 .- The kingdom of Athens ends in Codrus, and governed by archons.

1058 .- The Pelafgians, the 2d people who acquire the maritime power of the Mediterranean.

1055 .- Saul consults the witch of Endor, and kills himself on mount Gilboa.

1048.-Jerusalem taken by David from the Jebusites, and made the feat of his kingdom.

1044. The migration of the Ionian colonies from Greece, 60 years after the return of the Heraclidæ, and their fettlement.

1034 .- David reproved by Nathan, and repents.

1023 .- Absalom rebels, and is killed by Joab.

1012 .- Solomon begins to build the temple, 480 years after the exodus from Egypt: others fay in 1016.

1004 .- The temple dedicated on Friday, October 30th, 1000 years before Christ : others fay in 1008.

1000 .- The Thracians acquire the maritime power of the Mediterranean, about this time, and hold it for

996 .- Solomon's fleet prepared in the Red Sea, and fent to Ophir.

992 .- Solomon's palace finished, which with the temple employed him 20 years.

986 .- Samos, in the illand of the fame name, and Utica, built about this time.

975 .- The division of the kingdoms of Judah and Israel; others fay in 979.

971 or 974 .- Selac, king of Egypt, takes Jerusalem, and plunders the temple and palace.

926 .- Lycurgus, the Spartan lawgiver, is born, 150 years before the 1st olympiad.

916 .- The Rhodians are the 4th who acquire the maritime power of the Mediterranean, and hold it for 23 years.

907 .- Homer wrote his poems and flourished.

900.-The kingdom of Affyria ends.

896 .- Elijah the prophet is taken up into Heaven.

S93 .- The Phrygians are the 5th people who acquire the maritime power of the Mediterranean.

884 .- Lycurgus, after travelling to years, establishes his laws in Lacedemon .- Iphitus, Lycurgus, and Cleofthenes, restore the Olympic games at Elis, 108 years before the vulgar æra of the 1st olym-

piad. 872 .- The art of sculpture in marble faid to be found out.

869 .- Phidon, king of Argos, invented scales and measures. and coined filver at Ægina.—The city of Carthage is built by queen Dido about this time; others fay it was enlarged by this queen in 864.

868 .- The Cyprians are the 6th who acquire the maritime power of the Mediterranean.

839 .- The army of Hazael, king of Syria, defolates algreat part of the kingdom of Judah.

826 .- The Phoenicians are the 7th who acquire the maritime power of the Mediterranean.

820 .- Niniveh is taken by Arbaces, and Belefis, which finishes the kingdom of Assyria .- Sardanapalus burns himfelf to death .- The kingdom is fubdivided.

814 .- The kingdom of Macedon begins, and continues 646 years, till the battle of Pydna.

13. C.

801 .- Capua, in Campania, built.

797.-The kingdom of Lydia begins.

790 .- Amos the prophet flourished, and began his prophecies in 787.

787.- The Egyptians are the 8th who acquire the maritime power of the Mediterranean.

786 .- The Corinthians invented thips called Triremes.

779 .- The race of kings ended at Corinth, and was fucceeded by annual magistrates, called Prytanes.

776 .- Corabis conquers in the 28th olympiad from their inflitution by Iphitus, though vulgarly called the 675 .- The festivals of Carnia instituted at Sparta, annual in first olympiad, which, according to Scaliger, was celebrated on the 23d of July.

770 .- Phul invades the kingdom of Ifrael, and is bribed to

depart with 1000 talents.

760 .- The Ephori established at Lacedamon by Theopom-

757 .- Ifaiah begins to phrophely, and continues his prophecies for above 60 years; was fawn afunder by order of Manasses in 696.

754. The decennial archons begin at Athens. - Micah the prophet.-The Milefians are the 9th who acquire the maritime power of the Mediterranean.

753 .- Rome is built, according to Varro, April the 20th, or the 12th of the calends of May.

750 .- The rape of the Sabines.

747 .- The Romans and Sabines unite. - The æra of Nabonaffar begins.

743.- The first war between the Messenians and Lacedæmonians begins, and continues 19 years:

734.-The Carians about this time have the command of the Mediterranean.

732 .- Syracuse built by a colony of Corinthians under Archias; others fay in 758.

731 .- Habbakuk the prophet.

724. - The 1st Messenian war ended by the capture of Ithome, which rendered them vassals to the Lacedæmonians.

722 .- The Chinese empire divided into principalities.

721.—Samaria, after 3 years siege, taken.—The kingdom of
Israel sinished by Salmanaser, king of Assyria, who carried the ten tribes into captivity .- The 1st eclipse of the moon on record, according to Ptolemy, March 19th, 3 hours 20' before midnight.

720 .- The 2d and 3d eclipse of the moon on record; the 2d on March 5th, 50' before midnight; and the 3d on September 1st, 4 hours 20' before midnight, according to the meridian of Alexandria.
717.—Ineffectual fiege of Tyre for about 5 years by Sal-

manafer, king of Affyria. 713.—Gela in Sicily founded.—Senacherib's army destroyed in one night by an angel, to the amount of 185,000

709 - The Salii, an order of priefts, instituted by Numa.

7eS .- Echatana built by Dejoces.

707 .- Tarentum built by the Laced monian bastards, called Parthenians, on being expelled Sparta.

703 .- Corcyra built by the Corinthians. 690 .- Holosernes besieged Bethulia, and killed by Judith. 686 .- Archilochus the poet flourished, and invented the Iambic verse.

685 .- The second Messenian war begins, and continues 14

684 .- Athens begins to be governed by annual archons. -Tyrtzus the poet flourished.

583 -The Lacedemonians defeated by Aristomenes.

680 .- Assaradinus, or Esarhaddon, king of Assyria, takes possession of Babylon-the chariot race instituted at the Olympic games.

678 .- Dejoces extends the Median empire to the river

Halys.

677 .- Manasseh king of Judah is taken prisoner, and carried in chains to Babylon.

676 .- The Lesbians about this time acquire the command of the Mediterrangean, and retain it about fixtynine years.

August, and continued nine days-Terpander the

poet the first victor.

673 .- Terpander added about this time 3 strings to the lyre.-Thaletas of Gortynius, in Crete, the musi-

671.-The second Messenian war finished after a siege of eleven years, and the Messenians expelled the Peloponnefus.

670 .- Aleman of Sardis, the lyric poet.

667 .- The combat between the three Horatii and the three

Curiatii.

665 .- The city of Alba destroyed-the Messenians settled in Italy-war between the Romans and the Fidenates.

659 .- Cyplelus ulurps the government of Corinth, and retained it for 30 years.

658 .- Byzantium built by a colony of Argives, or, according to some, of Athenians and others-others fay, it was built in 670, 17 years later than Chalcedon.

651 .- A five years' war between the Romans and Sabines begins .- Cyrene in Africa founded.

648 .- The Thoth of the year of Nabonassar was on February 1st, having shifted 25 days in 100 years.

641.—Amon, king of Judah, treacheroufly put to death by his domeflic fervants.

636 .- The Tartars defeated the Chinese with great flaugh.

631 .- War between the Romans, and the Fidenates and Sabines, which continues, at intervals, for fifty

630 .- Cyrene built by Battus, who begins that kingdom.

629 .- The government of Corinth usurped by Periander.

627.—Jeremiah the prophet. 626.—Zephaniah the prophet.

625 .- The Pentateuch found by Hilkiah.

624 .- The Scythians invade Media, Lydia, &c. and keep polfession of several provinces for 28 years .- Draco the lawgiver, archon at Athens.

623 .- Draco establishes his laws at Athens.

621.—A war between the Lydians and Milefians, which continues eleven years. The fourth eclipfe on record, which was of the moon, on Saturday April 22d, three hours after midnight, according to the meridian of Alexandria.

610.—Necho about this time began the canal between the Nile and the Red Sea; but did not faish it.

608.—Jofiah, king of Judah, flain at Megiddo by Pharaob Necho, king of Egypt. 607.—Alexus the poet flourished.

606 .- Nineveh taken and destroyed by the joint armies of Cyaxares and Nabopolasfar.

6e5 .- The first captivity of the Jews, dated by others in 606.

6c4 .- By Necho's order some Phonicians about this time

B.C.

failed from the Red Sea round Africa, and re-

600.-Sappho the Lyric poetefs.

597.—Jehoiachin, king of Judah, carried captive to Babylon by Nebuchadnezzar.

596.—The Scythians expelled upper Asia by Cyaxares, after 28 years possession.—Epimenides of Crete, the first builder of temples in Greece.

594.—Solon, archon and lawgiver of Athens.—Thales of Miletus.

593.—Ezekiel the prophet. 592.—Anacharfis the Scythian.

591 .- The Pythian games first celebrated at Delphi.

590.—The Lydian war begins, and continues 6 years.
587.—The city of Jerufalem taken by Nebuchadnezzar
after a fiege of 18 months, June the 19th.

586.—The temple of Jerusalem burned on the seventh day

of the fifth month.

585.—A battle upon the river Halys between Cyaxares and Halyattes, interrupted by an eclipfe of the moon, May the 28th, which was predicted by Thales—this brought the Lydian war to a conclusion.—

Æsop the mythologist flourished.

582.-The Ishmian games restored.

5So .- Money first coined in Rome.

579.—The Megarensian war.—Stesichorus the poet flourished.

572.—Tyre taken by Nebuchadnezzar after a fiege of 13 years.

571.—Apries, king of Egypt, dethroned by Nebuchadnezzar.

569.—Daniel interpreted Nebuchadnezzar's dreams, according to Josephus.

508.—The Nemzan games restored.—Anaximander of Miletus flourished.—Phalaris tyrant of Agrigentum lived.

566 .- The first census at Rome-84,700 citizens.

562.—The first comedy at Athens, acted upon a scaffold by Susarion and Dolon, the inventors of comedy.

560.—Pifiltratus first usurped the tyranny of Athens, which he recovered after expulsion in 557, and from which he was again expelled in 5,50.

549.—Daniel the prophet delivered his predictions.—Cyrus ascended the throne of Persia.

556 .- Anaximenes of Miletus flourished.

550.—Cyrus king both of Media and Persia.—The kingdom of Lydia ended, after a subsistence of 249

549.—Theognis the poet flourished.—The Pisistratidæ burned the temple of Apollo at Delphos.

548.—Cræfius having croffed the Halys by an artificial bridge contrived by Thales, is defeated by Cyrus.

539.—The Phoceans, leaving their native country, fettle in Gaul, and build Marfeilles.—Pythagoras flourished.

538.—Cyrus takes Babylon, and terminates the kingdom of Babylon.

537 .- Simonides of Cea, the poet, flourished.

536.—Cyrus issues an edict for the return of the Jews, and rebuilding the temple, the foundations of which were laid in the second month of the second year after their return.—Thespis the inventor of tragedy lived.

535.—The first tragedy acted about this time at Athens, by The fpis in a waggon.—According to the Arun-

delian marbles in the preceding year. Vol. VII.

B. C.

532 .- Anacreon the poet flourished.

530 .- Cyrus marched against the Scythians.

529.—Daniel's vision, ch. xi. 528.—Haggai prophesied.

528.—Haggai prophetied. 527.—Zachariah prophetied.

526.—Learning encouraged at Athens.—A public library first founded.—War between the Romans and Sabines.

525.—Cambyfes conquered Egypt.—A comet appeared in China, near Antares, and extended to the milky

way.

523.—The 5th lunar eclipfe observed at Babylon, on Wednesday, July 16th, one hour before midnight, and more than 6 digits eclipfed on the northern disk.

520 .- Confucius lived .- The second edict to rebuild Jeru-

falem.

519 .- A great earthquake in China.

515.—The temple of Jerusalem finished March 10.—The passover celebrated, April 18.

512.—Babylon revolts from Darius, but is recovered two years after.

510.—The tyranny of the Pifistratidæ abolished at Athens by aid of the Lacedæmonians.

509.—The consular government begins at Rome, on the expulsion of Tarquin and his family, Feb. 26. being the Registugium of the calendar.

508.—The first alliance between the Romans and Cartha-

ginians.

507.—The fecond census in Rome—130,000 citizens.
506.—Heraclitus the philosopher lived.—Megabysus subdued Thrace and Macedonia.—Portenna king of Etruria made war against the Romans.—War between the Romans and Sabines.

505 .- Parmenides of Elea, the philosopher, lived.

504.—Sardis taken and burned by the Athenians, which occasioned the Persian invasion of Greece.

503.—The leffer triumph, called Ovation, begins at Rome by Posthumius, who entered the city with a myrtle crown.

502.—The fixth lunar eclipfe observed at Babylon on Monday, Nov. 19, 24' before midnight—3 digits eclipsed on the south part of the disk.

498.—The first dictator, Lartius, created at Rome.—The Ionians, after a revolt, subdued by the Persians, and Mictus taken.

497.—The Saturnalia inflituted at Rome—150,700 citizens.

495 .- Tarquin the proud dies at Cuma.

494.-War between the Romans and Sabines.

493.—The populace of Rome retire diffeomented to the Mons Sacer.—Tribunes created at Rome, or as fome fay in 488.—The Athenians built the port of Piveus.

491.—The kingdom of Syracufe ufurped by Gelo.—Coriolanus banifhed from Rome.—The 7th Innar eclipfe observed at Babylon, on Wednesday, April 25— 2 digits eclipfed to the fouth.

490.—The battle of Marathon, Sept. 28th, in which the Persians were defeated by Miltiades.

488.—Coriolanus, by the intreaty of his mother, &c. withdraws the army of the Volsei from Rome.

487 .- Egypt revolts from the Perlians.

486.—Elchylus first gains the prize of tragedy, at the age of 39 years.—The Agrarian law first proposed at Rome, by Cassius.

B. C.

485.—Cassius punished for usurping the sovereignty.—The

Volsci and Æqui subdued.

484 .- Aritides banished from Athens .- Xerxes recovers Egypt, and commits the government to his brother

483 .- Quæstors first created at Rome .- An eruption of

mount Ætna.

481 .- Xerxes begins his expedition against Greece.

480 .- The affair of Thermopylæ finished, Aug. 7th .- The Pertians defeated at Salamis in a fea-fight, Oct. 20th .- Pindar the lyric poet flourished, ob. 435, æt. 86.

479 .- The Perlians, under Mardonius, defeated at Platza, Sept. 22d-on which day occurred the battle of Mycale.-War between the Romans and Hetrurians .- Charon of Lampfacus, the hiltorian, lived.

477.- The 300 Romans, of the name of Fabius, killed by

the Veientes near Cremona, July 17.
476.—Valerius triumphed over the Veientes and Sabines, 103,000 citizens in Rome. - A great eruption of

471 .- Themittocles, accused of conspiring against the liberty of Greece, tetires to Xerxes in Alia.

470 .- Cimon defeats the Persian fleet at Cyprus, and the army near the river Eurymedon in Pamphylia .-An eruption of mount Ætna.-Anaxagoras of Clazomenæ, the philosopher, ob. 428, æt. 72.

465 .- The first solemn contest between the tragic poets, when Sophocles, at 28 years of age, was declared victor over Æschylus .- An earthquake at Sparta.

-Capua founded by the Tufcans. 465.—The Syracufans recover their liberty, and maintain

it for 61 years.

463 .- Egypt revolts from the Persians, under Inarus, but obtains the affiltance of the Athenians .- A great pestilence in Rome.-Sophocles, the tragic poet, ob. 406, zt. 91.

262.-The Pefians defeated by the Athenians, in a naval

engagement, in Egypt.

461.- Earthquakes and numerous prodigies in Rome. 460.-The 3d Messenian war with the Lacedæmonians be-

gins, and continues 10 years .- The tribunes contend with the confuls about making laws.

459 .- The Athenians begin to exercise tyranny over the

other Grecian states.

458 .- Ezra fent from Babylon to Jerusalem with the captive Jews, and vessels of gold and filver, &c. by Artaxerxes, in the 7th year of his reign, being 70 weeks of years, or 490 years, before the crucifixion of our Saviour .- Cincinnatus appointed dictator .- War between the Corinthians and Mega-

456.-The Athenians, deferted by the Egyptians, retire out of Egypt by capitulation with the Persians .-Nehemiah the prophet.—The ludi feculares cele-brated for the first time at Rome.—The tribunes affert their right of convoking the fenate.

454.-The Romans fend deputies to Athens for a copy of

Solon's laws .- An eruption of Ætna.

453 .- Ariftarchus the tragic poet.

451 .- The decemvirs created at Rome, and the laws of the 12 tables compiled and ratified.

450 .- Cimon triumphed over the Persians by sea and land.

-Zalencus the lawgiver of Locri.
449.—The decemvirs banished.—The Persians make an ignominious peace with the Greeks.

B.C.

448 .- The 1st facred war about the temple of Delphi .-Hellanius the historian, ob. 411, 2t.85.

447. The Athenians defeated by the Bootians at Cha-

ronç.i.

446 .- A 30 years' truce between the Athenians and Lacedæmonians .- Charondas the lawgiver of Thurium. -Thucydides, the Athenian general, banished by

445 .- Herodotus reads his history in the council at Athens, and receives public marks of honour, at the age of 39 years.—Military tribunes with confular power created at Rome.—Nehemiah returned to rebuild

the walls of Jerufalem.

444. The Athenians fend a colony to Thurium in Italy, of which number were Herodotus, Thucydides, and Lyfias .- Empedocles, of Agrigentum, the philosopher, flourished.

443 .- Cenfors first created at Rome. - Herodicus called the

gymnattic phytician.

442.-Profound and universal peace.-Euripides first gained the prize of tragedy at Athens, at the age of 43 years, ob. 497, at. 78.
441.—Attemones of Clazomena invented the battering-

ram, the testudo, and other military instruments. -Pericles subdued Samos .- A great famine at

440 .- Comedies prohibited at Athens, which continued for

3 years.—Phidias the sculptor slourished, ob. 432. 439 —War between Corinth and Corcyra.—Acron the physician called the empiric.

437.—Cratinus, the comic poet, ob. 431.

436 .- Malachi, the last of the prophets, delivered his pre-

435.-Fidenæ taken by the Romans.-The Corinthians defeated by the Corcyræans.-Eupolis the comic poet lived, ob. post 415.

434.—Aristophanes, the comic poet, ob. post 389.

433 .- The temple of Apollo confecrated .- A comet appeared in China.

432 .- The Metonic cycle begins. See CYCLE. Meton ob. post 415.

431.—The Peloponnesian war begins May 7, and continues near 27 years .- Euctemon the altronomer. 430 .- The history of the Old Testament finishes about this

time.-A plague at Athens for 5 years, which was of great extent.

429 .- Socrates the philosopher flourished, ob. 400, at. 70.

428.—Democritus of Abdera, the philosopher, ob. 361, 427 .- Gorgias of Leontium, the orator, ob. 400, æt. 108.

426 .- The plague broke out at Athens a fecond time .-Thucydides, the historian, flourished; ob. about 391, æt. about 80 .- An eruption of Ætna.

425.—Hippocrates of Cos, the physician, ob. 361. at. 99. 424.—Aristophanes' first comedy of the Clouds first acted

against Socrates.

423 .- A truce between the Lacedæmonians and Athenians, which lasted from about the 3d of October to the 12th of April following.

421.- A peace of 50 years, concluded April 10th, between the Lacedæmonians and Athenians, kept for 6 years and 10 months.

420.—Alcibiades, the Athenian general, ob. 404, 2t. 46. 419.—Protagoras of Abdera, the fophist. 418.—A fignal victory gained by the Lacedæmonians over the Argives and Mantineans.

416 .- The Agrarian law moved at Rome.

415 .- Parrhafius, of Ephefus, the painter .- Alcibiades accufed at Athens.

414 .- Egypt revolts from the Persians .- The 2d part of the Peloponnesian war called the Decelean begins; the feene of it Sicily.

413 .- A lunar eclipse, August 27, by which Nicias was so terrified, that he loft the Athenian army in Sicily.

412,-The Athenians, on account of their milconduct in Sicily, are deferted by their allies .- Lyfias the orator, ob. 378, æt. 81 .- 400 persons elected to the government of Athens.

410.-The Lacedæmonians defeated at Cyzicum by the Athenians .- Three qualtors elected for the first time at Rome .- The history of Thucydides ended, and that of Xenophon begun.-The Carthagi-

nians attacked Sicily.

408 .- The Romans defeated the Volfci .- The Athenians become masters of the Hellespont .- The Medes, after a revolt from the Perfians, obliged to fubmit.

407 .- The Carthaginians renew their attack on Sicily.

406 .- Agathon the comic poet.

405 .- The Athenian fleet of 180 ships totally defeated at Ægospotamos by Lysander.—Syracuse usurped by Dionysius.—Cebes the philosopher.

404.—Athens taken by Lyfander, which finishes the Peloponnesian war .- Athens governed by 30 tyrants. -Euclid of Megara, the philosopher.

402 .- Telestes the dithyrambic poet.

401 .- Cyrus killed in an expedition against his brother, Artaxerxes .- The retreat of 10,000 Greeks from Babylon under Xenophon .- The 30 tyrants expelled Athens by Thrafybulus, and the democratic government established.

400 .- Socrates put to death by the Athenians .- Xenophon, the philosopher, called the Attic muse, ob. 359,

æt. about 90.

509 -The fealt called Letliflernium inflituted at Rome. 308 .- Military catapultæ invented about this time by Dionysius.-Ctesias, the physician and historian, ob. after 384 .- Many prodigies at Rome.

397 .- War against the Carthaginians by Dionysius of Syra- 354 .- Dion put to death .- Theopompus of Chios, the cuse, continues five years .- Zeuxis of Heraclea, the painter.

395 .- Antifthenes, called the Cynic philosopher.

395 .- An alliance of the Athenians, Thebans, Corinthians, and Argives, against the Lacedæmonians.

394 .- A fea-fight at Cnidus, between the Perfians and Lacedæmonians.-Contests at Rome about the Agrarian law .- The Corinthian war begins .- The hiftory of Theopompus ended .- Archytas of Tarentum, the Pythagorean philosopher and mathematician, ob. after 360.

393 .- Argives become matters of Corinth.

390 .- The battle of Allia, in which the Romans were defeated by the Gauls, who marched to Rome, which was taken and burned.

389 .- Plato's first voyage into Sicily, ob. 34S. æt. 81.

388 .- Rhegium taken by Dionysius .- Philoxenus, the dithyrambic poet.

387 .- The peace of Antalcidas between the Lacedæmonians and Perfians .- 152,583 effective men in Rome. -Damon and Pythias, the Pythagorean philosophers and friends.

385 .- The war of Cyprus finished, after a duration of two

years, and given up by the Persians.

380 .- Ifæus of Chalcis, the Athenian orator, ob. about

378 .- Ifocrates the rhetorician, ob. 388. at. 99.

377 .- The Lacedæmonians defeated in the fea-fight at Naxus, Sept. 20th. - Arete of Cyrene, the female philosopher.

376.—Artaxerxes concludes a peace with the Greeks.—The

Licinian law proposed in Rome.

374.-The unfuccessful expedition of the Persians under Artaxerxes in Egypt .- Philolaus, the Pythagorean philosopher.

373 .- A great earthquake in Peloponnesus .- A comet ap-

peared in Greece, &c

372 .- Diogenes, the Cynic philosopher, ob. 324. æt. 90. 371 .- The battle of Leuctra, July 8th, in which the Lacedæmonians were defeated by the Thebans under

370 .- The Messenians return to Peloponnesus, after a ba-

nishment of about 300 years.

368 .- Eudoxus about this time brought the celestial sphere from Egypt, and carried it into Greece, ob. about 5 :. at. 5:

367 .- The populace at Rome obtain the privilege of having one of the confuls a Plebeian .- The Gauls, who invaded the Roman territories, were defeated by Camillus .- The Licinian law paffed.

365 .- The Romans renew the cultom of fixing the chronological nail in the temple of Jupiter, on the 13th of September .- Livy places it in the next year.

363 .- The battle of Mantinea, in which Epaminondas was killed .- Aritippus jun. the Cyrenaic philofo-

362 .- Revolt of several Persian governors in Lesser Asia against Artaxerxes.

360.—Philip's first battle, gained at Methon, over the Athenians.—Plato's fecond voyage into Sicily. 359 .- Philip's fecond battle gained over the Illyrians .-

The obliquity of the cliptic 23° 49' 10".
357.—The fecond facred war begins.—Dionyfius jun. ex-

pelled Syracuse by Dion .- Aristotle observed the moon's transit over Mars, April 4th.

orator and hillorian.

353 .- The Phocmans defeated in Theffaly by Philip.

352 .- Ephorus of Cumæ, the historian.

351 .- The Sidonians befieged by the Persian army; burn their city; and put themselves to death .- The monument of Mausolus erected.

350 .- Egypt conquered by Ochus.

348 .- Philip of Macedon, having taken all the cities of the Phocæans, concludes the facred war .- Speufippus, the academic philosopher, ob. 339 .- A comet appeared in Greece.

347 .- Dionyfius recovers Syracufe.

345 .- Aristotle the philosopher flourished, ob. 322. xt. 63. 343 .- War between the Romans and Samnites begins, and lasts 71 years .- Timoleon recovers the liberty of Syracuse; banishes Dionysius, and settles a democracy.-Protogenes of Rhodes, the painter, ob. about 320 .- The Syracufan æra commenced. -Philip makes Thrace tributary .- A pellilence at Rome.

341 .- A comet appeared, near the equator, in Greece.

340 .- The Carthaginians defeated by Timoleon near Agrigentum, July 13th.

339 .- Xenocrates, the academic philosopher, ob. 314. æt. 82. 5 G 2

P.C

338 .- Philip defeated the Athenians, &c. in the battle of

Chæronea, Aug. 2d.

336 .- Philip killed by Pausanias .- A Plebeian admitted to the prætorship at Rome .- A comet appeared in Greece .- Stilpo of Megara, the philosopher, ob. after 294.

335 .- Alexander enters Greece .- Destroys the city of Thebes, but preferves the house of Pindar .- A temple was built on mount Gerizini .- Demades, the Athenian orator, ob. 322.

334.-Alexander defeated the Perfians on the river Granicus, May 22d .- Apelles of Cos, the painter.

353 .- Alexander gains a fecond battle at Iffus, in October. -Callisthenes, the philosopher, ob. 328.

332 .- Alexander takes Tyre August 20th, gains possession of Egypt, and builds Alexandria .- Dinocrates the mathematician.

331. The battle of Arbela, in which Alexander defeats Darius, Oct. 2d, 11 days after a total eclipse of the moon.

330 .- The cycle of Calippus commences from Darius's death, July 1st .- Ælchines the orator banished .- A trial for witchcraft at Rome.

329 .- Hyperides the Athenian orator, ob. 322.

328 .- Philetas of Cos, the poet and grammarian, ob. about 280.—Alexander passed the mountain of Caucasus. 327. - Alexander's expedition into India against Porus.

326 .- Lysippus, the statuary.

325 .- Menedemus of Eretria, the philosopher, ob. about 301, at. 74.- Demosthenes the orator banished from Athens, recalled in 323, and died in 322, æt. 60.

324 .- Crates of Thebes, the Cynic philosopher, ob. after

287.

323 .- Alexander dies April 21st, and his empire divided. -Praxiteles, the statuary, ob. after 288.

322 .- The principal Athenian orators, viz. Demosthenes, Hyperides, and Demades, are put to death by Antipater .- Theophrastus, the Peripatetic philosopher, ob. about 288, æt. 85.

321 .- The Romans, defeated by the Samnites, pass under

the yoke.

320 .- General liberty proclaimed to all the Greek cities by Polysperchon.-Ptolemy carried 100,000 Jews captives into Egypt .- Menander, the inventor of the new comedy, ob. 293, æt. 52.

319 .- The Samuites subdued by the Romans.

318 .- Phocion unjufly put to death by the Athenians .-Cassander becomes master of Athens.

317.—The government of Syracufe and of Sicily usurped by Agathocles.—Demetrius Phalereus governs Athens for 10 years, banished from Athens in 307, ob. about 284.

315 .- Caffander rebuilt Thebes, and founded Caffandria .-Rhodes almost destroyed by an inundation.

-The cities of Peloponnesus recover their liberties .-Dinarchus, the Athenian orator, banished in 307. 313 .- Polemon, the Academic philosopher, ob. 270.

312 .- Seleucus takes Babylon, from which begins the æra of the Seleucidæ. - Zeno of Cittium in Cyprus,

the first of the Stoic philosophers, ob. 264, æt. 98. 310.—Agathocles defeated by the Carthaginians July 22d, carries the war into Africa; during his passage the fun was eclipfed Aug. 15th, 11 digits 10' .- A comet appeared in China .- Crantor, the Academic philosopher, ob. before 270.

308 .- Fabius defeats the Samnites, Marti, and Peligni .-Philemon, the comic poet, and rival of Menander, ob. about 274. 307.—The oligarchy of Athens changed into a democracy

by Demetrius Poliorcetes.

306 .- The fuccessors of Alexander assume the title of

305 .- Megalthenes, the historian.

304 .- Selencus founded Antioch, Edessa, Laodicea, &c .-Pyrrho, the 1st of the Sceptic philosophers, ob.

301 .- The battle of Ipfus, in which Antigonus is defeated. 300. - Euclid of Alexandria, the mathematician.

29S .- Arcefilaus the philosopher; founder of the 2d or middle Academy, ob. about 241, æt. 73.

296 .- Athens taken by Demetrius Poliorcetes .- Epicurus,

the philosopher, ob. 270, æt. 72.

204. Timocharis of Alexandria observed, March 9th, 4 hours before midnight, a conjunction of the moon with the Spica Virginis, 8° according to him W. from the equinoctial point; ob. after 272 .-270,000 effective men in Rome.

203 .- The first fun-dial erected at Rome by l'apirius Curfor, and their time divided into hours .- Erafiltratus,

the physician, ob. about 257.

292 .- Ariftyllus of Alexandria, the aftronomer.

201.—Seleucus has built about 40 new cities in Afia, which

200.-The Samnite war terminated .- Painting brought to Rome by Fabius .- Bion Bory thenites, the philofopher, ob. 241.

288 .- Strato, the Peripatetic philosopher, ob. about 270. 287 .- The Athenians revolt from Demetrius Poliorcetes .-Zenodotus of Ephclus, the first librarian of Alex-

andria, ob. about 245. 286.—Macedon taken possession of by Lysimachus, and Pyrrhus expelled.

285 .- Dionysius, the astronomer of Alexandria, began his æra on Monday June 26th, being the first who found the exact folar year to confitt of 365 5h 49'-ob.

284 .- The Septuagiat translation of the Old Testament supposed to have been made about this time .- The pharos of Alexandria built .- The foundation of the Achæan republic laid .- A great earthquake in the Hellespont and Chersonese .- The Gauls attacked the Romans and defeated.

283 .- Softratus of Cnidus, the architect - The college and

library of Alexandria founded.

282.—Timocharis observed, Nov. 9th, 3\frac{1}{3} hours after midnight, a fecond conjunction of the moon with the Spica Virginis .- Theocritus of Syracuse, the pas-

280 .- Pyrrhus affifts the Tarentines in Italy .- Ariftarchus of Samos, the astronomer.

279 .- Dionyfius Heracleotes, the philosopher .- A new cenfus at Rome-278,222 citizens.

273 .- A large army of Gauls under Brennus cut to pieces near the temple of Delphi.-Philo, the dialectic philosopher, ob. about 260. 277.—Aratus of Tarsus, the astronomical poet.

276.—The first regular body of grammarians or critics began at this time .- Lycophron of Chalcis, the poet.

275 .- Pyrrhus defeated by the Romans, retires to Epirus. -Perfæus, the Stoic philosopher.

272.—The Samnites and Tarentines defeated by the Ro-

B.C.

mans .- On Jan. 17, a conjunction of Mars with the N. star, in the side of the front of Scorpio. -Lycon, the Peripatetic philosopher, ob. 226, at. 74.

269 .- Silver first coined at Rome .- Crates, the Academic

philosopher, ob. about 250.

268 .- Athens taken by Antigonus Gonatas, who retains the government 12 years .- Berofus, the Chaldwan hittorian.

267 .- Hermachus of Mitylene, the Epicurean .- Ptolemy made a canal from the Nile to the Red Sea.

265 .- A census at Rome-292,226 citizens.

264. The first Punic war. The chronicle of Paros, or the Arundelian marbles, composed.-Cleanthes, the Stoic philosopher, ob. about 240, æt. 80.

263.-Homer, jun. the tragic poet.

262.—The battle of Sardis.—Timzus of Sicily, the historian, ob. xt. 96.—The transit of Mercury over the bull's horn, April 26, Mercury being in 23° Taurus, and the fun in 29° 30' 9.

261 .- The Romans first concerned themselves in naval affairs .- Manetho, the Egyptian historian.

260.-The Carthaginians defeated at fea by the Romans.-Callimachus of Cyrene, the poet, ob. about 244.

259 .- Zoilus the critic, called Homero-Mallix.

258 .- Duris of Samos, the historian.

257 .- Neanthes of Cyzicum, the orator and historian.

256 .- Regulus defeated and taken prisoner .- Athens restored to its liberty by Antigonus .- Ctelibius, the historian, ob. æt. 104.

255 .- Sofibius of Lacedæmon, the critic.

254.-Hieronymus of Rhodes, the Peripatetic philosopher. 252 .- A census at Rome 297,897 effective men .- The Carthaginians masters of the sea.

251 .- Aratus with his fellow citizens join the Achaan league.

250 .- The Parthians revolt from the Macedonians.

249 .- The fea-fight of Drepanum, in which the Romans are totally defeated by the Carthaginians.

2.48 .- Antigonus Carystius, the historian.

247 .- Jesus the fon of Sirach .- A census at Rome-

251,212 citizens.

246 .- Ali the records, &c. in China destroyed .- Ptolemy kills Laodice, queen of Antiochus, and overruns great part of Syria.—Conon of Samos, the astronomer, ob. after 223.

245 .- Eratothenes of Cyrene, librarian of Alexandria .ob. 194, æt. 82.

243 .- The citadel of Corinth taken by Aratus .- Spharus,

the Stoic philosopher and hillorian. 242 .- The Carthaginians defeated .- The first Punic war terminated .- Apollonius of Perga, called the great

geometrician.

241.—Agis king of Sparta, attempting to fettle an Agrarian law, is put to death.—Lacydes, the philosopher, of the second Academy, ob. after 215 .- September the 3d, Jupiter observed in 7° 33' ng, and in conjunction with the S. star of the Afelli.

240 .- The first plays afted at Rome, being those of Livius Andronicus, the first Roman dramatic

239 .- Chrytippus of Cilicia, the Stoic philosopher, ob.

207, æt. 73.

238 .- The Carthaginians finish the Libyan war .- Polystratus, the Epicurean philosopher.

237.-Hamilear leads a Carthaginian army into Spain, with his fon Hannibal .- Euphorion of Chalcis, the poet, ob. about 220. æt. 56.

236 .- The Tartars expelled from China .- Archimedes of

Syracuse, the mathematician, ob. 212.

235 .- The temple of Janus shut the first time after Numa and univerfal peace .- M. V. Mcsala, the Roman painter, ob. after 226.

234.—The Sardinian war begins .- C. Nævius, the comic

poet, ob. 203.

232 .- The Agrarian law revived .- The Gauls revolt. 231 .- The first divorce at Rome. - Sardinia and Corfica fub-

dued by the Romans.

230 .- Apollonius the Rhodian, the poet and third librarian of Alexandria .- Eratolthenes observed the obliquity of the ecliptic to be 23° 51' 20".

229 .- The Romans declare war against the Illyrians.

228 .- The Roman ambassadors first appear at Athens, Co:inth, &c .- Philochorus of Athens, the hiftorian, ob. 222.

226 .- Aritto Ceus, the Peripatetic philosopher, ob. about

225 .- Cleomenes kills the Ephori, and restores the Agrarian laws of Sparta. The Gauls enter Italy and are defeated .- Fabius Pictor, the first Roman histo-

224.—The Romans for the first time crossed the Po.—The Coloffus of Rhodes thrown down by an earth-

quake.

221 .- Phylarchus, the historian.

220. - A census at Rome-270,213 citizens .- The social war in Greece begins, and continues three years. -Plantus of Umbria, the comic poet, ob. 184.

219. - Saguntum taken and destroyed by Hannibal. -Archagathus, the 1st physician at Rome .- The art of furgery introduced into Rome.

218 .- The fecond Punic war begins with Hannibal's paffing the Alps, and continues 17 years.

217 .- The Romans defeated at Thrasymene.

216. - The Romans totally defeated in the battle of Canna. 215 .- Evander, the philosopher of the second Academy

212 .- Syracufe, after a fiege of three years, taken by Marcellus.

210.-Hermippus of Smyrna, the Peripatetic philosopher, and grammarian.

207 .- Afdrubal defeated and killed by Claudius Nero .-Zeno of Tarlus, the Stoic philosopher.

205 .- Ennius of Calabria, the poet, brought to Rome by Cato the quæstor, and first gave harmony to the Roman poetry.-Sotion of Alexandria, the grammarian

204. - Scipio besieged Utica.

203.-Scipio in one day took the two camps of Afdrubal and Syphax .- Hannibal recalled

202 .- Scipio defeated Hannibal at Zama, Oct. 19.

201.-Peace obtained on very ignominious terms, by the Carthaginians, and the close of the second Punic

200 .- The first Macedonian war begins, and continues near 4 years .- Arithophanes of Byzantium, the gram-

marian, ob. æt. 80.

198 .- Sidon taken by Antiochus, after the battle of Panius. -Asclepiades Myrlianus, the grammarian

197 .- The Romans fend two prætors into Spain .- Defeat Philip Cynocephalus, - Licinius Tegula, the comic poet.

196 .- Caius Lælius, the Roman orator .- The Roman fenators first fat in the orchestra at the scenic shews.

-Aristonymus, the fourth librarian of Alexandria, ob. æt. 77.

104.-Sparta and Hither Spain subdued by the Romans.

193 .- Hyginus of Pergamus, philosopher of the second Academy.

102.- The war of Antiochus the Great with the Romans begins, and continues 3 years. - A cenfus at Rome -243,704 effective men.

191 .- Earthquakes at Rome, 38 days.

190 .- The Romans under Scipio defeat Antiochus in the battle of Magnesia.

189.—The Romans make peace with Antiochus.—Afiatic luxury first brought to Rome by the spoils of An-

188.-Philopæmen obliges the Lacedæmonians to renounce the laws of Lycurgus

187 .- Antiochus defeated and killed in Media, after plundering the temple of Jupiter Belus in Elymais .-Scipio Africanus banithed from Rome.

185 .- Diogenes of Babylon, the Stoic philosopher.

183 .- Philopomen defeated and killed by Dinocrates, tyrant of the Messenians .- Critolans Phaselites, the Peripatetic philosopher, ob. about 140 .- The Transalpine Gauls march into Italy.

182 .- The stars appeared in China in the day time.

181 .- Pellilence at Rome.

180 .- Demetrius, accused by his brother Perseus, is put to death by his father Philip .- Statius Cæcilius, the comic poet, ob. after 166.

179.—A census at Rome—273,244 effective men.—Some books of Numa found at Rome in a stone cossin, supposed by Livy to be forged-and burned.

177 .- Agarthacides of Cnidus, the historian.

176 .- Heraclides, called Lembus, the historian. 175 .- A great earthquake in China. - Pettilence at Rome.

173 .- Englus finishes the 12th book of his annals .- Attalus of Rhodes, the astronomer and grammarian.

172 .- A comet appeared in China, in the eaft .- Antiochus's first expedition in Egypt.

171. The 2d Macedonian war begins. - Antiochus defeats

Ptolemy's generals.

170.-Paper invented in China.-Antiochus takes Jerufalem, and plunders the temple.-An irruption of the Tartars into China .- Metrodorus, the philofopher and painter of Athens, afterwards carried to Rome by Æmilius.

169.—A census at Rome—212,805 citizens:

168 .- Perfeus defeated in the battle of Pydna .- An eclipfe of the moon happened the preceding night, fore-told by Gallus.—C. Sulpicius Gallus, the tribune, and 1st Roman astronomer.

167 .- The 1st library erected at Rome, confisting of books

brought from Macedon.

166 .- Terence of Carthage, the comic poet, ob. 159, xt. 35. His first play, Andria, acted at Rome.—Apollonius killed by Judas Maccabæus.

165 .- Judas purified the temple of Jerusalem .- An eruption of Ætna.-Crates Mallotes of Pergamus, called

the critic.

164 .- A census at Rome-327,032 citizens .- Polybius of Megalopolis, the hiltorian, ob. 124, æt. 82.

163 .- The government of Judea under the Maccabees begins, and continues 126 years .- M. Pacuvius, the tragic poet, ob. about 131, æt. 90.

B.C.

162 .- Hipparchus begins his astronomical observations at Rhodes, and continues them for 34 years .- Demetrius takes possession of Syria.

161 .- The philosophers and rhetoricians banished from

Rome.

160 .- Terence's last play, Adelphi, acted at the funeral of P. Æmilius.-Carneades of Cyrene, the philofopher, and author of the 3d or new Academy, ob. 128, æt. 90.

159 .- Time measured at Rome by water, invented by Sci-

pio Nafica.

158 .- An irruption of the Tartars into China .- Hipparchus observed the autumnal equinox on Sunday, September 27, about mid-day

157 .- A comet appeared in China, in the 9th month.

156 .- Several temples of Pergamus plundered by Prufias, king of Bithynia .- Arithmethus of Alexandria, the great grammarian, ob. æt. 72.

152 .- Andrifcus, perfonating the fon of Perfeus, affumes

the tyranny of Macedon.

150.—Demetrius, king of Syria, killed by A. Balas.— Ariftobulus of Alexandria, the Jew and Peripatetic philosopher, ob. after 124.

149.—The 3d Punic war commenced, and continued 3 years.—Prufias put to death.

148 .- Jonathan Maccabæus defeats Apollonius in the battle of Azotus, and takes that city and Ascalon. -A comet appeared in the N. part of China, in the 4th month. Satyrus, the Peripatetic philosopher and historian.

147.-A census at Rome-322,000 citizens .- The Ro-

mans make war against the Achwans.
146.—Carthage destroyed by P. Scipio, and Corinth by L. Mummius, who brought to Rome from thence the first fine paintings; of which the two principal were Bacchus by Arittides, and Hercules in torture.-Hipparchus observed the vernal equinox March 24, at mid-day .- Blair refers this obfervation to 135 .- A remarkable comet appeared in Greece.

145.-The Romans desolated Greece.

144.-Tryphon murdered Jonathan and his brethren .- Antipater of Tarfus, called Calamoboas, the Stoic

philosopher.

143 .- Hipparchus observes the autumnal equinox on Wednefday, September 20th, about fun-fet; from the new moon of Sept. 28th he began his new cycle of the moon. See CYCLE .- A great earthquake in China.

1.12 .- Simon, the high priest, takes the castle of Jerusalem; repaired it, and refcued Judæa from Syrian fer-

141 .- The Numantian war begins, and continues 8 years. -An eclipse of the moon observed at Alexandria, on Tuesday, Jan. 17, 2 hours before midnight.— Mnaseas Patrensis, the grammarian.

140 .- Diodorus, the Peripatetic philosopher.

139 .- Lucius Accius, the tragic poet.

138 .- Panatius of Rhodes, the Stoic philosopher.

137 .- Ptolemy Physcon began a new restoration of learning at Alexandria by inducing ingenious foreigners to fettle there .- Nicander of Colophon, the physician and poet.

136 .- Scipio Africanus, &c. made an embasty into Egypt, Syria, and Greece.-Ctefibius of Alexandria, the mathematician and inventor of hydraulic instruments,

135 .- The history of the Apocrypha ends .- A comet appeared in the N.E. part of China in autumn .-The Servile war begins in Sicily.

133 .- Numantia in Spain destroyed by Scipio .- The kingdom of Pergamus annexed to the Roman empire. -Tiberius Gracchus put to death for attempting an Agrarian law

130 .- Antiochus, king of Syria, defeated and killed .- A comet in Afia.-The revival of learning in China.

129 .- The temple on Gerizim destroyed by Hyrcanus. 12S .- Hipparchus observes the vernal equinox to be on Thursday, March 23d, about sun-set, and afterwards the ftar Cor Leonis was 29° 50', from the fummer solfticial colure.-Clitomachus of Carthage, philosopher of the third Academy, ob. about 100.

127 .- Hipparchus, on May 2d, about sun-rise, observed the fun in 7° 35' 8, the moon in 21° 40' H, and their mean distance to be 312° 32'—he observed Spica Virginis 6° W. of the autumnal equinoctial point.

124 .- Apollonius of Nyfa, the Stoic philosopher.

123 .- Carthage is rebuilt by order of the Roman fenate .-Herodicus called Cratiteus, the grammarian.

121 .- A great eruption of Ætna. - Caius Gracchus killed for attempting an Agrarian law .- L. Cælius Antipater, the Roman historian.

120 .- A comet appeared in the E. part of China .- Castor of Rhodes, the chronologer and hiltorian.

119 .- Menecrates of Nyfa, the grammarian .- Two comets appeared in China-one in the N.E. in fpring, and another in the N.W. in fummer.

118 .- A colony fettled at Narbonne by the Romans-who defeated the Gauls near the Alps .- Dalmatia conquered by Metellus.-

116 .- Cleopatra affumes the government of Egypt .- Lucilius, the first Roman fatyrist, ob. 103, at. 46.

115 .- Apollodorus of Athens, the chronologer and gram-

113 .- Marcus Antonius, fen. the Roman orator, ob. 87, æt.

111 .- The Jugurthine war begins, and continues five years. 110 .- A comet appeared in China, in the autumn .- The fumptuary law, called lex licinia, made at Rome. -Lucius Crassus, the Roman orator, ob. 91. æt.

49. 109 .- Hyrcanus took Samaria .- The Teutones and Cimbri attack the Roman empire.

108 .- Athenion, the Peripatetic philosopher, ob. about 95. -The Romans defeated by the Cimbri.

107 .- Cicero is born.

106 .- Ptolemy dethroned by Cleopatra .- Jugurtha deliver-

ed up to Marius.

105 .- The Cimbri and Teutones defeated the Romans, 80,000 of whom were killed on the banks of the Rhone.

104 .- Aristobulus, the first high-priest who wore a crown .-Artemidorus of Ephefus, the geographer.

103 .- The Roman people obtained the power of electing the prætors.

102 .- The Teutones defeated by Marius-200,000 killed, and 70,000 taken prisoners.

101 .- The Cimbri defeated by Marius and Catullus-120,000 killed, and 60,000 taken prisoners.

100 .- 'The Agrarian law revived by Saturninus .- Julius Cæsar is born .- Philo, the philosopher of the 3d Academy.

99 .- Lusitania conquered by the Romans under Dolabella. 97 .- Ptolemy Appion dies and bequeaths his kingdom to

the Romans .- Melopotamia occupied by the Ro-

96 .- The king of Parthia fends ambaffadors to China. 95 .- Charmidas, the philosopher of the 3d Academy.

94 .- Hortenfius begins to plead at 19 years of age. 93 .- Apellicon Teius, the proprietor of a famous library at

Athens, ob. about 86 91 .- The Social or Marfic war begins, lalts three years, and

is finished by Sylla .- L. Sisenna, the Roman histo-

90 .- Asclepiades of Prusias, the physician, and author of a new fect in physic, ob. after 63.

89.-The Mithridatic war commenced and continued 26 years-in 94 Playfair.

88 .- The civil war between Marius and Sylla begins and continues 6 years .- Alexander, called Polyhistor, the grammarian and historian.

87.—Photius Gallus, the first Latin rhetorician.—A comet appeared in the N.W. of China in the spring.

86 .- Sylla takes Athens-defeats Archelaus-fends Apeilicon's library to Rome, in which was the original MS. of Aristotle's works.

85 .- Diotimus, the Stoic philosopher, ob. after 83 .- A census at Rome-464,000 citizens.

84 .- Q. Valerius Antias, the Roman historian .- A comet appeared in the N.W. of China in the spring .-Peace between Mithridates and Sylla.

83.—Zeno of Sidon, the Epicurean philosopher.—Sylla de-

stroyed the Capitol.

S2 .- Sylla plundered the temple of Delphos-defeated Marius-committed the greatest cruelties at Romewas created dictator .- Quintus Hortensius, the Roman orator, ob. 50, æt. 63.

S1 .- Cicero begins to plead at the 26th year of his age .- A. Licinius Archias, the poet.

So .- Antipater of Sidon, the poet.

79 .- Sylla refigns the dictatorship. - Alexandra governs Judæa .- Posidonius of Apamea, the Stoic philosopher and aftronomer, ob. after 51, æt. S4.

77 .- Geminus of Rhodes, theastronomer and mathematician.

76 .- Apollonius of Rhodes, the rhetorician.

75.-Nicomedes, king of Bithynia, dies and bequeaths his kingdom to the Romans .- Theodofius of Tripoli, the mathematician.

73 .- The Servile war begins.

71.-The Servile war ends .- Tyrannio, the grammarian and Peripatetic philosopher, ob. after 56.

70 .- The cenforship revived at Rome .- M. Terentius Varro, called the most learned of the Romans, ob. 28,

69 .- The Roman Capitol rebuilt .- A census at Rome .-450,000 citizens .- Lucullus defeats Mithridates and Tigranes .- A comet appeared in the west of China in the spring.

68 .- Aristodemus of Crete, the grammarian.

67 .- The war of the Pirates.

66.-Crete reduced to a Roman province.

65 .- The reign of the Seleucidæ ends .- And Syria reduced to a Roman province.-T. Lucretius Carus, the the poet, ob. 54. 2t. 44.

64 .- Dionyfius, the Thracian, the grammarian.

63.-Catiline's conspiracy.-Detected by Cicero.-Defeated by Antony .- Mithridates killed himfelf .-Jerusalem taken by Pompey.

BC.

62 .- Antiochus, the philosopher of the third Academy.

61 .- L. Taruntius Spurina, the mathematician, ob. after

60 .- The first triumvirate between Pompey, Cæfar, and Crassus .- Q. V. Catullus, the lyric peet, ob. about 40, æt. 46.

59 .- Andronicus of Rhodes, the Peripatetic philosopher,

and reftorer of Arittotle's works.

58 .- Cicero banished Rome by the insligation of Clodius. 57 .- Cicero recalled from exile .- C. Crifpus Sallustius, the historian, expelled the senate in 50, ob. 35, æt. 51.

55 .- Cæsar passes the Rhine, and defeats the Germans .-Makes his first expedition into Britain .- Ptolemy king of Egypt reflored to his kingdom .- Pompey built a stone theatre for public sports.

54.-Cæfar's fecond invasion of Britain .- Timagenes of Alexandria, the historian and thetorician.

53 .- Crassus killed .- His army defeated by the Parthians. -Cratippus, the Peripatetic philosopher.

52 .- Clodius murdered by Milo.

51.-Gaul becomes a Roman province.

50 .- The civil war begins, Oct. 22d .- A census at Rome. -320,000 citizens.

49 .- Czsar proclaimed dictator .- A comet appeared in China.—Cornelius Nepos, ob. about 25.

48 .- The battle of Pharsalia. - Antipater, procurator of Judæa .- P. T. Varro, called Atacinus, the poet. 47.-Alexandria retaken by Julius Cæfar.-The library

46 .- The war of Africa .- Cato kills himfelf at Utica .-This year, called the year of confusion, being corrected by Sofigenes, of Alexandria, the mathematician, and confifting of 15 months, and 445 days.

44.- Cæfar killed in the fenate-house, æt. 56 .- A comet appeared in China, and at Rome after Cæfar's death .- Diodorus Siculus, the historian.

43.-The second triumvirate between Octavius, Antony, and Lepidus .- Cicero put to death, Dec. 7th.

42 .- The battles of Philippi .- Cassius and Brutus defeated.

41.—A great famine at Rome.—An earthquake in China.
Trogus Pompeius, the historian.

40 .- Jerusalem occupied by Antigonus, assisted by the Parthians .- Hyrcanus expelled .- Herod receives the kingdom of Judæa from the Romans .- Didymus, the scholiast.

39 .- The Romans recover Syria and Palestine.

38 .- The senate made 67 prætors .- The Spanish æra commenced.

37.-Pompey gained the empire of the sea .- Sosius took Jerusalem and Herod .- Antigonus put to death. -The Almonæan family terminates 126 years after Judas Maccabæus.

36 .- Sextus Pompeius defeated in Sicily .- Lepidus degraded from the triumvirate, and banished .- Vir-

gilius Maro, ob. 19. æt. 51.

34.-Antony feizes the kingdom of Armenia .- Marcus Manilius, the astronomical poet.

33.-Dioscorides, physician to Antony and Cleopatra.

32.—A comet appeared in China. 31.—The battle of Actium, Sept. 2d.—Antony and Cleopatra defeated .- The Roman emperors properly begin .- An earthquake in Judæa .- The feets of the Scribes and Pharifees commence.-Afinius Pollio, the orator and historian, ob. A.D. 4. æt. 80.

-Alexandria taken by Octavius .- Antony and Cleopatra put themselves to death .- Egypt reduced to a Roman province.-Strabo, the geographer,

29 .- Oftavius diffuaded by Macenas from divefling himfelf of the empire.-Horatius Flaccus, ob. 8. 2t. 57 .- Cæfar triumphed three days in Rome .-The temple of Janus shut .- A census at Rome -4,101,017 citizens.

2S .- Æmilius Macer, of Verona, the poet, ob. 16.

27 .- The title of Augustus conferred upon Octavius, by a decree of the fenate, Jan. 13th .- The power of imperator for ten years; next the cenforship; then the tribuneship; and, at last, an absolute exemption from the laws .- The Pantheon at Rome built .- A great famine in Palettine .- S. Aurelius Propertius, the elegiac poet.

25.- The Egyptians adopt the Julian year, and fix their thoth to begin always on Aug. 29th .- Titus

Livius, ob. A.D. 17. æt. 76.

24.- The fenate, by a folemn oath, Jan. 1st, confirm to Augustus the tribuneship and exemption from the

23.-Antonius Musa, the physician, whose great remedy

was the cold bath.

22 .-- A great pestilence in Italy. 21 .- Augustus goes to Greece and Asia; recals Agrippa; gives him Julia in marriage, and the government during his abfence .- Made Syracufe a colony .-

Tibullus, the elegiac poet, ob. about 19. at. 24. 20. Tiberius recovers the Roman enfigns from the Parthians .- Porus, king of India, folicits an alliance with Augustus .- Ovidius Naso banished to Tomi, A. D. g. ob. 17. æt. 59.

19 .- Rome at the meridian of its glory .- Herod rebuilt the temple of Jerusalem .- Agrippa constructed

the magnificent aqueducts at Rome.

18 .- Augustus reduces the senate to 300; afterwards limits them to 600 .- Celibacy is discouraged .- Pylades and Bathyllus, two famous Roman actors.

17 .- The Secular games revived .- Varius and Tucca, critics and editors of the Æneid.

16 .- Agrippa goes to Syria, and thence to Judæa.

15 .- Drufus defeats the Rhætians .- M. Vitruvius Pollio, the architect.

14 .- A great conflagration at Rome.

13 .- Augustus assumes the office of Pontifex Maximus; burns about 2000 pontifical books; referving those of the Sibylline oracles.

12.-Tiberius conquers the Pannonians.-Many prodigies in China, and a comet .- Nicholas Damascenus, the Peripatetic philosopher and historian.

11.-Drusus conquers several German nations.

10 .- Herod built the city of Cæfarea.

9 .- Drusus's expedition into Germany, where he dies, July 20th .- C. Julius Hyginus, the grammarian and

poet.

8.-Augustus corrects the calendar.-The month Sextilis named Augustus by a decree of the senate .- A census at Rome .- 4,233.000 citizens .- Verrius Flaceus, the grammarian, and tutor to the two grandfons of Augustus, and supposed author of the Capitoline marbles.

6 .- Tiberius retires to Rhode:.

5 .- Q. Varus appointed governor of Syris .- A comet appeared in China .- OUR SAVIOUR JESUS CHRIST

B.C.

born, on Monday, Dec. 25th, or Sept. four years before the common area.—Cyrenius appointed governor of Judæa.—Dionysius of Halicarnasius, the hittorian.

4.—An cclipfe of the moon observed at Jerusalem, March
13th, middle 2 hours 45' after midnight.—Herod
king November 25.—A comet appears in China.

2.—Julia banished by Augustus.—Dionysius the geogra-

1.-An interview between Caius Cæfar and Tiberius.

The FIRST CENTURY of the Vulgar Christian Æra.

A.D

1.—C. Cafar made peace with the Parthians.
2.—Tiberius returns to Rome.—L. Cafar dies.

3.-G. Cwfar dies.-Cinna's confpiracy detected.

4.—Leap year corrected, having been formerly every third year.—Phædrus.

6 .- A great famine at Rome.

7 .- Germanicus fent against the Pannonians.

8.— Jesus Christ, at the age of 12 years, disputes with the Jewish doctors in the temple, in April, when the passover was ended.—Afinius Gallus, ob. 33.—Germanicus, ob. 19, 2t. 34.

9.-Dalmatia fubdued by the Romans.

10.—Arminius, a German general, defeated the Romans.

13.—A comet appeared in China.

14.—A census at Rome—4,037,000 citizens.—Augustus dies at Nola Aug. 19th, at. 76.

15 .- Velleius Paterculus, ob. 31.

16 .- Mathematicians and magicians expelled Rome.

17.—Cappadocia reduced to the form of a province.—An earthquake in Asia destroyed 12 cities.—Cornelius Celfus.

18 .- Herod built Tiberias.

19.—Caiaphas high-prieft of the Jews.—Jews banished from Rome.

21. Theatre of Pompey confumed by fire. A comet appeared in China.

23 .- Valerius Maximus.

26.—Tiberius goes to the island Capræa.—John the Baptilt begins his ministry.

27:—A conflagration at Rome.—Pilate made governor of Judæa, kills himfelf 59.—Jesus baptized by John.

32 .- Columella.

33.—Our Saviour Jesus Christ crucified on Friday, April 3d, at 3 o'clock P. M. refurrection on Sunday, April 5th.—Afcention, Thurfday, May 14th.—Apion of Alexandria, the grammarian, called "the trumpet of the world."

36 .- St. Paul converted.

37 .- Tiberius dies.

39.—A conjunction of Saturn, Jupiter, and Mars.—St.
Matthew, according to Blair, writes his gospel.
—Philo Judæus.

40.—The name of Christians given at Antioch, (Blair).

—Petronius appointed governor of Syria.

41,-Caligula put to death.-St. Peter, ob. 67.

43.—Claudius's expedition into Britain.—St. Paul, ob. 67.
44.—Peter imprifoned.—James put to death.—St. Mark,
according to Blair, wrote his gospel.

45 .- Vaspalian's successful war in Britain .- Pomponius

· Mela, the geographer.

47.—A new island appeared in the Ægean sea.—The secular games celebrated at Rome.—Caractacus the British king.

A.D.

50 .- London built by the Romans about this time.

51.—Caractacus carried in chains to Rome.—St. John, ob. 99, æt. 92.

52.—The council of the apostles at Jerusalem.—Astrologers expelled Italy.—Paul preaches at Athens.— Seneca, ob. 65; æt. 53.

54.-Claudius dies .- Nero fucceeds.

55.—Cæfar landed in Britain.—Aug. 26, a comet appeared in China.—Paul preached at Ephefus.

56 .- Rotterdam built about this time.

57.—Persius, ob. 62, æt. 30.

59.—Nero caused his mother Agrippina to be put to death.
—Paul's defence before Felix.

60.—The Christian religion published in Britain.—A comet appeared at Rome, and in China.—Paul's defence before Festus.

61.—Boadicca, the British queen, defeats the Romans, but foon after is conquered by Suctonius.—Petronius

Arbiter, ob. about 66.

62.—St. Paul fent in bonds to Rome.—Lucan, ob. 65, et. 26.

63 .- A great earthquake in Afia.

64.—A conflagration in Rome.—The first perfecution of the Christians.—Quintus Curtius.

65.—Many prodigies feen at Jerusalem.—Seneca, Lucan, and others put to death.

66.—Nero goes into Greece, and has public trials of skill with tragedians, musicians, and charioteers.—The Jewish war begins in May.—Pliny the historian, ob. 79.

67.—St. Peter and St. Paul put to death about June 20th.
—Vefpafian defeats the Jews and takes Josephus

prisoner. 68.—Nero dies.

69 .- Galba put to death .- Otho kills himfelf.

70.—Titus takes and destroys Jerusalem, Saturday, Sept.
Sth; puts an end to the war.—The lands of Judwa fold by the Romans.

71 .- Josephus, ob. 93, æt. 56.

73.—The philofophers expelled Rome by Vefpasian.— Frontinus.

74.—The states of "Achaia, Lycia, Samos, Thrace, &c. formed into distinct provinces.—Silius Italicus, ob. æt. 75.

75.—Vefpafian dedicated a temple to Peace.—A comet appeared in China.

76 .- Asconius Pedianus, ob. xt. 85.

77.—A comet appeared in China.—A great plague at Rome.—The Parthians revolt.

79.—Vefpatian dies.—Herculaneum and Pompeii are buried by an eruption of mount Vefuvius, Nov. 1st.

80.—The Capitol, Pantheon, &c. of Rome confumed by fire.—Titus builds the hot baths and amphitheatre.

81 .- Titus dies .- Martial, ob. 104, at. 75.

S2.—Agricola reduced South Britain to the form of a Roman province.—Apollonius Tyanæus, ob. 97.— All the philosophers banished from Rome by Domitian.

84.-Valerius Flaccus.

85.—Britain discovered to be an island.

So.—The Capitoline games inflituted by Domitian, and celebrated every 4th year.—Solinus.

SS.—The fecular games celebrated.—The Dacian war be-

SS.—The fecular games celebrated.—The Dacian war begins.—Epictetus, the Stoic philosopher, ob. about 161.

89.-Quintilian, ob. about 95.

H

go .- Agrippa of Bithynia, the mathematician.

91 .- Statius of Naples, the poet, ob. 96 .- St. Clement I. 92 .- A vestal buried alive for prostitution .- Agrippa, being in Bithynia, observes a conjunction of the moon with the Pleiades, Nov. 29th, 5h before midnight .- St. Ignatius, ob. 108.

93.—The empire of the Huns, in Tartary, destroyed by the Chinese.—Tacitus the historian, ob. after 99.

- John banished to Patmos.

95 .- The 2d perfecution of the Christians, under Domitian, begins about November .- Juvenal. ob. 128.

of .- Domitian put to death.

97 .- The evangelift John recurred from banishment.

98.-Nerva dies .- Menelaus, the mathematician, observed at Rome a transit of the moon over Spica Virginis Jan. 11th, 5h after midnight.

00 .- Julius Severus, governor of Britain.

The SECOND CENTURY of the Vulgar Christian Æra.

102 .- Pliny, pro-conful in Bithynia, fends Trajan his ac-

103 .- Dacia reduced to the form of a Roman province .-

105 .- A great earthquake in Asia and Greece .- Dion Prufreus.

106 .- Trajan's expedition against the Parthians, &c .-Philo-Byblius, cb. 133, at. So.

107 .- The 3d perfecution of the Christians under Trajan. 109 .- A comet appeared in China .- Plutarch, ob. 119.

111 .- Suetonius, the historian, ob. after 117.

114.-Trajan erects his column at Rome.-Armenia becomes a province of the Roman empire. - A great earthquake in China .- Ælian, ob. about 140, æt. 40.

115 .- An infurrection of the Jews of Cyrene .- Trajan fubdued Affyria .-- An earthquake at Antioch.

116 .- The Jews make an incursion into Egypt .- L. Annæus Florus.

117 .- Adrian's expedition into Britain .- Trajan dies .-Theon, fenior, the altronomer of Smyrna.

118 .- The 4th perfecution against the Christians, under

120 .- Nicomedia and other cities fwallowed up by an carthquake.

121, -Adrian builds a wall between Carlifle and Newcastle.

122,-Phlegon Trallian.

126 .- Adrian goes into Afia and Egypt for 7 years.

127 .- Aristides.

128.—Cæfarea and Nicopolis destroyed by an earthquake. -Aquila, the interpreter, translated the Oid Testament into Greek.

130 .- Adrian rebuilds Jerusalem, and erects a temple to Jupiter.—At Alexandria, Ptolemy observed Mars in opposition, Dec. 14, 3h P. M.

131.-The Jews commence a 2d war .- St. Polycarp, ob.

132 .- Salvius Julianus compiles the perpetual edict, or body of laws for the prætors at Alexandria.-Ptolemy observed the autumnal equinox, Sept. 25th, 2h.

133 .- An eclipfe of the moon observed by Ptolemy at Alexandria, on Tuesday, May 6th, 11. 45. P. M. He observed Jupiter in 13° 15' 8, May 17, 11h P. M. and Saturn in 9° 40' 1, June 4, 4h. P. M.—Cl. Ptolemy, the mathematician, ob. 161.

334.-Urbicus's wall was built between Edinburgh and Dumbarton Frith .- Marcion, the heretic .- Pto-

A.D.

lemy observed Venus in II' 5' W, Feb. 16th, morning: and Mercury in 20° 12' ng, Oct. 3, morning.

135 .- The Jewish war ends, and almost all the Jews banished

from Judæa.

136.—The fecond great canicular year of the Egyptians begins, July 20th.—Arrian, the historian and

138 .- Adrian dies at Baix .- Ptolemy observed Cor Leonis. in 2° 30' of this fign, and 32° 40' from the fummer folltice.

139 .- Justin Martyr writes his first Apology for the Chriftians, ob. 163.

140.-Ptolemy observed Venus in 18° 30' II, and 47° 15', from the mean place of the fun, July 18th .- Obferved the vernal equinox at Alexandria, March 22d,

about I o'clock afternoon. 141.-A number of herefics appear about this time, as those of the Ophites, Cainites, Sethians, &c .- A comet

appeared in China.

144 .- Appian, the historian.

1.45 .- Antoninus defeats the Moors, Germans, and Dacians.

-Polyænus.

146.-The worship of Serapis is introduced at Rome by the emperor, and his mysteries celebrated May 6th .-Artemidorus.

147.—Apuleius. 148.—Jultin, the historian.

149 .- A comet appeared in China .- Aulus Gellius, the grammarian.

151.-Maximus Tirius, ob. about 180.

152 .- An earthquake at Rhodes .- An inundation of the Tiber, &c .- Antoninus stops the perfecution against the Christians.

153 .- Paufanias, ob. after 173.

156 .- Attilius Titianus is put to death for usurping the empire .- Diophantus, ob. at. 84.

158 .- Lucian, ob. about 180, xt. 90.

150 .- The Bactrians and Indians Submit to Antonious. 161 .- Antoninus Pius dies, at. 75 .- Hermogenes became an ideot, at. 24.

162 .- War with the Parthians, continues 3 years.

163 .- The perfecution of the Christians, under Marc. Aurel. Antoninus, ca'led by some the 4th .- Galen, ob. 103, æt. 70.

166.-The Romans fent ambaffudors to China.

168.—A plague over the known world.—Athenagoras, ob. 177.

169 .- The war with the Marcomanni begins.

171 .- Montanus propagated his herefy .- Tatian.

172.—Athenaus Naucin, ob. about 194. 174.—War with the Marcomanni, Vandals, &c. finished.

177.-Another war with the Marcomanni, which latts three years.

178 .- A comet appeared in China .- Diogenes Laertius, ob. about 222.

180 .- Marcus Aurelius dies, æt. 59 .- A comet appeared in China.

181.—Commodus makes peace with the Germans.

182 .- A comet appeared in China .- St. Irenzus, ob. 202.

183 .- A violent war in Britain finished by Marcellus .- Theodotion, the interpreter.

186.—Julius Pollux, ob. æt. 58. 188.—The Capitol, &c. of Rome destroyed by lightning. -A comet appeared in China. 189 .- A plague at Rome .- The Romans defeated by the

191.—A great part of Rome destroyed by fire. 192.—Commodus is put to death, at. 31.

193.-Pertinax is killed, and different perfons affume the empire.

194 .- Byzantium belieged by Severus.

195 .- Disputes first commence about Easter.

1798 .- Albinus defeated by Severus in Gaul, and killed at Lyons.

200 .- Severus goes into the East, and defeats the Parthians. -A comet appeared in China.

The THIRD CENTURY of the Vulgar Christian Æra.

201 .- Symmachus published a version of the Bible .-Papinianus, ob. 212.

202 .- The 5th perfecution of the Christians, under Sept. Severus .- A comet appeared at Rome .- An eruption of Vefuvius.

204 .- The fecular games celebrated at Rome. - A comet appeared in China.

205 .- An earthquake in Wales.

206 .- A comet appeared in China, near the polar star .-Clemens Alexandrinus.

207 .- Severus goes into Britain-50,000 of his troops die of the pestilence .- Minutius Felix.

200 .- Severus builds his wall across Britain, from the Frith of Forth.

210 .- Philostratus, ob. about 244.

211 .- Severus dies at York, æt. 66.

212 .- A comet appeared in China. - The Christian faith introduced into Scotland .- A distinction made between municipal and free citizens in Rome .--Caracalla kills his brother Geta, and many others.

213 .- Oppian, ob. æt. 30.

216 .- War between the Romans and Parthians.

217 .- Caracalla is killed by Maximus, æt. 43 .- The Septuagint is found in a cask.

218 .- Maximus is put to death by the foldiers .- A comet appeared in China .- Two comets feen at Rome.

225 .- Julius Africanus, the chronologer.

222. The Romans agree to pay an annual tribute to the Goths .- Aug. 20th, a conjunction of the heavenly luminaries observed at Alexandria.

225 .- Mathematicians are allowed to teach publicly at Rome.

226 .- Parthia becomes tributary to Perlia.

229 .- The Arfacides terminate in Perfia. - Dion Caffins, the historian.

231.—Origen, ob. 254, at. 69. 232.—Ammonius, the Christian and Platonic philosopher, begins a school of Platonic philosophers at Alexan-

dria, ob. after 243. 233.—The Romans defeat the Persians, with great slaughter,

at Tadmor.

235 .- The 6th perfecution against the Christians.

236 .- Two comets appeared in China.

237 .- The two Gordians killed in Africa.

238 .- Cenforinus.

241 .- The Franks first mentioned in Listory .- Gregory Thaumaturgus, ob. 266.

242 .- Gordian makes a fuccessful expedition against the Persians.

244.-Gordian is put to death.

245 .- Peace between the Romans and Perfians.

247 .- The fecular games celebrated at Rome .- Herodian, the historian.

249 .- The two Philips are killed; one at Verona, the other at Rome.

250. - The 7th perfecution of the Christians, under Decius. 251 .- The Romans are defeated by the Goths at Mafia. --

The Novatian herely propagated .- St. Cyprian, ob. 258.

252 .- The Romans become tributary to the Goths .- The

Scythians and Perfians invade Afia. - A dreadful pellilence over the Roman empire. 254 .- Plotinus, ob. 270, at. 66 .- A great eruption of

Ætna.

257 .- The 8th perfecution against the Christians, under Valerian.

258.—The Roman empire is haraffed by 30 tyrants.

260. - Valerian is taken prisoner by Sapor, king of Persia. and flayed alive .- The temple of Diana confumed by fire. - The Scythians ravaged the Roman em-

261 .- A great plague raged in the Roman empire. - Lon-

ginus, ob. 273

262 .- Earthquakes in Europe, Asia, and Africa; and 3 days of darknefs .- Paulus Samufatenus, bishop of Antioch, deposed in 270.

264 .- Odenatus, king of Polmyra, governs the eastern em-

267 .- The Scythians and Goths defeated by the Romans.

268 .- Gallienus is killed at Milan, æt. 50.

269 .- Claudius gains a great victory over the Go'hs-300 000 of them killed .- Zenobia takes possession of Egypt.

272. - The 9th perfecution against the Christians, under Aurelian.

273.-Zenobia; queen of Palmyra, defeated by Aurelian, and Palmyra taken. 274.- The temple of the Sun is built at Rome. - Dacia

given up by Aurelian to the Barbarians.

275 .- Aurelian is killed near Byzantium.

270 .- Wines first made in Pritain .- Tacitus dies at Tarfus, —Porphyry, ob. about 304, at. 71. 277.—Probus's expedition into Gaul.—The Franks fettled in Gaul.—A comet appeared in China.

280 .- Probus defeats the Perfians.

282. - Probus is put to death at Sirmium.

284.-The æra of Dioclesian begins Aug. 19th, according to the fixed Egyptian year, though he did not enter upon his reign till Sept. 17th .- The Romans fend ambassadors to China,

285 .- Arnobius.

286. - The empire attacked by northern nations, and feveral provinces are usurped by tyrants.

287 .- Caraufius proclaimed emperor in Britain.

289 .- A great comet visible for 20 days, in Mesopotamia. -Gregory and Hermogenes, lawyers.

290 .- The Gregorian and Hermogenian codexes published. 291 .- The two emperors and the two Cafars march to defend the four quarters of the empire. - Ælius Spar-

tianus, the historian. 293 .- Caraufius is killed by Alectus .- The Franks expelled from Batavia.

296 .- Britain recovered to the emperors after a ten years usurpation .- Alexandria belieged and taken by Dioclesian.

The FOURTH CENTURY of the Vulgar Christian Æra.

301 .- War between the Persians and Romans .- Julius Capitolinus. icroudes

CHRONOLOGY.

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303 .- The 10th perfecution against the Christians, under Dioclesian. - Flavius Vopiscus.

301 .- Dioclesian and Maximianus resign the empire, and live retired.

305 .- A comet appeared in China .- Trebellius Pollio.

306 .- Constantius carries on war against the Britons; dies July 25th.

307 .- A confiderable part of Rome destroyed by fire. -

308 .- Four emperors reigned at the fame time. 309. - The Christians perfecuted in the East.

310 .- Constantine divides Britain into four governments.

311.-LaClantius.

312 .- Maxentius killed in battle .- The Indictions begin :-Pestilence over the East.

313 .- The 10th perfecution terminated by an edict of Constantine and Licinius.

314. - A civil war between Constantine and Licinius.

315 .- The punishment of the cross abolished. 319 .- Constantine begins to favour the Christians.

321 .- Sunday appointed to be observed.

323 .- Constantine becomes master of the empire; gives full liberty to Christians. 324. - Licinius defeated and banished.

325 .- The 1/t general Council of Nice, from June 19th to Aug. 25th, confilts of 318 bishops .- Arius, ob.

326 .- Crifpus, falfely accused, is put to death .- The Christians persecuted by the Parthians .- Eusebius Pamphilus, ob. 342.

328 .- The feat of empire transferred from Rome to Con-

stantinople

330 .- Constantinople folemnly dedicated .- A dreadful persecution in Persia, which lasted 40 years.

331 .- The heathen temples demolished by order of the emperor. - St. Athanasius, ob. 371. 333 .- A great famine and pettilence in Syria.

334 .- 300,000 Sarmatians revolt from their masters, and are dispersed through the empire. 336 .- A comet appeared in China.

337 .- Constantine the Great dies May 22d, at. 66.

340 .- Constantine, junior, killed at Aquileia .- An earthquake in the East .- A comet appeared in China. 341. - The gospel propagated in Ethiopia by Frumentius.

-St. Hilary, ob. 367, zt. 80.

342.- Jamblichus, ob. about 363.

344.—Neocæfarea destroyed by an earthquake. 350.—Constans killed in Spain.

351.-The heathens first called Pagans. 353 .- Ælius Donatus, the grammarian.

354 .- Gallus put to death by Constantius. 356 .- Eutropius, the hittorian and fophist.

357 .- Julian defeated fix German kings at Strafburg. 358 .- An earthquake ruins 150 cities in Greece and Afia.

-Libanius, the fophist. 550.-Ammianus Marcellinus, ob. about 380.

361 .- Constantius dies at Tarfus, æt. 45 .- Gregory Nazianzen, ob. 389.

362.—Themistius, the sophist, ob. about 386.

363 .- Julian in vain endeavours to rebuild the temple of Jerusalem; and dies in an expedition into Persia. -Aurelius Victor.

364.-The Roman emperors enacted laws against magicians. -Britain haraffed by the Picts, Scots, and Saxons. -The Roman empire divided into two parts, called the Eastern and Western empire.

370 .- Valens marched against the Persians .- St. Basil. oh. 379, æt. 51.

372 .- Eunapii

373 .- The Bible translated into the Gothic tongue .- A comet appeared in China.

347 .- St. Ambrose made bishop of Milan, ob. 397.

376 .- The Goths, expelled by the Huns, fettle in Thrace.

378 .- Valens defeated by the Goths .- The prerogatives of the Roman fee much enlarged.

379 .- The Lombards first leave Scandinavia, and defeat the Vandals .- Ausonius, ob. about 394.

381 .- The fecond general council of Constantinople .- Mace-

383 .- The emperor Gratian defeated and killed .- The Huns ravaged Melopotamia.-Pappus of Alexandria, the mathematician.

385 .- Theon, jun. of Alexandria, the mathematician.

387 .- The quinquennales celebrated by Arcadius .- St. Jerume, ob. 420, æt. 78.

388 .- The tyrant Maximus defeated and killed by Theo-

389 .- The first kings of the Lombards elected in Pannonia.

390 .- A fiery column feen in the air for 30 days.

302. - Prudentius.

394.-Theodofius defeats Eugenius and Arbogaftes .- St. Augustine, ob. 430, æt. 76 .- A great earthquake felt in many parts of Europe.

395 .- Theodofius the Great dies, at. 60. 396. - St. Chryfoltom, ob. 407, at. 53.

397.—Claudian. 398.—Heliodorus.

400. - A comet appeared in China.

The FIFTH CENTURY of the Vulgar Christian Æra.

401 .- Alaric, king of the Goths, over-runs Europe .- Sulpicius Severus, the Ecclefiastical historian, ob. 420.

402 .- The Avari, having defeated the Huns, become malters of Great Tartary. - Anianus of Alexandria, the monk and chronologer.

403 .- Alaric defeated by Stilicho .- Macrobius, ob. about 415.

404. - An irruption of the Goths. - Panodorus of Alexandria, the monk and chronologer.

405.—The Pelagian herefy publified.—John Stobæus— Stillicho defeats 200,000 Goths in the mountains of Fefulæ.

406.—The Vandals, Alani and Suevi, spread into France by a concession of Honorius .- Pelagius, ob. about 430.

108 .- The Christian religion propagated in Persia. - Hypatia, the mathematician, and daughter of Theon, ob. 415.

410.-Rome taken and plundered by Alaric .- Servius, the commentator on Virgil.

411. - Synefius, bishop of Cyrene, and Platonic philosopher. 412. - The Vandals begin their kingdom in Spain .- Armenia divided between the Persians and Romans .-St. Cyril, bishop of Alexandria, ob. 444.

413 .- The kingdom of the Burgundians begins in Alface. 414 .- The Viligoths found the kingdom of Touloufe.

415 .- The Christians persecuted in Persia.

416 .- A great stone fell from the sky in Constantinople.-

417.-The Alans extirpated by the Goths.

419. - An earthquake destroys many cities in Palestine. -Socrates, the Ecclefiastical historian, denominated the Scholastic.

420. The kingdom of the French begins on the Lower Rhine, - China is divided into two empires

421 .- The Salic law promulged .- The Christians feverely perfecuted in Perfia.

422. The Huns ravage Thrace.

423 .- The western empire usurped by John, called the Notary.

425 .- The reltoration of learning attempted by Theodofius, who establishes public schools at Constantinople. 426 .- The Romans leave Britain, never to return.

427 .- Pannonia is recovered by the Romans .- Zofimus, the historian.

428. - Pelagianism propagated in Ireland. - The French defeated Ætius the Roman general.

431 .- The third general council of Ephefus .- Neflorius, the heretic bishop of Constantinople.

432 .- The Roman provinces in Africa submit to the Vandals. 433 .- A great part of Constantinople consumed by fire .-Attila, king of the Huns, begins his reign.

435. - Nestorianism prevails in the East. - The Theodosian

codex published.

437.-The Goths defeated by Ætius,-Cyril's cycle of 95 years begins .- The first perfecution of the Christians by the Vandals .- Theodoret, bishop of Cyrus, ob. about 460.

439 .- Genleric becomes mafter of Carthage; and commences the kingdom of the Vandals in Africa .-Sozomen, the Ecclefiattical historian, ob. 450.

441 .- The Huns. Perlians, Saracens, &c. invade the Roman territories.

443 .- The Manichæan books burned at Rome .- Olympiodorus, the Ecclefiastical historian.

446 .- Fire, famine, pestilence, and sedition, at Constantinople. -The Britons make their fruitless complaint to Ætius and the Romans, against the incursions of the Scots and Picts.

447 .- Attila, with his Huns, ravages Europe.

449. - The Saxons first come into Britain, at the invitation of Vortigern, and land in the ifle of Thanet .-Heptarchy established in England .- A great famine in Italy.

450 .- Theodosius II. dies, æt. 49.

451 .- The fourth general council of Chalcedon .- Attila defeated by Ætius .- The Christians perfecuted in

Britain. Eutyches.

452. The city of Venice takes its rife about this time.

454. - The Britons in vain attempt to expel the Saxons .-The Vandals become mafters of Sicily. 455 .- Rome taken by Genferic .- The kingdom of Kent

456. - The Suevi defeated by Theodoric .- Prosper, ob.

457 .- Vortimer defeated by Hengist in the battle of Cray-

ford, Kent. 458 .- A great earthquake at Antioch .- The Chinese fail

to the north of California. 161.-A fire in Conflantinople.-Peace between the empe-

ror Leo and the Goths. 463 .- Victorius, of Aquitain, invents the paschal cycle of 532 years.

464 .- The Vandals expelled from Sicily.

466. - The Goths defeated by the Romans .- Rogation-day instituted.

467 .- The Vandals defeated by the Romans.

468 .- The Viligoths drive the Romans out of Spain.

469 .- Sidonius Apollinaris, ob. 482, at. 52.

472 .- A great eruption of mount Vesuvius .- Gennadius, ob. 492.

474.- Leo I. and Leo II. die.

475. - Hengist treacherously massacres 300 British nobles. -The Saxons defeated by the Romans. - Gelafius, of Cyzicum.

476 .- The kingdom of Italy begins .- The western empire ended .- A dreadful fire in Constantinople.

479 .- Peter, fir-named the Fuller, ob. 486.

480 .- Great part of Constantinople destroyed by an earthquake, which lasts 40 days.

482.-Zeno publishes the decree of union between parties

484.—Huneric, king of the Vandals, perfecutes the Chrif-

485 .- Clovis defeats the Romans at Soiffons.

487 .- The Britons, under Ambrofius and prince Arthur, de-

400.-Theodoric defeats Odoacer.

491 .- Ella founds the 2d Saxon kingdom of Suffex, including one county and Surry

493 .- The kingdom of Italy passes from the Heruli to the Oftro-goths, by the capture of Ravenna .- Malchus, the fophist.

494. The Roman pontist afferts his supremacy.

495. - Timotheus Gazæus.

496. - Clovis baptized, and Christianity received in France. -The Sclavonians feize on Poland and Bohemia.

497 .- The Isauric war closes.

499 .- The Bulgarians ravage Thrace .- Fulgentius, ob.

500 .- The Saracens ravage Syria and Phonicia:

The SIXTH CENTURY of the Vulgar Christian Æra.

501 .- Anastasius makes peace with the Saracens .- Acadius, counsellor to Gondebaud.-Gondebaud publishes his laws of the Burgundians, called " La loy Gom-

503 .- Anastasius's army cut to pieces by Cabades, king of Perfia.—The pope refitted the legal magistrate. 504:—The Christians perfecuted by the Vandals.—The

pandects published. - Magi prevail at Rome.

505 .- The Perfian war ends.

500 .- Arien, chancellor of Alaric, reforms the Theodofian code, and publishes it.

507 .- Alaric defeated and killed by Clovis, near Poitiers. 509 .- A great fire at Conflantinople .- The Saracens invade Arabia and Palelline.-Alcimus Avitus, ob. 523.

510.-Paris becomes the capital of the French dominions. 511 .- A great infurrection at Constantinople .- Prince Ar-

thur defeats the Saxons in the battle of Badonhill or Bath.

512 .- An eruption of Vesuvius.

513 .- The Perfian and Saracen kings embrace the Christian religion .- Boetius; the philosopher, ob, 524.

514. - Constantinople besieged by Vitalianus, whose fleet is burned by a brafs speculum of Proclus. - Cashodorus, fecretary to Theodoric, ob. 562, æt. about 100.

516 .- The Gette ravage Macedonia, Theffaly, &c .- The computation of time by the Christian ara introduced by Dionysius the monk, called the Little, ob. 540

517. - Five years of drought and pestilence in Palestine.

519. - Prince Arthur defeated at Charford by Cerdic, which begins the 3d Saxon kingdom of Wessex. 520 .- The Britons defeat the Anglo-Saxons at Bath.

521 .- An earthquake at Corinth. - Hefychius of Miletus. 522 .- Thrasamond, king of the Vandals, defeated and kill-

rice - An earl parkers Coch.

525 .- Antioch confumed by fire .- Prifcian, the gramma-

526 .- An earthquake at Antioch .- Dionyfins the Lefs

527 .- Erchenwin founds the 4th Saxon kingdom of Ef-

528 .- Belifavius marches with an army against the Per-

529-The code of Justinian is published, April 16th.-The order of Benedictine monks is instituted .- Tribonianus, the famous lawyer.

532 .- A conspiracy and sedition at Constantinople.- A great peltilence in Ethiopia.—The kingdom of Burgundy conquered by Childebert and Clotaire. 533 .- The digest of Justinian is published, Dec. 30th .-

Belifarius fent against the Vandals in Africa. 534.-The kingdom of the Vandals finished by Belifarius, who took Carthage .- Procopius, the historian, and

fecretary to Belifarius.

535.—Belifarius gains Sicily. 536.—Belifarius takes Naples.—The inhabitants of Constantinople taught by two Indian monks to fabri-

537 .- Rome furrendered to Belifarius .- French coin begins to be current through the Roman empire.-Count

Marcellinus, the chronologer.

530 .- Italy diffressed with war, famine, and pestilence. -The Goths take and raze the city of Milan. -The camps of the Romans and Goths taken by Theodebert, king of Metz.

540.—Vitiges taken prifoner by Belifarius in Ravenna.— The Moors defeat the Romans in Africa.—Antioch destroyed by the king of Persa.
541.—Jornandes, the Gothic historian, ob. 552.

542 .- The confulfhip of Bafilius is the last at Rome .-Prince Arthur murdered in Cornwall-Antioch rebuilt .- The Romans defeated by the Goths on the Po.

543 .- A great plague defolates Afia and Europe .- An earthquake of wide extent, Sept. 6th .- Totila, king of the Goths, feizes Tufcany, Campania, Puteoli, Naples, &c.

544.-The Romans defeated by the Persians -Paul, sirnamed the Silentiary

546.—Rome taken by Totila, and barbaroufly pillaged.— Simplicius, the Peripatetic philosopher.

547 .- Ida founds the fifth Saxon kingdom of Northumberland.

549 .- Totila fortifies Rome.

550 .- An earthquake in Palestine, Syria, &c .- The state of Poland formed by Leck.

551.-The manufacture of filk introduced into Europe from

India.

552 - The empire of the Avars in Great Tartary ends .-An earthquake in Greece, and a great commotion in the fea. - A great earthquake at Constantinople. -The fifth general council, or fecond of Constantinople.

A D.

553 .- Narfes defeats Totila, and kills him.

554. - Narfes defeats and kills Teia, king of the Goths, and thus finishes the Ostrogoth monarchy in Italy.

556 .- A fedition of the Jews in Palettine .- Civil wars in France.-Gildas, called the Wife, the British historian, ob. 570.

557 .- A great earthquake at Rome, Constantinople, &c. 558 .- A terrible plague over Europe, Alia, and Africa,

which continues near 50 years.
559.—The heptarchy began in England.
561.—A confpiracy against Justinian.—Belifarius is difgraced; but restored the next year.

563. - Constantinople almost destroyed by fire.

565 .- Peltilence in Italy, France, and Germany .- The kingdom of France divided into four parts .- Columbus propagates Christianity among the Picts .-Justinian dies, at. 83.—Agathias, the historian. 567.—The kingdom of the Visigoths founded in Spain. 568.—The Lombards, invited from Pannonia by Narses,

found a kingdom in Italy.

569. - The Turks first mentioned in history .- Exarchs are fent to Ravenna by the eathern emperors against the Lombards.

572 .- The Persians declare war against Justin .- Gregory of Tours, called the father of the French history,

573 .- The Avari ravage part of Germany.

574 .- The Persians invade and plunder Syria. 575 - Civil wars in France. - The first manadery found d in Bavaria .- Uffa founds the fixth Saxon king-

dom of East Anglia. 576 .- Chofroes the Great defeated by the emperor Justin's

578 .- Justin II. dies.

580. - Cholroes again defeated, and dies of grief. - The city of Antioch destroyed by an earthquake.

581 .- Latin ceased about this time to be spoken in Italy. 582 .- Crida founds the kingdom of Mercia, being the feventh Saxon kingdom in Britain.

583.-The Suevi in Spain conquered by the Vifigoths, which finishes the kingdom.

584.-The origin of fiels in France.

587.—An earthquake at Antioch. 588.—The city of Paris confumed by fire.

589. - The Tiber overflowed Rome. - The feveral provinces of China united .- Philippicus defeated the Per-

590 .- Pestilence in Italy and France .- The Romans defeated by the Avari.

592 .- Ceaulin defeated and dethroned in the battle of Wanborough in Wilts by Ceolric.

593 .- The Avari expelled from Thrace .- The Gascons about this time established themselves in the country called by their name.

594 .- Evagrius, the Ecclefiastical historian.

595 .- The Sclavonians penetrate into Istria, Bohemia, and Poland.-The Lombards befiege Rome, and ravage Italy.

596 .- John, of Constantinople, affumes the title of univerfal bifhop.

597 .- Augustin, the monk, comes into England, attended by 40 monks.

508.-A truce between the Romans and Lombards.

599 .- A dreadful pestilence in Africa .- A comet appears in France.

650. The Sclavonians and Avari ravage Italy.

CHRONOLOGY.

The SEVENTH CENTURY of the Vulgar Christian Æra. A.D.

602 .- Mauricius, emperor of the East, put to death by Phocas. - The Lombards defeat the Romans.

603 .- War between the Persians and Greeks .- Secundus, historian of the Lombards, ob. 615

604.—Chofroes defeats the Roman army.—St. Paul's church 663.—Constans murdered in a bath.—And the eastern emin London founded by Ethelbert, king of Kent.

605 .- The use of bells introduced into churches about this 669 .- The Saracens ravage Sicily. time.—The power of the popes now begins by the

concessions of Phocas. 606 .- The court of chancery instituted in England.

607 .- The Pantheon of Rome converted into a church. 609 .- The Jews in Antioch revolt, and maffacre the Chrif-

tians .- Isidorus Hispalensis, ob. 636. 610.-Heraclius takes Constantinople, and puts Phocas to

611 .- The church and abbey of Westminster founded by Si-

bert, king of the East Saxons.

612.—The Saracens ravage Syria.—Mahomet begins to publish his Koran.—Theophylactus Simocatta, the historian.

613 .- Clotaire reigns over all France .- The maitres du palais introduced into France.

614.-The Perlians take Jerusalem, kill 90,000, and carry

off the cross of Christ. 615 .- The Ferfians over-run Africa, and take Alexandria.

616 .- The Perfians take and plunder Carthage .- The Jews

banished out of Spain and France.

617 .- Edwin kills Ethelfrid in the battle of Retford .-Chofroes refuses peace to Heraclius, unless he renounces Christianity, and worships the fun .-John of Alexandria, called Philoponus, the grammarian, and commentator on Arillotle.

618 .- The Avari take and plunder Constantinople.

622.—Heraclius defeats the Perfians in a great battle.— Mahomet fled from Mecca to Medina, and the Hegira begins on Friday, July 16th.-Mahomet, ob. 632, xt. 63.

628 .- An academy founded at Canterbury .- Chofroesput to

death by his fon.

632 .- The æra of Jessegird commences, June 16th. 633 .- Edwin, king of Northumberland, killed in battle by

Penda, king of Mercia.

634.-The Saracens take Damascus.-Geo Pisides, the poet and historian, ob. after 641

635 .- The Saracens invade Egypt and Palestine. 636 .- The Christian religion introduced into China.

637 .- The Saracens take Jerusalem. 640 .- The Saracens take Alexandria, and burn the library.

641 .- Heraclius dies.

644 .- Omar, caliph of the Saracens, killed in the temple of Jerusalem, which he had converted into a mosque. The university of Cambridge founded by Sigebert, king of East Anglia.—The laws of the Lombards formed into a system, and published Nov. 22.

645 .- Penda, king of Mercia, defeats Cenowalch, and keeps possession of Westex for three years.

647 .- The Saracens make themselves masters of Africa.

648 .- The Saracens take Cyprus.

652 .- Persia becomes a part of the empire of the caliphs. 653 .- The Saracens take Rhodes, and defroy the Coloffus -ravage Armenia-defeat the Greeks at fea. _The Danes invade England.

659 .- The Saracens obtain peace of Constans, on condition of paying him 100,000 crowns yearly.

A.D.

660 .- Organs first used in churches.

663.-The kingdom of Lombardy taken possession of by Grimoald, duke of Beneventum. Glass invented by a bishop, and brought into England by a Benedictine monk.

pire usurped by Metius, the Armenian.

671 .- The Saracens invade Syria, befiege Constantinople,

673 .- The Saracens defeated by the Greeks, and their fleet dispersed .- Callinious, the mathematician.

675 .- The Stracens attempt to land in Spain, but defeated by Wamba.

676.-The Saracens make a peace with Constantine, on paying an annual tribute .- A comet appeared at Rome.

680.—The fixth general council of Constantinople called "in Trullo."

681 .- Pestilence in Saxony, and next year in Syria. 684.- Egfrid, king of Northumberland, invades Ireland,

but is defeated .- A comet appeared at Rome in January .- An eruption of Veluvius.

687 .- Constantine V. dies .- The Britons totally subdued by the Saxons.

686 .- Suffex fubdued by Ceadwalla, and united to the kingdom of Weffex.

688. - Kent walled by the West Saxons remains feeble during the remainder of the heptarchy.

6)0 .- Pepin engroffes the power of the French monarchy. 694.- A conspiracy of the Jews in Spain.- Justinian II. banished with the loss of his nose.

695.-Money first coined by the Arabians.
697.-The gospel propagated in the eastern parts of France.-Leontius deposed, and his nose cut

698 .- The Saracens take Carthage, and expel the Romans from Africa. - The Picts in Britain embrace the Christian religion .- Christianity introduced into Friefland about this time. The first prince of Poland elected, and Cracow built.

The EIGHTH CENTURY of the Vulgar Christian Æra.

701. - SI battles fought by the Saracens.

703 .- Justinian seized on Thrace and marched to Constantinople.

704.-The Lombards reduced by intestine wars; the first province given to the pope.

705 .- Jullinian defeats the Bulgarians.

707 .- The Saracens invade the Roman territories.

709 .- Ina published the laws of the Saxons about this time. 711 .- Justinian is put to death by Philippicus.

713.—The Saracens conquer Spain.—The Bulgarians ravage Thrace.

714. - Charles Martel governs all France.

717 .- The Saracens unsuccessfully besiege Constantinople. -Charles Martel defeats king Chilperic.

718 .- The kingdom of Afturias in Spain founded by Pclagio.

719 .- Boniface, an Anglo-Saxon, propagates the Christian religion in Germany.

726 .- Two edicts for demolishing images in churches.

727.—Ina, king of Wessex, began the tax of Peter's-pence, for the support of a college.

729.—Two comets appear this year, one before fun-rife, the other after fun-fet.

7300

A.D

730 .- Pope Gregory excommunicated the emperor.

732 .- The Saracens defeated by Ch. Martel, near Tours. 735 .- Ch. Martel becomes master of Aquitaine .- The

pope's nuncio inflituted about this time. 736 .- Leo destroys all the images in his empire, and perfecutes the monks.

737 .- Joannes Damascenue, ob. 760.

740.—The Lombards feize the duchy of Spoleto, and the pope recovers it .-- An earthquake at Constantinople, &c.

743 - Fredegaire, the French historian.

744.—The monastery of Fulda in Germany founded.

746 .- A dreadful pettilence over Europe and Afia for three

748 .- The computation of years from the birth of Christ begins to be used in histories from this time.

749.—The race of Abbas become caliphs of the Saracens, and encourage learning; the empire of the Saracens is divided into 3 parts. - Many cities in Syria are destroyed by an earthquake.

750 .- The Merovingian race ends in France. 751. - The 2d race of the French kings begins.

752:- The Exarchs of Ravenna are conquered by the Lombards. - The defenders of images are perfecuted. - The 1st confecration of the kings of France.-The exarchate ends by the capture of Ravenua.

753 .- The king of the Lombards declared war against the

pope.

754.-Pepin assists the pope with a numerous army. - The kingdom of Cordova, in Spain, founded. 755. - The temporal dominion of the pope commences.

757. - The first organ fent by Constantine to France .- Pepin

761 .- Constantine perfecuted the worshippers of images .-A comet appeared at Rome, its course from E.

762. Bagdad built by Almansor, and made the capital for the caliphs of the house of Abbas. - Burials permitted in towns; which used to be in the high-

ways. 763.- A violent frost begins Oct. 1st, and continues about

150 days. 766.—The Turks ravage Armenia and Afia.

770 .- Constantine dissolves the monasteries in the East, obliging the monks and nuns to marry.

7.72. - Charlemagne makes war against the Saxons.

77.4 - The kingdom of the Lombards terminates by Charlemagne's capture of Pavia, after a duration of 266 years.

775. - Alcuinus, ob. So4.

776.-Charlemagne reduced the Saxons.

778. - Charlemagne reftored learning in France. 780. - The worship of images re-established.

781 .- Paulus Winifridus, firnamed Diaconus, the historian,

784.-Charlemagne defeats Wittikind and the Saxons, fo that they fubmit.

787 .- The Danes, for the first time, arrive in England .-The feventh general council, or second of Nice, be-

788 .- Pleadings in courts of judicature are inflituted.

790 .- An earthquake at Constantinople.

791 .- Charlemagne defeats the Avari in Pannonia .- The Moors defeated by the Spaniards with great

792.- An Academy founded in Paris .- Ethelbert, king of of Mercia, who thus takes potfession of East Anthe chronologer.

794 .- Charlemagne extirpated the Huns. - Offa, by way of atonement for his villany to Ethelbert, begins the

tax, called Peter-pence, in Mercia.

796. - The pope fent legates to Charlemagne to request him to confirm his election.

797 .- 17 days of unution darkness .- Alphonso defeats the Moor: - Condantine dethroned and put to ceath by his mother Irene.

709 .- Conflantine tool, Majorca and Minorea.

: D. - The temporal power of the popes abridged. - Charles magne proclaimed at Rome emperor of the West; and thus the emperors of the Welt, or of Germany, begin Dec. 25.

The NINTH CENTURY of the Vulgar Christian Æra.

Sot .- A great earthquake in France, Germany, and Italy. Soz. - The empress Irene deposed and banished. - Joannes Damascenus, sirnamed Mesuc, the Arabian, a Christian, and physician to the caliph Raschid, ob. about 846.

807. - Jan. 31. 31. after midnight, Jupiter was eclipfed by the moon, both being in 2° 27' of Libra. March 17, a large spot was seen on the sun for eight

808 .- The first descent of the Normans into France.

810.-A civil war among the Saracens.

811.-Nicephorus killed by the king of the Bulgarians .-Eginhard, the historian, ob. \$42.

S14.-Leo ordered the images in churches to be demo-

S15 .- An infurrection against the pope in Rome.

\$16. - Learning encouraged among the Saracens by Almamon, who found the fun's greatest declination to be 23° 34'

\$17 .- Ecclefialtics exempted from military fervice -Lewis divides his kingdom among his children.

S19 .- Almamon ordered his aftronomers to measure a degree of latitude on the plains of Sinjar near Babylon, who found it to be 563 Arabian miles.

\$20 .- Leo V. killed in the temple at Conftantinople by

822 .- Conflantinople befieged by the Saracens under Thomas the Slave; but the flege is raifed by the Bulgarians.

823 .- The Saracens of Spain take possession of Crete, and

\$25.-Benimula observed the obliquity of the ecliptic to be 23° 35'. 826.—Harold, king of Denmark, embraces the Christian

religion, and is dethroned by his subjects.

827.—The Almagest of Ptolemy translated into Arabic by order of Almamon.—The Saracens took possession of Sicily, Calabria, &c.

828 .- The feveral kingdoms of England united under Egbert .- Rabanus Maurus, ob. 856 .- The kingdoms of Navarre and Arragon founded. 829.—Missionaries sent from France to Sweden.—St.

Mark's at Venice is built.

830 .- Theophilus published an edict against images.

832 .- Painters banished from the eastern empire by Theophilus, on account of his hatred of images.

835 - The feast of All-Saints instituted.

837-A comet appeared in China .- Alfo, in Europe, which moved in 25 days through II, 5, St, and disappeared in 8.

838 .- The Picts defeated, and their nation extirpated by

Kenneth, king of Scotland.

840 .- Lewis le Debonnaire dies, æt. 64.

841 .- The battle of Fontenar, where Lotharius is defeated. -Albumafar, the Arabian astronomer.

841 .- Theophilus dies .- The worship of images restored .--Germany separated from the empire of the

\$43.—A new partition of the French dominion in an af-fembly of the peers at Thionville among the three brothers .- Godescalchus, the heretic, ob. 870.

844 .- The king of Spain defeated the king of Corduba. -The king of Germany defeated the Vandals.

845 .- The Normans penetrate into Germany .- Hincmarus, archbishop of Rheims, ob. 882.

846. - The Saracens besiege Rome.

S47 .- A great earthquake in Italy.

848. - The Venetian fleet totally defeated by the Saracens in the bay of Crotona.

\$49. The Saracen fleet defeated by the pope's allies.

850 .- About this time the gospel was preached by Anscharius, bishop of Hamburgh, &c. in Denmark and

S51 .- The Normans invade England .- The Moors defeat the Spaniards. - The Saracens ravage Sardinia and

852 .- The English defeat the Danes at Okley. - The Moors perfecute the Christians in Spain.

853.—The Normans get possession of tome cities in France. 855 .- The emperor Lotharius, fick of the world, retires to

a monastery and dies. 856 .- The Normans plunder the coasts of Holland .- An earthquake over a great part of the known world.

-Odo, the historian, ob. 874. 857 .- The Scots defeated by the Britons.

859.—A fevere winter and frost; carriages used on the Adriatic.—Photius, patriarch of Constantinople, deposed in 886.

860 .- The Schism of the Greeks begins.

861 .- Ruric, the first prince of Russia, begins to reign. 862 .- Missionaries sent to convert the Sclavonians .- John Scotus, called Erigena, ob. 883.

865 .- Civil war among the Saracens in the east .- They ravage Italy.

866. - Anastasius, the librarian, ob. about 886.

\$67.-The Danes under Jvar, being brought into England, conquer Northumberland .- The Christian religion propagated in Bulgaria.

868.—The government of Egypt becomes independent of the Saracen caliphs of Bagdad under Ahmed.

S70.-The Danes successfully ravage England.

871.-Ethelred fought nine pitched battles with the Danes in one year.

\$72 .- Clocks first brought to Constantinople from Venice. -The Danes defeat Alfred near Wilton .- The Greeks successful against the Saracens .- Charlemagne makes war against the Saxons.

373 .- The dynafty of Soffarides begins to reign in Khorafan .- France is laid waste by locusts and pestilence.

374 .- The Danes invade Scotland.

875.-A bearded comet appeared in France.

\$78.-Alfred concealed himfelf in the ifle of Athelney; VOL. VII.

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but foon after defeats the Danes, and causes them to leave England.

879 .- The Normans invade Germany .- The kingdom of Arles begins .- Alfraganus, the Arabian aftronomer, called Logista.

\$50 .- The Normans ravage France .- Sept. 19th, A. M. 11h. 45' Albategni observes the obliquity of the ecliptic to be 23° 35' .- The French monarchy divided between Lewis and Carloman.

SSI .- Lewis defeats the Normans in a great battle.

SS2 .- Albategni, the mathematician, firnamed Mahomet of Aractus, observes the autumnal equinox at Aractus, on Sept. 10th, 1h 15' after midnight, ob.

SS3 .- Albategni observed the sun's apogee in II 22° 27' .-The first star of Aries distant from the equinoc-

tial point 18° 2'

884 .- Reginon, the hillorian, ob. 909. 885.-The Normans befiege Paris.

886 .- The university of Oxford founded by Alfred about this time.- The Scythians become mafters of Croatia. - Charles made a dishonourable peace with the Normans.

888. - The dominions of Charles le Gros, who possessed al those of Charlemagne, are divided into five king-

889 .- The Bulgarians ravage Greece.- The Hungarians fettle about the Danube.

890.—The Normans ravage France and the Low Countries.

—Alfred divides England into counties, and conpofes his body of laws about this time.

891 .- The Danes again invade England .- Arnolph of Germany defeats the Normans between the Meuse and the Rhine .- The first land-tax in England .-A comet appeared in China.

895 .- The monastery of Cluny is founded.

896 .- Arnolph takes Rome.

897 .- War between the Greeks and Bulgarians .- A great famine in Germany .- John Affer, the historian, ob. 909.

899 .- The Hungarians ravage Lombardy.

The TENTH CENTURY of the Vulgar Christian Æra.

901 .- Civil wars in France and Germany.

902 .- The Saracens defeated by Himerius at fea. - A comet appeared with its tail to the eaft.

903 .- The Normans ravage France.

904.—The Hungarians ravage Italy.—A frost of 120 days begins at the close of the year.

905 .- Haron; caliph of Egypt, conquered and killed by Mahomet, the Saracenian general .- A very remarkable comet appeared in China.

910 .- War begins in England against the Danes, and conti-

nues 12 years.

911 .- Thebit observes the obliquity of the ecliptic to be 23° 33' 30".- Leo VI., who wrote feveral treatises in the age of ignorance, dies.

912 .- The Normans establish themselves in France under Rollo. - The Carlovingian race of emperors ends in Lewis III .- The empire of Germany becomes

013.-The Danes seize on the crown of England.

914.-The Hungarians defeated by Conrad.-The Saracens defeated by Constantine's generals.

015.-The Hungarians ravage Saxony .- The univerfity of Cambridge founded.

016 .- Ordonno II. defeats the Saracens in Spain, kills 70,000, a few days after an eclipfe of the fun on April 5.

917 .- The Bulgarians besiege Constantinople.

919 .- Phocas raifes a fedition at Conflantinople, is killed

920 .- The Moors defeat the Christians in Spain

1,22. The Hungarians pillage Germany. - Rodolph defeats Berenger in the battle of Placentia.

523 .- The Moors defeated in Spain .- Fiefs established in France. - A comet appeared in China.

924 .- The Hungarians ravage Italy.

925 .- Sigifrid elected first marquis of Brandenburg.

926.—Arles united to Burgundy.
928.—The marquilate of Milnie established.

929 .- Eudes de Cluni, ob. 942.

930 .- Henry subjects the Danes to the payment of tribute. 032 .- Arnolph of Bavaria defeated by Hugh, king of Italy

9:3.-The Hungarians defeated in Germany .- A frost of 120 days begins at the end of the year.

934 .- Azophi, the Arabian aftronomer.

936 .- The Saracen empire divided, by usurpation, into .7

937 .- I.uitprand, the historian, ob. 970.

939 .- Ramirus, king of Spain, defeats the Saracens at Simanca.

941.-Arithmetic brought into Europe.

942.—The eastern emperors take possession of the kingdom

045 .- The Turks ravage Thrace, and the Danes invade France. - Berenger agrees with Hugh for the reversion of Italy.

047 .- Alfarabius, the Arabian astronomer.

050. - Otho made Bohemia tributary 051 .- Otho drives Berenger out of Italy.

653 .- Otho overcomes the Hungarians in Bavaria.

957 .- Otho defeats the Sclavonians in Saxony. USS .- War between the Normans and Saracens in Italy.

959.—Berenger plunders Italy.—The power of the monks very great in England.—Rhazes, the Arabian phylician, ob. 1010, æt. about 90.

060 .- Otho's expedition against the Vandals.

664.-Italy conquered by Otho, and united to the German

65 .- Geber, the Arabian astronomer.

660 .- The Ruffians invade Bulgaria.

967.—Antioch recovered by Nicephorus from the Saracens. 968.—A famine in Germany.—The Normans ravage Spain.

ofg.—Otho, jun. defeats Nicephorus, and drives the Saracens out of Italy.—The race of Abbas extin-

guished by the Fatimites, who build Grand Cairo. 171 .- The Ruffians, Bulgarians, &c. defeated by Bardas in

970 .- Bardas nfurps the Eaftern Empire for 10 years.

977 .- Otho defeats and tundues the Bohemians

050 .- The two emperors of Conftantinople recover Apulia and Calabria.

282.-Albiranius, the Arabian geographer.-The Vandals and Bohemians ravage Saxony, &c .- A civil war

A.D.

983 .- Violent commotions and diffensions in Venice.

985 .- The Danes invade England and Scotland under

986 .- An earthquake in Greece .- Aimoin, the historian, ob. 1008.

087. - The Carlovingian race ends, and the 3d race of kings in France begins.

oss .- Pettilence in Germany.

990 .- England invaded by the Normans.

991 .- The figures in arithmetic brought into Europe, by the Saracens from Arabia .- Gerbert, afterwards pope Silvetler II., ob. about 1003.

993.—A great eruption of Vesuvius.

994. - The king of Denmark and Norway invade England with a great army.

925 .- Almanzor defeats the Christians.

096. - The empire of Germany declared elective by Otho

998 .- The Christians defeat Almanzor.

999 .- Aboul Wafi, and Abu Hamed observed the obliquity of the ecliptic to be 23° 35

1000.-Batilius defeats the Bulgarians, and drives them out

The ELEVENTH CENTURY of the Vulgar Christian Alra.

1001 .- An infurrection in Rome against Otho.

1002 .- The emperor Henry assumes the title of king of the Romans .- A general massacre of the Danes in England, on Sunday, Nov. 13 .- Avicenna of Bochara, the Arabian phylician, ob. 1050. æt. 80.

1004 .- Sueno invades England.

1005 .- All the old churches are rebuilt about this time in a new style of architecture.

1006. - A pestilence over Europe for 3 years.

1007 .- A great eruption of Vesuvius .- Mesuć, of Maridin, called Jacobite, physician to Hakem, caliph of Egypt.

1000 .- The Saracens beliege Jerusalem; a civil war among them in Spain, which continues till 1031, when they become tributary to the Saracens of Africa.

1012.- Ethelred grants an annual tribute to the Danes.

1013 .- The Dancs under Sueno get poffession of England. 1014 - A violent form Sept. 18th, which inundated

1015 .- The king of Poland agrees to pay a yearly tribute

1016 .- Edmund Ironfide fought 6 battles in England, with Canute II. king of Denmark, most of which he

1018 .- The Normans first enter Italy in a body.

1010 .- Bulgaria reduced to the form of a Roman province.

1020 .- A dreadful plague in Saxony.

1021. - Guy d'Arezzo, in Italy, or Aretin, the monk. 1022 .- A new species of music under 6 notes introduced by

1023.—The caliph of Egypt ravages Palefline, and plunders the temple of Jerufalem.

1028. Canate conquers Norway. Conflantin, emperor of the Eath, dies at. 70, and is fueceeded by Romanus.

1030 .- Campanus of Novarro, the altronomer. - Romanus

1031 .- Romanus drives the Saracens out of Syria, and begins to build the temple at Jerusalem. - The Normans conquer Apulia.

CHRONOLOGY.

A.D. 1032. - The kingdom of Arles or Burgundy bequeathed to

the emperor Conrad by Rodolph.

1033.—A great eclipse of the fun observed June 20th,

about mid-day, in France .- Glaber, the historian, ob. after 1045 .- The Peace of God published.

1035. - Capua taken from the pope by the king of Sicily.

The kingdoms of Caltile and Arragon begin. The Vandals ravage Saxony.

1036 .- The kingdom of Norway begins.

1038 .- An earthquake and famine at Constantinople. - The dynasty of Ommiades ends in Spain, after a duration of 308 years.

1040 .- Smyrna destroyed by an earthquake .- The Saracens of Africa invade Italy .- The Greeks ravage

Bohemia.

1041 .- Hermannus, called Contractus, the monk and mathematician.

1042 .- A comet appeared Oct. 6; moving from E. to W. 1043.—The Russians come from Scythia, and land in

Thrace. - The Turks become matters of Perfia, 1046 .- Three usurping popes deposed by a council convened at Sutrium by the emperor Henry III.

1047 .- Franco, the mathematician.

1050 .- The Greek church separated from the Latin.

1052 .- Peter Damiani, ob. 1072.

1053.—Pope Leo IX. taken prifoner in Naples by the Normans.—Michael Cerularius, ob. 1058.

1055 .- The Turks take Bagdad, and overturn the empire of the Caliphs.

1057 .- Geo. Cedrenus, the historian.

1058. - Guiscard drives the Saracens out of Sicily. 1050 .- Berenger, ob. 1088, æt. 90.

1060 .- A fevere famine in Germany.

1061 .- Sirnames appointed to be taken in Scotland, by a parliament at Forfar.

1062 .- Seventy thousand persons and more undertook a voyage to Palestine, and were killed or made prifoners .- Michael Pfellus of Constantinople, the Peripatetic philosopher and historian.

1063 .- The massacre of Goslar.

1065 .- Jerusalem taken by the Turks from the Saracens. 1066.—A comet appeared in May, moving in the fame course with the sun.—The conquest of England by William duke of Normandy in the battle of

Hastings on Sat. Oct. 14.

1069 .- The Danes land in England, Sept. 11. 1070.-The feudal law introduced into England .- Arzachel of Toledo observed the declination of the sun to be 20° 34'-he left 402 observations on the apogee of the fun.

1071. The Turks defeated Romanus, and took him pri-

1072 .- Roger took possession of Sicily .- Sirnames were first used in England about this time.

1073.—Marinnus Scotus, ob. 1086.

1074.—The king of Bohemia obliged to pay a tribute to the Holy See.

1075.—The king of Germany defeats the Saxons in Thuringia.—The famous wars of the Saxons against Henry begin about this time.

1076.-The emperor Henry IV. and the pope quarrel about the nomination of the German bishops .-An earthquake in England .- Afia Minor, having heen subdued by Solyman two years ago, was, from this time, called Turkey .- Arzachel found the fun's apogee in II 17° 50'.

A.D.

1077.- The emperor goes barefooted to the pope at Canufio, about the end of January.

1079 .- Arzachel, the Spanish mathematician .- Avicenna observed the vernal equinox, March 14, P. M. 2h O' .- The Pertian year reformed.

1080 .- Domefday book begins to be compiled from a furvey of all the estates in England, and was finished in

1081 .- Henry lays fiege to Rome .- William of Spires, the mathematician.

1083 .- Henry takes possession of Rome on Friday, June the ad.

1085 .- Toledo taken from the Saracens, and made the capital of Cattile.

1086 .- The order of Carthufians founded by Bruro.

in Africa .- William the Conqueror ravages France. -Suidas, author of the Greek lexicon.

reSo .- Rofalinus of Compiegne, the scholastic head of the

fect of Naminabilis.

1090 .- The dynasty of Affaffins began in Irak, and fubfist-

1001 .- The Saracens in Spain call in Joseph, king of Mo-10cco, who thus gains possession of all their dominions in that kingdom.

1092 .- Peter, firnamed the Hermit.

1094 .- Margaret conquers Sweden, and annexes it to Denmark.

1095 .- Ulltan, bishop of Worcester, is deprived of his bishopric for not understanding the French language .- Sigebert, the historian, ob. 1113. 1096 .- The 1st crufade into the Holy Land .- A comet

appeared .- The emperor took Naples and Sicily. 1097 .- Godfrey of Boulogne takes Nicea .- The Christians

defeat the Saracens.

1098 .- The crusaders take Antioch .- The order of St. Benedict instituted.

1000 .- The crufaders take Jerufalem .- Godfrey elected king of Jerusalem, and the order of knights of St. John instituted.

11co .- An earthquake in Sicily.

The TWELFTH CENTURY of the Vulgar Christian Æra.

1102 .- Baldwin defeats the Saracens near Joppa .- William, duke of Aquitain, undertakes a voyage to Paleftine, with a numerous army

1103 .- William's army maffacred at Constantinople.

1104.-Baldwin defeats the Saracens, and takes Ptolemais.

1105 .- Henry, king of England, invades Normandy. 1108 .- Hungary rescued from servitude to Germany.

1109 .- Joseph, king of Morocco, defeats the Spaniards in the famous battle of the feven counts near Badajos. -The crufaders take Tripoli.

1110 .- Learning revived at the university of Cambridge. -Writing on paper made of cotton became com-

1113 -- War between France and England begins.

1114.-Peter Abelard, ob. 1143, at. 63.

1117 .- An earthquake in Lombardy .- Ann Comnena, the historian

1118 .- The order of Knights Templars instituted.

1119 .- Baldwin defeats the Turks at Antioch .- Bohemia erected into a kingdom.

1120 .- Prince William, with a number of English lords, drowned in their return to England from Barfleur, Nov. 26.

1121 .- The order of Premontre instituted.

1122 .- The Scythians, &c. who had paffed the Ifter, defeated by John Comnenus.

1125.—Baldwin overcomes the Saracens near Antioch.— Germany afflicted with the plague.

1127 .- The pope declares war against Roger, duke of Sicily, who is proclaimed king in the year 1130. 1130 .- Athelard, monk of Bath. the mathematician.

1132 .- The kingdom of Portugal begins .- The Ciftertians exempted from tythes .- St. Bernard, ob. 1153.

1135 .- Roger, king of Sicily, takes Beneventum, Capua,

1136.—Averroes of Corduba, called the Commentator, ob.

1137.- The pandect of Justinian found in the ruins of

1138 .- The Scots invade England, and are defeated .- A

1139 .- A civil war in England. - Alphonfo, having defeated the Moors, July 25th, is proclaimed king of Por-

1140.-King Stephen defeated, and taken prifoner at Lincoln, Feb. 2d .- The doctrine of Abelard condemned. - The canon law introduced into England. -William of Malmelbury, the hiltorian.

1141.-Stephen exchanged; begins to recover his kingdom. -The factions of the Guelphs and Gibellines prevail. - Peter Lombard, bishop of Paris, called the Master of the Sentences, ob. 1164.

1143 .- The Koran translated into Latin.

1144.-Otho Friligensis introduces the Peripatetic philosophy into Germany, ob. 1158 .- The primacy of the church of Toledo confirmed.

1146.- The empress Matilda retires out of England.

1147 -- A quarrel between Stephen, and Theobald, archbithop of Canterbury .- The fecond crufade into the Holy Land by the preaching of St. Ber-

1148. - The Christians beliege Damascus, without success. -Conrad and Louis arrive at Jerufalem .- Humenus,

the Egyptian astronomer. 1149.—Henry of Anjou arrives in England to affert his family claim to the crown .- Roger VI. of Sicily, invades and ravages Greece.

1150.-The civil law revived at Bologna by Wernerus, who was the first restorer after Justinian, and died in

1151 .- The canon law composed by Gratian, after 24

1152 .- Leffrey of Monmouth.

1153. - Treaty of Winchester between Stephen and Henry, by which Stephen grants the reversion of his kingdom to Henry.

1154 .- Nouradin took Damascus .- Christianity introduced into Finland .- Al Edrifius, the Arabian geogra-

1156 .- The city of Moscow founded.

1157 .- An earthquake in Spain .- Baldwin defeats Nouradin near Gennesareth.

1178. - Frederic received the title of king of Bohemia at the diet of Ratifbon.

1159 .- Infurrections in Scotland .- War between England and France.-The emperor excommunicated by the pope .- John Tzetzes, the critic and historian,

1160.-The order of Carmelites instituted.

1161 .- Euflathius, the commentator on Homer.

1162 .- The affairs of the Crusaders on the decline in Paleftine .- The emperor Frederic dettroys Milan, leaving only the churches.

1163 .- Nouradin defeats Raymond II .- John of Salifbury, ob. 1187.

1164.- The first king of Sardinia created by Frederic .- A contest between Henry of England and Becket .-The council of Clarendon against him. - The Teutonic order begins.

1165 .- Two comets appear in Scotland .- Simeon of Durham.

1166. - Maimonides of Corduba, the most learned of the Jews, ob. 1208.

1167 .- Frederic takes possession of Rome. - War between England and France .- The caliph of Persia invades Egypt .- Henry of Huntingdon.

1169 .- An interview between the kings of England and

France at St. Dennis.

1170. - Peace concluded between England and France. - An earthquake at Antioch. 1171 .- The Venetians take the island of Chio .- The

dynasty of Fatimites ends in Egypt .- The fovereigns of Egypt henceforth styled sultans.

1172.- Henry II. of England takes possession of Ireland .-Peter, called Comettor, ob. 1108.

1173 .- The city of Catania destroyed by an earthquake. 1174.-William acknowledges the kingdom of Scotland a

fief of the crown of England.

1176 .- Frederic totally defeated by the Milanefe .- The dispensing of justice by circuits first appointed in England .- Genghis-kan begins to reign.

1177 .- Baldwin defeats Saladin before Jerusalem.

1178 .- The pope fends a legate to Prester-John. 1179 .- Saladin defeats the crusaders .- The French king visits Becket's tomb in England .- The university

1181 .- The laws of England digefted by Glanville.

1182.—Saladin takes Damascus.

1183 .- Seven thousand Albigenses massacred by the inhabitants of Berry .- Peter of Blois, the biftorian, ob. 1200.

1184.-Andronicus orders all the Latins in Constantinople to be murdered.

1186 .- The Bulgarians throw off the Roman voke .- Sept. 16th a conjunction of all the planets at fun-rile; fun in 30° ng, Jupiter in 2° 3' =, Venus in 3° 40', Saturn in 8° 6', Mercury in 4° 10', Mars in 9° 8', tail of the Dragon 18° 23' -.

1187 .- The kingdom of Jerusalem finished, that city being

taken by Saladin, Oct. 2d.

1188 .- The third crufade .- The tax, called Saladin's tythe, imposed. - The Dutch and Zealanders defeat the Saracens .- The duchy of Mecklenburg held as a fief of the crown of Denmark. 1189 .- The kings of England and France go to the Holy

Land .- Richard renounces his superiority over

Scotland for a fum of money.

1100 .- Frederic Subdues Cilicia, and defeats the Saracens. The Teutonic order of knights faid by Playfair to be instituted at Ptolemais.

1101 .- The crufaders take Ptolemais.

1192.-King Richard made prisoner by the emperor Henry VI .- Guy, of Lufignan, elected king of Cyprus. -Richard defeats Saladin in the battle of Ascalon. - Roger de Hoveden, the hillorian.

1195. - The Saracens from Africa invade Spain, defeat Alphonfo, king of Caftile, and kill 50,000 Spa-

1196 .- The emperor Henry VI. takes possession of Naples and Sicily .- The 4th crufade.

1197 .- Henry fends an army into Palestine .- William of

Newburgh, the historian, 1108 .- The 5th crufade .- The order of the Holy Trinity

instituted. 1199 .- Peace between Philip king of France and Richard king of England .- Campanus, of Lombardy, the

1200 .- The university of Salamanca, in Spain, founded .-William, king of Scotland, performs his homage to the king of England, at Lincoln, Nov. 21.

The THIRTEENTH CENTURY of the Vulgar Christian Acra.

1201. - The city of Riga, in Livonia, founded .- War declared between France and England.

1202 .- The principality of Antioch united to that of Tripoli.-Gervafe, of Canterbury, the historian.

1203 .- The 6th (4th, Blair) crusade sets out from Venice. 1204. - Constantinople taken by the Venetians and French. -Normandy conquered and re-united to France .-The Inquisition established. - The empire of 'I're-

bisond citablished.

1205 .- Baldwin defeated near Adrianople by the Bulgarians. 1207 .- The first towns erected into corporations in Normandy, were those of Rouen and Falaife, this

1208 .- The order of Fratres minores established .- King John, of England, excommunicated by the pope.

1209 .- The works of Arittotle, just imported from Constantinople, are condemned by the council of Paris in 1210 .- The filk manufacture imported from Greece into Venice. - Ralph de Diceto, the hiftorian.

1210. - The perfecution against the Albigenses, begun in the preceding year, is now very violent .- The emperor Otho excommunicated by the pope.

1211.-The king of England subdues Wales .- Saxo-Grammaticus, the hiltorian.

1212 .- The Christians defeat the Moors at Thoulouse, and kill 200,000 of them.

1213 .- The king of England, reconciled to the pope, becomes his vassal. -Walter of Coventry.

1214.-War between England and Scotland. - Philip de-

feats Otho near Bouvines .- The Turks defeat the Perfians.

1215 .- The order of Dominicans instituted .- A comet in March .- The order of Knights-Hospitallers founded .- A contest between the king and barons of England. - Magna Charta figned June 15 .-The doctrine of transubstantiation introduced.

1216 .- Alexander and the kingdom of Scotland excommunicated by the pope's nuncio .- Accurfius, the famous lawyer, and author of the Glosses, ob. 1229.

1217 .- Peace between England and Scotland .- The French defeated in the battle of Lincoln.

1219 .- The Christians take Damietta from the Saracens. 1220 .- Ailronomy and geography brought into Europe by

the Moors about this time. 1221 .- The university of Padua enlarged .- St. Anthony of

Padua, ob. 1231. 1222 .- A great earthquake in Germany .- The Christians forced to evacuate Damietta.

A.D.

1223 .- All the flaves in France franchifed by Louis VIII, -An extraordinary comet appeared in Denmark.

1223 .- John de Sacro-bosco, a mathematician, of Halifax, in Yorkshire, ob. at Paris 1244.

1226 .- The king of France, and many prelates and lords, form a league against the Albigenses.

1227 .- An expedition of all the European powers to Paleftine .- The power of the English barons abridged .- The Tartars, under Genghis-kan, over-run

the whole Saracen empire.

1228.—The university of Thoulouse founded.

1229.—A treaty between the Saracens and Christians.— A conspiracy against the crown of Sweden .-

Alexander Halensis, ob. 1245.

1230 .- Denmark desolated by pestilence. - The kingdoms of Leon and Castile united .- The Teutonic knights subdue Prussia .- The university of Naples founded .- Several murdered in the univerfity of Paris on occasion of the disputes about Aristot'c.

1231.—The Almegelt of Ptolemy translated from the Arabic into Latin.

1232 .- William, bishop of Paris, ob. 1248. 1233. - The Inquilition entrufted to the Dominicans. - The order of the Knights of the Bleffed Virgin infli-

1234. - Peter de Vigneo, chancellor to Frederic II., ob. 1249.

1236 .- The first irruption of the Tartars into Ruffia, Poland, &c.

1238 .- The univerfity of Vienna founded .- The Tartars subject the Russians to the payment of tribute.

1239 .- A writing of this date, on paper made of rags, is still extant.

1240 .- The king of Denmark published a code of ancient Cimbrian laws .- The Tartars invade Poland and Hungary.

1241 .- The Russians defeat the Swedes and Livonians near Narva .-- The Hanfeatic league formed .-- Tin mines discovered in Germany .- Matthew Paris, the historian, ob. 1259

1242 .- A plague in France, Italy, and Greece. - Grotest, bishop of Lincoln, ob. 1254.

1244.- The Kharismians defeat the Christians, and take Jerusalem .- The order of the Celestines instituted.

1245 .- The general council of Lyons for renewing the crufades .- A clear red star, like Mars, appeared in VS.

1248 .- The 5th crusade under Lewis IX.

1249 .- Damietta taken by Lewis.

1250.—Lewis defeated in Egypt and taken prifoner.— Painting revived in Florence by Cimabue.—The Sorbonne in Paris founded.

1251 .- Wales fubdued, and Magna-Charta confirmed.

1252. - Alphonfo of Spain found the fun's apogee in 1128° 40'.- Albertus Magnus, ob. 12So, æt. 75.

1253.-The Alphonfine tables composed.

1254 .- War between Denmark and Sweden .- St. Thomas Aquinas, ob. 1274.

1256 .- The order of the Augustines established.

1257. - St. Bonaventura, ob. 1274, æt. 53. 1258 .- The empire of the Saracens finished by the Tartars taking Bagdad .- Representatives of the commons of England present for the first time in parliament. (Playfair.) - John de Ioinville.

1250. - The Tartars invade Poland .- Nassar Eddin, of Tufa, the Persian astronomer and geographer.

1260.—Alphonso of Spain orders all public records to be

written

1 .D.

written in the vulgar tongue, not in Latin. The fect of Flagellants appear in Italy.

1261.-The Greek emperors recover Constantinople from the French, and the empire of the Franks there ends. - Roger Bacon, ob. 1284. 2t. 78.

1263 .- The Norwegians invade the Weltern islands of Scotland -Civil wars in England, between the

barons and the king.

1264 .- The battle of Lewes, in which Henry is taken pilfoney.-The commons first fummioned to parliament. (Blair.)-The annual festival of the Holy Sacrament, inflituted by pope Urban .- The deputies of towns and boroughs first fummoned to parliament. (Playfair.)-A comet with a tail of great extent appeared; course direct; perihelion, July, 68. 8'.

1265. - The battle of Evelham, in England, Aug. 4. 1266 .- The battle of Benevento, Feb. 26 .- Peace be-

tween Scotland and Norway.

1267 .- The police of Paris established about this time. -Cimabue, the first of the modern painters at

Florence, ob. 1300. 1268.—The muslfulmen gain Antioch.—The battle of Cc-lano, in Italy, fatal to Couradin, Aug. 29th.— The Tartars invade China, and expel many of the

1160 .- Louis's expedition to Palestine .- Cozah Nasirodni observed the obliquity of the ecliptic to be 230

1270.—The king of Hungary reduced Bulgaria.—The Scots guard in France embodied.

1272 .- The academy of Florence founded .- All the orders of Mendicants reduced to the four following, viz. Dominicans, Franciscans, Carmelites, and Hermits of St. Augustin.

1273 .- The empire of the present Austrian family begins. -Cheouching, in China, observed the obliquity

of the ecliptic to be 23° 33' 39".

1274.—The 1st commercial treaty between England and

1275 .- Durandus, ob. 1296.

1277. - The fultan of Egypt defeats the Tartars near Damascus .- Nepotism first avowed at Rome by pope

1279 .- King Edward relinquished his right to Normandy. -The mortmain act pafed in England .- Henry of Ghent, ob. 1293, æt. 76.

1280. The fultan of Egypt defeats the Tartars near Emeffa.

1281 .- A revolution in Bulgaria.

- 1282.—Twelve thousand (8000 Blair,) French massacred at the Sicilian vespers, March 20.—A great pestilence in Denmark.—Peter, king of Arragon, feized on Sicily.—The academy of de la Crufca founded.
- 1283.-Wales conquered by king Edward, and united to England.—A new feparation between the Latin and Greek churches.—The states of Segovia adopted the vulgar Christian æra .- Raymond Lulli, ob. 1315, at. 80.

1285 .- The Tartars ravage Hungary, and defeat the Hungarians .- Alphoufo of Arragon deprives his uncle of Majorca, and in the following year, becomes mafter of Minorca.—Jacobus de Voragine, ob. 1298.

A.D.

1287 .- An irruption of the Tartars into Poland.

1288.—The fultan of Babylon takes Tripoli.

1289 .- A great earthquake in Europe .- Albertet, the mathematician and Provençal poet.

1200 .- The Jews banished out of England .- The univerfity of Lifbon founded.

1291 .- The fultan of Babylon conquered Syria .- The Latin patriarchs of Jererusalem ended .- A contell between Bruce and Baliol for the crown of Scotland .- Ptolemais taken by the Turks by affault .- The crusades ended .- John Duns, called Scotus, ob. 1308, 21.43.

1293 .- A regular succession of parliaments in England from

this year .- A comet appeared in China.

1294 .- Parliaments established in Paris.

1296.—A wer between England and Scotland.—An intense frost in Denmark.—Thebit, the Atabian astronomer, discoverer of the motion of trepidation.

1297. The coronation chair, and records of Scotland, car-

ried off by Edward.

1298 .- The Ottoman empire founded.

1299 .- An earthquake in Germany .- A comet appeared, its perihelion in the beginning of February; its afcending node II 250- inclin. 200- retrograde.

Spectacles invented by a monk of Pfa.—The famous year of Jubilee instituted at Rome by

1300.—The Ottoman empire began.—Edward invades

The FOURTEENTH CENTURY of the Vulgar Christian Æra. 1301 .- The pope excommunicates Philip, king of France.

-Peter de Apono, ob. 1316, at. 66.

1302 .- The fultan of Egypt defeats the Tartars near Damascus. - The mariners' compass invented (or improved) by Flavio.-The univerfity of Avignon

1303 .- The Scots defeat three English armies, in one day,

near Roslin.

1304.—Dante, ob. 1321, æt. 56. 1306.—The Jews banished out of France.—Edward of England invades Scotland, and is opposed by Bruce.—Arnoldus de Villa Nova, ob. 1340.

1307 .- Coals first used in England .- The university of Perouse, in Italy, founded .- The establishment of

the Swifs cantons.

1308 .- The university of Lisbon removed to Coimbra .-The feat of the popes removed to Avignon, for 70 years.

1310.-The knights of St. John take Rhodes, and fettle there.

1312.-The order of knights Templars abolished by the council of Vienna.-The university of Orleans founded .- Durandus, bishop of Anicium, called doctor resolutissimus, ob. 1333.

1313 .- Molay, grand mafter, with a number of Templars,

burned alive at Paris.

1314.—The cardinals fet fire to the conclave, and separate. -The battle of Bannockburn, July 25th, in which the Scots defeat the English.

1315-Germany afflicted with famine and pestilence.-The Scots invade Ireland .- A comet appeared in De-

1316 .- A comet appeared in February. 1317.-Nicholas de Lyra, ob. 1340.

1318 .- A fevere famine in Great Britain.

1319 .- The university of Dublin founded .- Willam Occam, ob. 1343.

1320 .- An earthquake in England .- Gold coined in

Christendom.

1321 .- A civil war in England .- Abulfeda, the Saracen prince of Hamah in Syria, a great Arabian geographer, finished his Arabian geography, -ob.

1322 .- The battle of Muldorf between Frederick III. and Louis V .- the former being taken prisoner.

1323 .- A truce between England and Scotland for 13 years. -A great eruption of Ætna.

1325 .- The first treaty of commerce between England and

1327 .- Edward II. deposed by parliament.

1329 .- The battle of Mount Cassel gained by King Philip

over the Flemings.

1330. - Gun-powder invented by a monk of Cologne. 1331 .- The Turks take and plunder the city of Nice .- The knights of the Teutonic order fettle in Pruffia .-The art of weaving cloth brought from Flanders into England.

1332 .- The King of Poland seizes upon Silesia -- The pope accused of herefy .- Nicephoras Gregoras, the astronomer and historian, ob. 1350.

1333 .- The Moors gain possession of Gibraltar .- The Scots deseated at Halidown hill, near Berwick, July 19.

1337 .- War between Egland and France. - The first comet, whose course is described with an astronomical exactness, appeared in the beginning of this year -its perihelion June 2, 6h 25'; its afcending node II 24° 21'-incline 32° 11'-retrograde.

133S .- The empire of Germany declared to be independent on the pope.-King Edward begins his war

against France.

1339 .- The academy of Pifa established .- Denmark deso-

lated by war, famine, and pestilence.

1340 - The French defeated in a fea-fight by Edward III. near Helvoetsluys-followed by a truce which lasted 4 years—copper money first used in Scot-land and Ireland.

1341. - Cantacuzenus ufurps the Eastern empire for 17 years. - Barlaam the Calabrian. - A comet appeared in △, first feen near Spica Virginis, difappeared

near Q. . 1342.—The fiege of Algiers, in which powder was used.— Edward's expedition to the continent. - The knights and burgeffes first fat together in the same house of the English parliament.

1343 .- Leontius Pilatus of Theffalonica, restorer of Greek

learning in Italy.

1344. - The Madeiraislands faid to be discovered by Macham, an Englishman .- Gold first coined in England .-The Tartais invade Poland, and are defeated.

1346 .- The battle of Creffy, between the French and Eng-1.h, August 26. - A treaty of commerce between the Venetians and the fultans of Egypt .- The Scots defeated by the English, and David taken prisoner.

1347 .- Peffilence ravages Europe, faid to carry off th of 1385 .- The king of Portugal defeats the king of Cashile at the inhabitants - The admiralty court inflituted. -Edward takes Calais Aug. 4th. - A code of laws published in Poland, and the university of Cracow

1348 .- The univerfity of Prague founded.

1349 .- The order of the Garter instituted in England, April 23.—A plague in England, Scotland, and Ireland.—The king of Arragon adopts the Christian æra Dec. 17.

1350 .- The Jubilee fixed to every 50th year.

1352 .- The Turks first enter Europe

1353 .- Locusts desolate Africa and Asia .- A comet appeared-its course from N. to S.

1354.-Francis Petrarch, ob. 1374. at. 76.

1355 .- A conspiracy at Venice. - Iovanni Boccacio, ob.

1376, at. 62.

1356 .- The French defeated at Poitiers, and king John taken prifoner September 19 .- An earthquake in Germany .- The golden bull published December 29.

1357 .- A great fedition in France.

1358 .- The vulgar Christian æra adopted in various parts of Spain .- Tamerlane begins to reign in Persia .-The treaty of Calais figned, Oct. 24.

1361 .- Matthew of Westminster, firnamed Florilegus, ob.

about 1380

1362. The law pleadings in England changed from French to English, as a favour of Edward III. to his people, in his 50th year. - Military order of Janizaries established among the Turks.

1364 .- The battle of Cockerel, May 6, and of Avrai, Sep-

tember 29.

1365 .- The universities of Vienna and of Geneva founded.

1366.—Adrianople made the feat of the Turkish empire.
1367.—The battle of Neiara in Castile, April 4.

1368 .- The battle of Montial, March 14.

1359. - Wickliff begins to teach in England, ob. 1385.

1370. - Chivalry flourished about this time. - The office of grand visier established.

1371. - The French defeated the English sleet near Rochelle, June 23 .- The family of Stewart begins to reign in Scotland.

1373 .- The Genoese become masters of Cyprus .- John Gower, the first English poet, ob. 1402.

1375 .- A three years truce between England and France.

1370. John Froillart, ob. 1400. 1377. The French invade England. The feat of the popes transferred from Avignon to Rome.-The sea breaks in upon Flanders .- Wickliss's doctrine condemned in England.

1378.—The schism of double popes, which continues 38: years. - Greenland discovered by a Venetian.

1379 .- Civil commotions in Flanders.

1381 .- Bills of exchange first used in England .- A plague in Germany .- Watt Tyler's infurrection in England, July.

1382 .- The battle of Rosebeck in Flanders, Nov. 17 .-

-The Turks take Hierapolis.

1383 .- Cannon first used in the English service by the governor of Calais.

1384. - The first act of navigation in England .- No goods to be imported or exported by Englishmen on foreign bottoms. - Hostilities between England

Aljubaroba, Aug. 14.—The ancient race of Swedish kings ended.—Nicholas Flamel, ob.

1336 .- Andronicus Paleologus takes Constantineple - foon

retaken by John and Manuel .- Tamerlane fubdues Georgia. - The first company of linen-weavers in England.

1387 .- The first lord high admiral of England appointed.

-Tamerlane fubdues Turkestan

1388 .- Bombs invented at Venloo .- The Scots defeat the English at Otterburn, July 31 .- Margaret of Denmark defeats the Swedes at Falcoping, Sept. 21-and unites the crowns of Sweden and Den-

1390 .-- The facred war in Pruffia.

1391 .- Cards invented for the amusement of the French king.-The papal power abolished in England by act of parliament.-Infurrections in Scotland. -The academy of St. Luke founded in Paris.

1392 .- Annats established .- Jews banished out of Germany .- Cape of Good Hope discovered by the Portuguese.- Emanuel Chryfoloras, ob. 1413, at. 60, of Constantinople, preceptor in Greek.

1393 .- The Turks ravage Walachia, and defeat the Hungarians at Nicopolis .- The doctrine of Huss pro-

pagated in Bohemia.

1394 .- The Jews banished out of France, Sept. 17 .- Leo-

nard Aretin, fecretary of Florence. 1395.—Bajazet defeats the Christians at Nicopolis, Sept. 28, and afterwards fubdues the Bulgarians. 1306 .- Geoffroy Chaucer, the English poet, ob. 1440.

1397. - The union of Denmark, Sweden, and Norway, at Calmar.—Owen Glendour, ob. about 1408.

1308 .- A rebellion in Ireland .- Dukes first created in Scotland .- Tamerlane penetrates into Hindooftan, and took Delhi in January following .- Intense frost in Denmark.

1300.-Tamerlane becomes mafter of Novogorod.

1400. - War between England and Scotland .- Tamerlane invades Asia Minor, with a great army.

The FIFTEENTH CENTURY of the Vulgar Christian Æra.

1401. - The emperor Rupert invades Italy, and is repulfed. -Tamerlane becomes mafter of Bagdad, Aug. oth. 1402 .- Tamerlane defeats Bajazet in the battle of Angora,

July 28th, and takes him prisoner. 1403.—The battle of Shrewsbury, July 22d, in which

Hotspur is killed.

1505.-Great guns first used in England at the siege of Berwick .- Famine and peftilence in Denmark .-The Canary islands discovered by Bethencourt, a Norman.

1406 .- Leonard Aretin, ob. 1443, at. 74 .- Brunus of

Arezzo, fecretary of Florence.
1407.—The kingdom of France laid under an interdict.— Huss propagates his opinions.—Balthazar Coffa becomes mailter of Rome.

1409 .- The Lollards multiplied in England .- The coun-

cil at Pifa begins, March 25th.

1410. - Painting in oil colour invented at Bruges by John Van-eyck .- A civil war in France.

1411. The university of St. Andrews in Scotland founded. -War between king Ladislaus and the pope.

1412.-Algebra brought from Arabia into Europe, about the beginning of this century.

1414.—The council of Constance begins, Nov. 16th, in which two popes voluntarily submitted to depo-

1415 .- John Hufs condemned and executed, July 6th .-

A.D.

Henry of England invades Normandy .- The English defeat the French in the battle of Azincourt, Oct. 25th.

1416 .- The English descat the French fleet at the mouth of the Seine.

1417. - Henry's fecond expedition into Normandy .- Paper made of linen rags invented.

1418 .- The massacre of the Armagnac faction in Paris .-Poggio, the Florentine, ob. 1459, at. 80.

1420. The treaty of Troyes figned, May 21. - The island of Madeira discovered by the Portuguese. Two kings, two queens, two regents, two parliaments, and two universities of Paris, in France. - The battle of Beaugé, April 3, in which the duke of Clarence is killed.

1421.- The revenue of England amounts to 55,7541.

1422. The vulgar Christian æra introduced into Portugal.

1423 .- The English defeat the French and Scots in the battle of Crevant.

1424.- The English defeat the French in the battle of Verneuil .- Ang. Flavius Blondus, ob. 1463, æt. 75. 1426.—An earthquake at Naples.

1427.-The academy of Louvain founded .- Theodore Gaza, ob. 1478, æt. 90.

1428 .- The fiege of Orleans begins, Oct. 12th, and repulsed by Joan of Arc.

1429 .- The battle of Herrings, Feb. 12th .- Francis Phi-

lelphus, ob. 1481, æt. 83. 1431 .- A great earthquake at Lisbon .- Henry, king of England, crowned king of France. - Geo. Trapezuntius, ob. 1485, æt. 90.

1433 .- G. Gemiltius Pletho, ob. 1490, xt. 100.

1434 .- A civil war in Sweden .- Cos mo de Medici recalled from banishment, which began the rife of that family in Florence.

1435.- The treaty of Arras between Charles II. and the duke of Burgundy.

1436 .- Paris retaken by the French, April 13th .- Laurentius Valla, ob. 1465. æt. 50.

1437 .- An expedition of the Portuguese into Africa .- The Turks invade Hungary. - Ulugh Beigh, emperor of Samarcand, author of the Persian astronomical tables, observed the obliquity of the ecliptic to be 23° 30' 17", ob. 1449, æt. 57

1439 .- The re-union of the Greek and Latin churches .-The Pragmatic fanction fettled in France.

1440.-The art of printing invented at Mentz, and gradually improving for 22 years .- John Guttemburg, ob. after 1460.

1441. John Faustus, ob. about 1466.

1442 .- The Turks invade Hungary .- Peter Schaffer, ob.

after 1479. 1444.—Famine in Sweden.—Truce between France and England at Tours, June 1st. - Wesselus, ob. 1489, æt. 70.

1446 .- The sea broke in upon Dort, April 17th, and drowns 100,000 persons. - Frederick declares war against

1447.—The Visconti family ends in Milan; succeeded by the Sforzas.—The Turks, for several years, defeated by Scanderbeg in 22 battles.

1448 .- The house of Oldenburgh begins to reign in Denmark .- The Scots defeat the English at Sark .-

The crown of Sweden separated from that of Denmark .- A bloody contest between the house of York and that of Lancaster. - The Vatican at Rome founded.

1449 .- War between England and France. - Ulugh Beigh put to death by his fon .- Geo. Purbachius, ob.

1462, æt. 87

1450. - The battle of Fourmigni, April 18.

1451.—The English compelled to evacuate Rouen, and feveral other parts of France.—War between Sweden and Denmark.—Æneas Sylvius Pius II. ob. 1464.

1452 .- Cardinal Beffarion, ob. 1472, æt. 77.

1453 .- Constantinople taken by the Turks, May 20th, which terminated the Greek empire. - The English government in France ends with the battle of Castellon, July 7th.

1454 .- A conspiracy in Rome against the pope. - The Pruffians and Poles carry on war for twelve years, against the Teutonic knights .- Thomas à

Kempis, ob. 1471.

1455.—The battle of St. Alban's, May 31ft.
1456.—A great earthquake at Naples.—The Turks are repulled at the fiege of Belgrade.—Two comets

1457 .- Glass first manufactured in England .- Joannes Argyropulus, ob. 1480, æt. 70.

1458 .- The Turks take Corinth .- A fedition in Eng-

1450.-The arts of engraving and etching invented .- Al-

phonfo's first expedition into Africa.

1460 .- The battle of Northampton, July 19th .- The battle of Wakefield, Dec. 31. Alum mines difcovered in Italy .- Purbachius and Regiomontanus, (ob. 1476, æt. 40.) observed the obliquity of the ecliptic to be 23° 29' .- An academy founded at Bafil, and at Friburg.

 X461.—King Edward defeats king Henry at Towton, in Yorkshire, March 29th.
 I462.—An expedition of the Turks into Walachia.—Regular posts established in France .- The first book printed, viz. the Vulgate Bible in 2 vols .- Baptifta Platina, ob. 1481, æt. 60.

1463.—Peffilence rages in Saxony and Thuringia.—War between the Turks and Venetians.—Alphonfo's

fecond expedition into Africa.

1464. The league against Louis XI. of France, called "La Guerre du bien public."-Rod. Agricola, ob. 1485, xt. 43.

1466 .- The fecond printed book, viz. Cicero de Officiis. 1467 .- Sheep from England first permitted to be fent to

Spain.

1468.—Warwick's conspiracy against Edward.—Jos. Jovianus Pontanus, ob. 1503, æt. 70.

1469.—The battle of Banbury, July 26th.—The order of St. Michael infittuted in France.

1470.-The battle of Stamford, March 14.-King Edward

attainted, and king Henry VI. restored. 1471 .- The battle of Barnet, April 14 .- Edward restored.

-The battle of Tewfibury, May 4th .- Marsilius

Ficinus, ob. 1499, æt. 56. 1472.-War between the Turks and Parthians.-A comet appeared-its perihelion, Feb. 29th 10h 23' A. M.-its ascending node V3 11" 46' 20"-inclin. 5° 20'-retrograde-it passed through 40° in 24h .- John Lascaris, ob. 1513, at. 90. Vol. VII.

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1473 .- The fludy of the Greek language introduced into France by Gregor' Tiphernas.
1474.—The Cape de Verd islands discovered by the Portu-

guele. - Annius of Viterbo, ob. 1492 .- Abraham Zaguth observed Spica Virginis in = 17° 10'.

1475.—The treaty of Amiens, Aug. 29.—Poland and

Hungary infelted with locults.

1476 .- Ferdinand of Caltile defeats the king of Portugal. -Waltherus observed the obliquity of the eclip-

tie to be 23° 30'.—George Merula, ob. 1494.

1478.—Laurence de Medici ex, elled Florence, and an anathema against him by Sixtus IV. which greatly distressed learning.—Peace between France and Castile, Nov. 9.—Waltherus observed the vernal equinox in March 11, 8 h. 5'.

1479 .- The university of Upfal founded .- The kingdoms

of Cathle and Arragon united.

1480 .- The Turks befiege Rhodes.

1481. - A great famine in France. - Savozarola, ob. 1498, æt. 46.

1482 .- The coast of Guinea discovered by the Portuguele. -A court of inquisition erected at Seville. fo. Pieus, of Mirandola, ob. 1494, æt. 37. 1483 .- A conspiracy in England against Richard .- Post-

horses and stages established.

1484. - Famine and peltilence raged in Denmark.

1485. The battle of Bosworth, Aug. 22. The union of the houses of York and Lancaster .- Demetrius Chalcondyles, ob. 1513.

1486 .- War between the fultan of Egypt and the Turks. -The Russians subdue the kingdom of Cafan .-Brazil discovered .- Angelo Politian, ob. 1494. xt. 46.

1487 .- The court of Star-Chamber instituted in England. -Hermolaus Barbarus, ob. 1493, zt. 39.

1488. - The battle of Aubin, June 28, in which the French king defeats the duke of Brittany. - The Cape of Good Hope discovered.

1489 .- Geographical maps and fea charts brought into England .- An earthquake at Constantinople .-The kingdom of Cyprus ceded to the Venetians. William Grocyn, ob. 1522, at. 80.

1490 .- Poetry begins to flourish in Germany.

1491. - The study of the Greek tongue introduced into England, by Grocyn .- Baptista Mantuanus, ob. 1516,

1492 .- Brittany re-united to the French crown. - America discovered by Columbus. - lile of St. Domingo discovered .- Peace between England and France. -Ferdinand expelled the Moors from Granada, after a possession of above 800 years.

1493 .- Montserrat discovered .- Jo. Reuchlin, called Capnio, introduced the Hebrew and Greek languages into Germany, ob. 1521, æt. 67.

1494 .- Poyning's act passes in Ireland.

1495. - The king of France seized on the kingdom of Naples. -Algebra taught by a friar at Venice .- The diet of Worms for the peace of the empire. - The venereal disease introduced into Europe .- A treaty of commerce between Henry of England and Philip, duke of Burgundy.

1496 .- The Jews and Moors banished out of Portugal .-

John Colet, ob. 1519, æt. 53. 1497. – North America, discovered by Americus Vesputius. -Vafquez di Gama's expedition to the East Indies. 1498.-The Walachians ravage Poland, and carry off above

100,000 prifoners, whom they fold to the Turks.

Alexander ab Alexandro, ob. 1521, æt. 50. 1499.—War betveen the Turks and the Venetians. — Lewis XII. takespossessi in of the Milanese. - Dr. Thomas

Lyracre, ob. 1524. 1500.—Brazil difcovered by the Portuguefe.—Florida difcovered by John Cabot, an Englifhman.—Maximilian divides the empire into fix circles .- Painting in chiara obscuro discovered .- A great plague in England.

The SIXTEENTH CENTURY of the Vulgar Christian Æra.

1501.—The tribunal of flate inquifitors effablished at Venice.—Ishmael Sophi, of the feet of Ali, begins to reign in Persia.—Louis of France and Ferdinand of Castile, seize on the kingdom of Naples. -Aldus Manutius, ob. 1513.

1502 .- St. Helena discovered .- Pomponatius of Mantua, ob. 1525. æt. 63 .- Gonfalvo, called the great

captain, ob. 1515, at. 72.

1503 .- The battle of Cerignole, April 28, which finished the French power in Naples .- Leopardo da Vinci, ob. 1520, at. 75. Cardinal Kimenes, ob. 1517, æt. 80 .- Waltherns observed the summer folflice at Nuremberg, June 12, 12h 46' 34" .-

The fun's apogee & 4° 9'.

1504.—King Henry VII. built a chapel at Westminster

Abbey.—Gawin Douglas, ob. 1521.

1505.—Shillings first coined in England.—Two comets appeared.—Albert Durer of Nuremberg, ob. 1528,

æt. 57. 1506.—The Academy of Frankfort on the Oder founded. - Ceylon discovered. - Nicholas Machiavel, ob.

1507 .- Louis reduced the Genoese to subjection .- The

1567.—Louis reduced the Genoric to tubjection.—The island of Madagascar discovered by the Portuguese.—Lewis Ariotto of Ferrara, ob. 1533.

1508.—The league of Cambray against the Venetians, Dec. 10.—Budeus of Paris, ob. 1540, at. 73.

1509.—The battle of Aiguadel, May 14, in which Louis deseats the Venetians.—The expedition of Ximenes to the coast of Barbary, May 26.—An experiments Conference of Section 1. earthquake at Conftantinople, Sept. 14.

1510 .- Wernerus observed the obliquity of the ecliptic to be 23° 28' 30" .- The pope grants to Ferdinand the investiture of Naples, July 23.

1511 .- The illand of Cuba conquered by the Spaniards .-A league between the emperor, the pope, and the Venetians against the French, Oct. 4.—Raphael, ob. 1520, æt. 37.

1512. The battle of Ravenna, April 11. The river de la Plata discovered .- Erasmus, ob. 1536, æt.

1513 .- War between Scotland and England .- The battle of Navarre, in which the Swifs defeat the French. -The battle of the Spurrs, Aug. 16 .- The battle of Flodden, Sept. 9 .- Sannazarius of Naples, ob. 1530.

1514.- Cannon bullets of Rone, still in use.-War between the Ottoman empire and Persia .- Polydore Virgil,

ob. 1555, æt. So.

1515 .- Copernicus observed the vernal equinox, March 11, 4° 30' morn, at Fruemberg.—He observed Spica Virginis in \(\simeq 17\sigma 3' 2'', \) and the sun's apogee in \(\sigma 6\sigma 40'.—The rist Polyglot Bible printed at Alcala .- A battle between the French and Swife

at Marignan, Sept. 13 and 14 .- Ferdinand annexed the kingdom of Navarre to that of Castile .-Cornelius Agrippa, ob. 1534, æt. 48.

1516.—Barbaroffa feizes the kingdom of Algiers.—War-between the Turks and Pertians.—The treaty of Noyou, Aug. 16. - Francis Guiceardin, ob. 15.40,

1517 .- The Reformation begun in Germany by Luther ob. 1546, at. 63.—The Turks terminate the kingdom of the Mamalukes in Egypt.—Five books of the Annals of Tacitus found.

1518 .- New Spain and the Straits of Magellan discovered.

Zuinglius, ob. 1731. 1519 - Francis I. and Charles V. competitors for the Imperial throne.-Cardinal Bembo of Venice, ob.

1520.-War between Poland and Prussia.-Sweden and Denmark united .- An interview between the kings of England and of France at Guifnes, June 4 .- The confederacy of the Holy Junta formed in Spain .- Ludovicus Vives of Valentia,

1521.—A league between the emperor and Henry VIII.

against Francis I.—The diet of Worms, April 17.

The Turks take Belgrade, Aug.—A conspiracy of the king of Sweden against the nobility. -'The title of "Defender of the Faith" conferred on Henry VIII .- Copernicus of Thorn

in Prussia, ob. 1543, æt. 60.

1522 .- The Turks take the island of Rhodes, Dec. 25 .-The first voyage round the world, by a ship of Magellan's fquadron .- Michael Angelo Bon' ob. 1564, æt. 89.

1523 .- A league formed against Francis I. by the pope, the emperor, the Venetians, &c .- Sweden and Denmark disunited .- Paracelius, ob. 1541, 2t. 48.

1524. - Clement Marot, ob. 1544, at. 60. - Queen Katharine of England, ob. 1536, at. 50.
1525. - The battle of Pavia, Feb. 24, in which Francis I. was made prisoner. - Julio Romano, ob. 1546, zt. 54 .- Sir Thomas More, lord chancellor, ob. 1535.

1526 .- The treaty of Madrid, Jan. 14 .- The inquilition established in Portugal .- The pope, Venetians, and French, form a league against the emperor .-Lutheranism established in Denmark .- Paul Jovius, ob. 1552, æt. 70.

1527 .- War between the pope and the viceroy of Naples .-The pope's territories invaded by the army of Charles V., and Rome taken and plundered, May 6th .- Bermuda isles discovered .- Francis Rabe-

lais, ob. 1553, at. 70. 1528.—Popery abolished in Sweden.—Francis challenges the emperor to fingle combat .- A new form of government established in Genoa by Andrew Doria, (ob. 1560, æt. 93.)-Olaus Magnus, ob.

1529.—The diet of Spires, March 15, against the reformers, from which the name of "Protestants" begins.— The pence of Cambray, Aug. 5, between Charles and Francis.—The Turks beliege Vienna, and are repulfed.—J. Geo. Trillino, ob. 1530.—The diet of Augsburg, June 25.—The union of

the Protestants at Smalcald, Dec. 22 .- The secretary of state's office instituted in England .-Parochial registers first appointed .- Martin Bucer, ob. 1551, æt. 60.

1531.

1531 .- Post-offices in England .- A great earthquake at Lisbon .- A comet appeared -its perihelion, Aug. 25, 9h 18' A. M .- afcending node 8 19° 25' - inclin. 17° 56'-retrograde. - Hieron' Vida, ob.

1532 .- The court of fessions instituted in Scotland .- Peace between the emperor and German princes, July 23.-A comet appeared-its perihelion, Oct. 20, 150 12' A. M. - afcending node n 20° 27' - in-clin. 32° 36' - direct. - Treaty of Nuremberg, Aug. 2. - Lilio Giraldi, ob. 1552, et. 74. 1533. - Papal authority abolified in England. - An infur-rection of the Anabaptifts in Weitphalia. - A co-

niet appeared—its perihelion June 17, 7h 30' A.M.—afcending node \$1.5° 44'—inclin. 35° 49'—retrograde.—Ignatius Loyola, ob. 1556,

1534. - Barbaroffa feizes the kingdom of Tunis .- The pope's fentence centuring the marriage of Henry VIII. - The reformation takes place in England, March 30th .- Julius Cæfar Scaliger, ob. 1558, æt. 75.—Anne Bullen, queen of England, ob. 1536.

1535.—The reformation introduced in Ireland.—Charles

Vth's expedition into Africa ends, Aug. 14th. -The fociety of the Jesuits formed .- Arche Cranmer, ob. 1556, æt. 67 .- Barbaroffa, the Turkish

general, ob. 1547. 1536.—James king of Scotland's expedition into France. -A league between Solyman and Francis against Charles V .- John Leland, ob. 1552 .- Jane Seymour, queen of England, ob. 1537.

1537 .- Fracaltorius, ob. 1553, æt. 71.

1538 .- A truce for 10 years, concluded at Nice, between Charles and Francis, which lasts 4 years, June 18. -Peter Aretin, ob. 1556, at. 65.

1539 .- A rebellion at Ghent, which occasions Charles V. to pass through France.-The Bible printed in English .- The ancient constitution of the cortez in Spain Subverted by Charles V .- 645 monasterics and religious houses suppressed in England and Wales .- John Sleidan, ob. 1456 .- Ann of Cleves,

queen of England, divorced 1540.

1540.—The variation of the compais discovered by Schaftian Cabot.—The order of knights of St. John abolished.—Copernicus observed the obliquity of the ecliptic to be 23° 28' 8", Sept. 27.— The fociety of Jesuits established.—Robert Stephens, ob. 1550, æt. 56 .- Catharine Howard, queen of Eng-

land, ob. 1542. 1541 .- Solyman reduced Hungary to the form of a province. -Charles V. belieged Algiers, Oct. 21 .- Melancthon, ob. 1560, æt. 64.

1542 .- A treaty between Solyman and Francis I. against Charles V.—Japan discovered.—Hier' Wolfius, ob. 1580, at. 64.—The English invade Scotland, and defeat the Scots at Solway Moss, Nov. 23 .-

Titian Vecelli, ob. 1576, at. 99.

7543.—Iron cannon and mortars made in England.—A league between Henry and Charles V. against Francis I .- The academy of Verona founded .-California discovered .- Pins brought from France, and first used in England .- John Calvin, ob. 1564, æt. 55 .- Catharine Parr, queen of England

1544. The battle of Cerifoles, April 11, in which the French defeated the Imperialits .- The crown of Sweden declared to be hereditary. - A treaty of

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peace between the emperor and Francis I. at Creffy, Sept. 18 .- The reformed religion authorifed in Sweden .- Iron first cast in England .- Adrian Turnebus, ob. 1565, mt. 53

1545 .- Civil commotions in Scotland .- The English defeated by the Scots at Ancram-Muir .- The council of Trent begins and continues 18 years .-Needles first made in England .- Conrad Gefner, ob. 1505. at. 49.

1546 .- A league between the emperor and the pope against the Protestants .- Sociaianism sprung up in Italy.

-Camerarius, ob. 1574, at. 75.

1547.—The elector of Saxony defeated by the emperor at Mulberg, Ap. 24. - A conspiracy against the government of Genoa .- The Scots defeated by the English at Pinkey, Sept. 10 .- The interest of money fettled at 10 per cent. in England .- Hieronymus Cardan, ob. 1575, at. 75.
1548.—Wer between the Turks and Perhans.—The refor-

mation advances in Poland .- Jo. Genesius de Sepulveda, the Peripatetic, and reflorer of learning in

Spain, ob. 1572, at. St.
1550.—The eldest fous of peers first permitted to sit in the House of Commons .- The bank of Venice eftablished about this time .- Iron bullets first used in England.

1551 .- A league between Henry II. and Maurice, duke of Saxony, against the emperor .- Annibal Caro, ob.

1552 .- The treaty of Passau between Charles and the Protestants, July 31st .- Books of astronomy and geometry dellroyed in England, under a charge of magic. - The book of Common Prayer confirmed by act of parliament .- The corfair Dragut defeated by Doria before Naples .- Faul Manutius, ob. 1574, æt. 62.

1553 .- Popery reftored in England by queen Mary .- Servetus executed in Geneva .- Edward VI. dies July

6, at. 16 .- Cardinal Pole, ob. 1558.

1554 .- The French invade the Low Countries. - The Ruffians fubdue the kingdom of Altracan .- Mary of England marries Philip of Spain .- Castelvetro, ob. 1571, æt. 66.

1555 .- The peace of religion established in Germany, Sept. 25 .- A league between the pope and the king of France against the Spaniards, Dec. 15 .- Fred.

Commandin, ob. 1575, æt. 66.

1556 .- A comet appeared-its perihelion, April 22, 84 3' A. M.—ascending node 112 25° 42'—inclin. 32° 6' 30"—direct.—The Turks ravage Corsica.— Charles refigns his crown to Philip, Jan. 6.

1557.—Charles retired to a monastery, Feb. 24.—Glass first manufactured in England.—Philip defeats the French at St. Quintin, Aug. 10 .- Onuphrius

Panvinius, ob. 1503, 2t. 39.

1558.—Calais taken by the French, Jan. 8.—Queen Mary dies, Nov. 17.—The reformed religion authorifed in England.—Ronfard, ob. 1585, 2t. 61.

1559 .- The peace of Chateau-Cambrens .- The tranquillity of Europe reflored .- The queen regent of Scotland opposes the reformation, and persecutes the reformers. - George Buchanan, ob. 1582, æt.

1560 .- The conspiracy at Amboise begins the civil wars in France.-Philip removes his court from Toledo to Madrid .- A treaty between Elizabeth and the 5 K 2

Protestants in Scotland, at Berwick, Feb. 27 .-The Presbyterian form of government established

in Scotland.

1561.-The discord between Elizabeth and Mary commences .- Queen Mary arrives in Scotland, after an absence of 13 years .- Livonia ceded to Poland. - Camoens, ob. 1579, æt. 50.

1562.—The battle of Dreux, Dec. 19, in which the duke of Guife defeated the prince of Condé.—Peter Ra-

mus, ob. 1572.

1563 .- War between Sweden and Denmark .- The council of Trent terminates Dec. 4.—Orleans belieged by the duke of Guife, Feb. 6.—The escurial in Spain built .- Slave trade begun with England .- Oforius, ob. 1580

1564.—The beginning of the year fixed to Jan. 1, in France.—Peace between France and England,

April 9.

1,65 .- The revolt of the Low Countries .- The Turks attack Malta.—Tintoret, ob. 1594, æt. 82.

3566.—The 39 articles of the church of England established.

The Tartars ravage Hungary .- Theodore Beza

eb. 1605, æt. 86.

- 1567 .- Queen Mary espoused Bothwell, May 15 .- The duke of Alva begins his operations in Flanders .-The battle of St. Denis, between the prince of Condé and Montmorency, Nov. 10. - Civil commotions in Sweden. - Jas Cujas, ob. 1500, at.
- 1568 .- Queen Mary defeated in the battle of Glafgow, May 13-retires into England and is imprisoned.—The Moors in Spain revolt.—The exercise of the reformed religion allowed in the Low Countries .-Ciaconius, ob. 1581, æt. 56.

1569.-The battle of Jarnac, May 13-of Moncontour, between the duke of Anjou and the Huguenots,

Oct. 3.-Pancirolus, ob. 1591.

1570 .- A league between Spain, Venice, and the Roman fee against the Ottoman Porte. - The peace of Germain-en-Laye, in favour of the Huguenots,

August 15.—Carolus Sigonius, ob. 1585, æt. 60.
1571.—The isle of Cyprus taken by the Turks.—The battle of Lepanio, Oct., 7, in which the Turks are
defeated.—Henry Stephens, ob. 1598, æt. 70.

1572.- The massacre of the Protestants at Paris, on Sunday, Aug. 24.-Cornelius Gemma observes a bright new flar in Cassiopeia .- Bodinus, ob. 1585.

1573 .- War in France against the Protestants .- The prince of Hesse observed the vernal equinox March 10, 8th 26' P.M. at Cassel. - Paul Veronese, ob. 1588, æt. 56.

1574. - The fiege of Leyden by the Spaniards. - Sebastian of Portugal makes an empedition into Africa against the Moors. - Montagne, ob. 1592, æt. 59. 1573. - The university of Leyden founded. - The Turks

- invade and ravage Russia.-Francis Hotomanus, ob. 1590, æt. 65.
- 1576 .- The league begins in France upon the edict of pacification, and the Protestants allowed the exercise of their religion in France. - A civil war enfues .-Palladio.
- 1577 .- Drake undertakes a voyage round the world, and returns November 3, 1580.—A comet appeared—its perihelion, Oct. 27,16° ο' A. M—afcending node φ, 25° 52'—inclin. 74° 32' 45"—retrograde. Janus Doufa, ob. 1604, æt. 50.

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1578.—The first treaty of alliance between England and the Sates General, Jan. 7 .- A long and bloody war between Persia and the Ottoman Porte. - The Moors defeat the Portuguese at Alcasar, August 4. - Cardinal Baronius, ob. 1607, 21. 69.

1579 .- Jan. 23d, the union of Utrecht, which begins the republic of Holland .- Riccoboni, ob. 1600, zt.

1580 .- Philip of Spain feizes the kingdom of Portugal .-A comet appeared -its perihelion, Nov. 29th, 3h o' A. M.—ascending node v 13° 57' 20"—in-clin. 64° 40'—direct.—Peter Pithou, ob. 1596.

1581 .- An edict of the United Provinces against Philip, July 26th. - Copper money introduced into France.

-Jos. Scaliger, ob. 1609, at. 69.

1582 .- The Julian calendar reformed by pope Gregory .-New style introduced into Catholic countries, Oct. 5th, reckoned Oct. 15th .- Christopher Clavius, ob. 1612, æt. 75.

1583.—The first proposal of fettling a colony in America.—

Torquado Taffo, ob. 1505, zt. 51. 1584.—Raleigh discovered Virginia.—Cape Breton discovered .- The prince of Orange murdered at Delft, June 30 .- Tycho observed the vernal equinox, March 10, 1h 56' P. M. at Uraniburg .- Edmund

Spencer, ob. 1598.
1585.—Drake takes Carthagena.—Greenland discovered. -Coaches first used in England. The treaty of Nonsuch between England and the States-General, Aug. 10.—A comet appeared—its perihelion, Sept. 28th, 7^h 20' A. M.—ascending node 8 7° 42' 30"-inclin. 6° 4'-direct. - Sir Philip Sidney, ob. 1586, æt. 32

1586.-Babington's conspiracy against queen Elizabeth.-Cavendish's first voyage to circumnavigate the globe.-Tycho Brahe, ob. 1601, at. 55.

1587 .- Queen Mary beheaded, Feb. 8 .- The battle of Coutras, Oct. 20th, in which the king of Navarre defeated the duke de Joyeuse .- Drake burned 100 fail of ships in the bay of Cadiz.

1588.—The Spanish armada destroyed, July 27th.—First newspaper in England, dated July 28.—Tycho observed the summer soldice, June 11th, 13 36' P. M. at Uraniburg.—The sum's apogee in 55° 30' 0" .- The duke of Guife, &c. affaffinated in France.-Duelling with small swords introduced into England .- Bomb-shells invented at Venloo. -Henrico Catharino Davila, ob. 1631, at. 55.

1589. - A conspiracy against James, king of Scotland, by Huntly, Crawford, &c. popish lords.—Peace between the Turks and Persians.—Drake's expedition to Spain and Portugal.—Henry III. murdered by Clement, July 22d.—Justus Lipsius, ob.

1606, æt. 58.

1590.—A comet appeared - its perihelion, Jan. 29th, 3h.
45' P. M.—ascending node m 15° 30' 40" - inclin, 29° 40' 40" - retrograde.—Telescopes invented by Jansen, a spectacle-maker in Germany .- An earthquake at Vienna, Sept. 5 .- The art of weaving stockings invented by Lee of Cambridge. -The battle of Ivry, which ruined the league, March

4.—Stephen Palquier, ob. 1615, æt. 81.
1591.—The university of Dublin crected.—Tea first brought into Europe.—Mariana, ob. 1624, æt.

1592 .- Pretbyterian church government established by act

of parliament in Scotland .- Falkland iffes difco. 1606 .- A truce of twenty years between the empire and

1593.—Bothwell's conspiracy against king James.—A 1607.—A comet appeared—its perihelion, Oct. 16th, 3h 50' Comet appeared—its perihelion, July 9th, 1h 38' A. M.—ascending node 78 14° 14' 15"—inclin. 87° 58'—retrograde.—A great plague in London.

—Cardinal Perron, ob. 1618, £t. 63.

1594.—The Jefuits expelled France.—The bank of England incorporated .- Byrgius observed the obli-

bon, ob. 1614, æt. 55.

1595 .- Drake's expedition against the isthmus of Darien .-Tycho Brahe observed the obliquity of the ecliptic, 23° 29' 25". - Mendana and Quiros make dif-coveries in the Pacific ocean. - The Russians make the first discoveries in Siberia.-Caribbee isles discovered .- Shakespear, ob. 1616, æt. 53.

1506 .- Calais taken by the Spaniards from the French .-A great carthquake at Japan.—The English defeat the Spanish fleet, and take Cadiz.—A treaty with England, France, and Holland, at the Hague, against Spain, Oct. 31 .- A comet appeared-its perihelion, July 23d, 7h 55' A. M. -afcending node 2 12° 12' 30"-inclin. 55° 12'-retrograde. -The Stella Mira in the neck of the Whale was observed by David Fabricius, Aug. 13th .- Annibal Caracci, ob. 1609, æt. 40.

1508 .- Tyrone's infurrection in Ireland .- The edict of Nantes in April. The peace of Vervins, April 22d .- President de Thou, ob. 1617, æt. 64.

1500 - Tycho observed Saturn in opposition to the fun, March 24th, 10h 20' A. M .- Sir Henry Saville,

ob. 1622, æt. 72.

- 1600 .- Gowrie's conspiracy in Scotland .- The English Eatt India company established .- The battle of Newport, July 2d, between Maurice and Albert. -A changeable star in the neck of the Swan difcovered by Jansenius .- St. Helena first possessed
- The Seventeeth Century of the Vulgar Christian Æra.
- 1601 .- The fiege of Oftend begins, June 25th .- Spain invades Ireland, Sept. 21st. - Lord chancellor Bacon, ob. 1626, æt. 66.

1602 .- Byron's conspiracy detected and punished .- Deci-

Sarpi, ob. 1623, æt. 71.

1603 .- Manufactures of crystal established in France .- A league between France and England .- Queen Elizabeth dies, March 24th, æt. 70 .- The crowns of England and Scotland united .- Gruterus, ob.

1627, æt. 67.

1604 .- Oftend taken after a fiege of three years, Sept 10 .-A new translation of the Bible ordered. - Peace concluded between England and Spain. A dispute between the pope and the Venetians concerning the privileges of the clergy.—The French etablished a colony in Canada.—A bright new star discovered near the right foot of Serpentarius, in September, by Kepler; which disappeared in the space of a year .- Malherbe, ob. 1628, et. 76.

1605 .- The gun-powder plot, Nov. 5th .- Marini, ob. 1625,

æt. 56.

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the Ottoman Porte. - Papirius Masso, ob. 1611.

1608 .- Colonies fent from England to Virginia .- The cold and frost extreme in the winter .- Galileo,

ob. 1642, at. 78.

quity of the ecliptic 23° 29' 25".- Ifaac Cafau- 1609 - A truce between the Spaniards and Dutch .- The independence of the United Provinces acknowledged, March 30, O. S .- Helvicus, ob. 1617,

æt. 36.

1610. The Perfians defeat the Turks near Pabylon. War between Ruffia and Poland .- Thermometers invented by Drebbel, a Dutchman. — 960,000 Moors banished out of Spain.—Galiseo first observed three of Jupiter's satellites, Jan. 7. —Longomontanus observed Saturn in epposition to the sun, Aug. 12th, 12h o' P. M .- Andrew du Chesne, ob. 1640.

1611 .- War between Denmark and Sweden .- The order of Baronets instituted in England, May 22 .-An earthquake at Constantinople. - 200,000 perfons died there of the plague. - Peace concluded between the Turks and the Persians .- Lopez de

Vega, ob. 1635, æt. 72.

Torks invade Hungary.—Cervantes, ob. 1620, act. 69.

Ratches brought to England from Germany.—The Torks invade Hungary.—Cervantes, ob. 1620, act. 69.

Torks invade Hungary.—Cervantes, ob. 1620, act. 69. attempt to discover a northern passage to China. -The French make a settlement in the island of Margna. - Ben Jonfon, ob. 1638. 1613. - Peace concluded between Denmark and Sweden.

-John Kepler, ob. 1630.

1614.- Logarithms invented by Baron Napier of Scotland, ob. 1617, æt. 67 .- A British colony established in

1615 .- Peace between the Turks and the Imperialists .-The Jews ordered to leave France .- John Barclay,

ob. 1621, æt. 38.

by England.-William Camden, ob. 1632, at. 1616.-A civil war in France.-The fettlement of Virginia by Sir Walter Raleigh.—King James restores Flushing, the Brille, &c. to the Dutch.—Cape Horn first sailed round .- Sir Robert Cotton, ob. 1631, xt. 61.

1617 .- Peace concluded between Sweden and Russia .-Peace between the Venetians and the house of Austria. - Dominiquino, ob. 1641, æt. 60.

mal arithmetic invented at Bruges .- Father Paul 1618 .- Peace concluded between Poland and Ruffia .- A comet appeared—its perihelion, October 30th, 11h 37", A.M.—afcending node II 16° 1'—inclin. 37°34'—direct.—An horrible confpiracylat Venice detected .- The battle of Ardeville between the Turks and Perfians .- The Synod of Dort begins November 1, and continues till April 26, 1619 .- Fabri de Peiresc, ob. 1637, at.

> 1619 .- The circulation of the blood discovered by Harvey, ob. 1657, at. 80.—A war of thirty years commences in Germany, Aug. 26.

1620 .- The English make a settlement at Madras. - Copper money first used in England .- The island of Barbadoes discovered by Sir William Courteen. -The Bohemians defeated by the Imperialitis at Prague, October 30, O. S. by which the Elector Palatine loft his electorate. - Navarre united to

France.

France.-Coining with a die first used in England .-

Guido Rheni, ob. 1642, æt. 67.

1621 .- War between Spain and Holland renewed after a truce of 12 years .- A civil war in France with the Huguenots, lasts o years .- War between Poland and the Ottoman Porte.—The Dutch establish the fet-tlement of Batavia.—The two parties of Whigs and Tories formed in England .- Gaspar Barthius, ob. 1548, xt. 71.

1622. - The Imperialists reduce the Palatinate. - Heidelberg taken by the Emperor, and the famous library fent to Rome, Sept. 16 .- Peter Paul Rubens, ob. 1640,

1623 .- The Knights of Nova Scotia inflituted. - The Eng. lish factory massacred by the Dutch at Amboyna .- Sir

Henry Spelman, ob. 1641.

1624 .- The Dutch defeat the Spanish fleet near Lima .-The Turks befiege Bagdad, a: dare repulsed .- Cardinal

Bentivoglio, ob. 1644, æt. 65

1625 .- A plague in England .- King James dies at Theobald's, March 27, at. 59 .- Difcord between Charles I. and the House of Commons .- The first English fettlement in the West Indies .- The Spaniards took Breda in the Low Countries .- Peace between Ferdinand of Hungary and the Sultan .- John Meursius, ob. 1639, æt. 60.

1626 .- Peace between the Huguenots and the king of France, Feb. 5, N. S .- War renewed the following year .- A league of the Protestant princes against the emperor .- Gerard John Vossius, ob. 1650, at. 73.

1627. - War between England and France .- Ericius Pute-

anus, ob. 1646, æt. 72

1628 .- The Turks invade Perfia .- The duke of Buckingham murdered, Aug. 23 .- Rochelle taken by Lewis XIII., Oct. 18, O.S .- Quevedo, ob. 1647.

1629 .- Charles I. diffolves the English parliament, March 10; 9 members imprisoned, March 4, for their fpeeches .- Peace between Germany and Denmark .-The edict of pacification at Nimes, July 4, O.S .- A truce between Sweden and Poland, for 6 years, Sept. 5, O.S .- Gultavus Adolphus enters Germany .- Peace between France and England .- Bahama isles discovered .- Inigo Jones, ob. 1651.

1630 .- Gazettes first published in Venice .- The treaty of Stockholm, between England and Sweden, May 31. -War between Spain and Germany .- The Turks

invade Poland .- Grotius, ob. 1645, æt. 62.

1631 .- A treaty between France and Sweden, Jan. 13, O.S .- Gaffendi first observed the transit of Mercury over the fun's disk, Nov. 17, 9h 57' A.M.—The battle of Leipsic, Aug. 28, O.S. in which the Swedes defeat the Imperialits .- Archbishop Usher, ob. 1655,

1632.—War between the Dages and Swedes, and between the Swedes and the Imperialits, who are defeated by the former at Lutzen, Nov. 6, O.S. where Gustavus Adolphus is killed .- A great eruption of Vefuvius .-Antigua settled by the English. - Gab. Naudé, ob. 1653

1633 .- Galileo condemned by the inquisition at P.ome .-Louisiana discovered by the French .- Anthony Van-

dyck, ob. 1641, æt. 42.

1634.-War between Prussia and Poland.-The Swedes de- 1645.-War between the Turks and the Venetians.feated at the battle of Nortlingen, Nov. 26, O.S. by the king of Hungary .- John Selden, ob. 1654, æt. 70. 1635.—The French academy established at Paris.—A long

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and bloody war begins between France and Spain .-A treaty between France and Holland, Feb. S .- Regular posts established in Great Britain .- Gassendi, ob.

1655, æt. 66.

1636 .- A treaty between Lewis XIII., and the queen of Sweden, March 10. O.S .- A truce of 26 years between Poland and Sweden .- The Swedes defeat the Imperialists at Wistock, Oct. 4, O.S .- Cassini obferved the transit of Mercury over the fun's disk at Thury, Nov. 11, 10h 43' A.M .- Descartes, ob. 1650, æt. 54. 1637.—The Scots withdraw their allegiance from Charles I.

-The polemoscope invented by Hevelius .- A bloody war commences between the Poles and the Coffacs in the Ukraine.-A league between Spain and Denmark against Sweden .- An infurrection of the Protestanta in Hungary -The prince of Orange tak-s Breda, Sep. 26, O.S .- Hampden condemned and fentenced to pay a tax, imposed by Charles I .- Famianus Strada, 05. 1649.

1638 .- The Turks take Bagdad, Jan. 6 .- Two battles of Rheinfeld, Feb. 18 and 21, O.S .- The folemn league and covenant in Scotland, against episcopacy .- Peta-

vius, ob. 1652, at. 69.

1639 .- The Imperialifts defeat the French at Thiouville, May 27, O.S .- Horrox observed a transit of Venus over the fun's disk, at Liverpool, Nov. 24, O.S. 3" 15'

P.M.-Voiture, ob. 1648.

1640 .- The Scots invade England, Aug. 10, O.S .- A conference between the English and Scots commisfioners at Rippon, Oct. 2 .- The duke of Braganza recovers the independence of Portugal.—The long parliament in England met, Nov. 5 .- Balzac, ob. 1654.

1641.—The earl of Strafford beheaded, May 12.—Tha maffacre of the Protestants in Ireland, Oct. 23 .- Chil-

ling worth, ob. 1644, et. 42.

1642 .- Peace between the Imperialifts and the Turks .-The Swedes defeat the Imperialits at Leiplic, Oct. 3, O.S .- King Charles demands the five members, and the civil war begins. His army defeated at Edgehill, Oct. 23 .- The Imperialists defeat the French at Tutelingen, Nov. 15, O.S .- Tafman makes discoveries in the Pacific ocean .- Salmafius, ob. 1653.

1643 .- Briftol furrenders to prince Rupert, July 26 .- The fiege of Gloucester raised Sept. 5 .- The first battle of Newbury, Sept. 20, in which the army of Charles I. is defeated .- The Tartars invade China, and in the following year effect a revolution .- The royal academy of painting founded by Lewis XIV.-Barometers invented by Torricelli.-The prince of Condé defeats the Spaniards at Rocroy, May 9, O.S .- Waller's plot in England detected, May 31 .- Nicholas Pouffin, ob. 1656, æt. 62.

1644 .- A revolution in China .- The Swedes defeat the Imperialifts in Bohemia, Feb. 25, O.S.—Cromwell defeats the army of Charles I. at Marftonmoor, July 2 .- Earl of Effex's army furrenders in Cornwall, Sept. 2 .- The fecond battle of Newbury, Och. 27. -Gravelines taken by the duke of Orleans, July 18, N.S .- Riccioli observed Saturn in opposition to the fun, at Bologna, Oct. 10, 7h 12' A.M .- Mothe le Vayer, ob. 1671.

Charles I. totally defeated at Nafeby, June 14 .- Peace between Denmark and Sweden, Aug. 3, O.S .- The first code of Russian laws published .- Turenne takes

Treves.

Treves -- Duke de Rochefoucault, ob. 1680, at.

1646 .- The Turks defeat the Venetians near Retimo, Oct, 9. O.S .- Paul Scarron, ob. 1660.

1647 .- Charles I. delivered up by the Scots to the English

commissioners, Jan. 30 .- Two revolts in Naples .-

Henry Hammond, ob. 1660, xt. 55.
1648.—The peace of Munster between Spain and Holland, Jan. 20, O.S .- The Seven United Provinces declared a free and independent state.—The Imperialists defeated at Augsburg by Turenne, April 7. O.S.—The prince of Condé defeats the archduke at Lens, Aug. 10, O.S .- The peace of Muntter between France and the emperor, Oct. 14, O.S .- The peace of Ofnaburgh between Sweden and the emperor. - Fabricius observed a new flar in the tail of the Whale .- Thomas Hobbes, ob. 1679, æt. 91.

1649.-King Charles I. beheaded Jan. 30. æt. 49.-Regal government, and the house of Peers, abolished in England, March 17 .- A civil war in Paris, which is blocked up by the prince of Condé.-A league between Denmark and the United Provinces .- Galileo first applied the pendulum to clocks .- Samuel Bochart, ob. 1667.

1650 .- The battle of Dunbar, Sept. 3, in which Cromwell defeats the Scots.—Mezeray, ob. 1683, at. 73. 1651.—The battle of Worcester, Sept. 3, in which Cromwell defeats Charles II.—The Quakers appear in England.—The Venetians defeat the Turkish seet near Scio, June 13, O. S .- The Poles defeat 300,000 Tartars,

June 20 .- Dr. John Wallis, ob. 1703, at. 87 .- Archibald, marquis of Argyle, ob. 1661, æt. 63.

1652 .- The war between the English and Dutch begins May 19 .- Sea-fight between the English and Dutch flects, near Plymouth, Aug. 16 .- Van Tromp defeats the English fleet in the Downs, Nov. 29 .- A comet appeared-its perihelion Nov. 3, 3h 40' A. M. -ascending node II 28° 20'-inclin. 78° 28'-direct. -A colony established by the Dutch at the Cape of Good Hope.- J. Fred. Gronovius, ob. 1671, at. 58. Chancellor Seguier, ob. 1672, at. 84.

1653.—An engagement between the English and Dutch sleet, on the coast of France, Feb. 18.—Cromwell deffolves the English parliament, April 20 .- The English defeat the Dutch ileet on the coast of Flanders, June 3-and again near the Texel, July 29 .- Cromwell proclaimed protector of England, Dec. 16-ob. 1658, æt.

60 .- Blaife Pascal, ob. 1662, at. 39.

1654. Peace between England and Holland figned, April .- The air-pump invented by Otto Guericke of Magdeburg.- John Milton, ob. 1674, æt. 66 .- Ad-

miral Blake, ob. 1657, at. 59.

1655 .- The English, under admiral Penn, take possession of Jamaica, May 7 .- Blake attacks Tunis, and destroys the Spanish galleons in the bay of Santa Cruz .- The Venetians defeat the Turkish sleet at the Dardanelles, June 11, O. S.—Huygens first discovers a satellite of Saturn, March 25.—Peace between England and France, Oct. 25.—War between Sweden and Poland. -- Thomas Bartholin, ob. 1680, xt. 64.

1656 .- A treaty between the king of Sweden and the elector of Brandenburg, Jan. 11, O. S .- War declared by England against Spain, Feb. 16 .- The Swedes defeat the Poles in three battles, at Warfaw, July 18, 19, and 20, O. S .- Edmund Waller, ob. 1687, at. 82 .- Henry viscount de Turenne, and marshal, ob. 1675, æt. 64.

1657.-War between Sweden and Denmark,-A treaty

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between the king of Poland and the elector of Brandenburg, Sept. 9, O. S .- Peter Corneille, ob. 1684,

1658 .- Hevelius observed Saturn in opposition to the fun, at Dantzick, April 4, 5th 13' A. M .- Turenne, after having defeated the Spaniards, takes Dunkirk, June 17, and the city is delivered to the English .- J. Baptilla Poquelin Moliere, ob. 1672 .- Admiral de Ruyter, ob. 1676, xt. 69.

1659 .- Peace between France and Spain, called "the peace of the Pyrenées," Oct. 28, O. S .- Du Cange, ob.

1688, at. 58

1660 .- Peace between Sweden and Denmark, at Copenhagen, March 17, O. S .- The restoration of Charles II., May 29 .- The peace of Oliva, between Sweden, Poland, and the Empire, May 3 .- The king of Denmark declared absolute, and the throne hereditary, Oct. 13, O. S .- Algernon Sidney, ob. 1683, 2t. 66 .- General Monk, duke of Albemarle, ob. 1670, at. 62.

1661 .- A treaty between the Dutch and Portuguefe .- A treaty of commerce between Great Britain and Sweden, at Whitehall, Oct. 21.—Bombay yielded to the English by Portugal.—Hevelius observed the obliqui-Englin by Tottagat.—Trevenus observed the conqui-ty of the ecliptic to be 23° 25′ 7″.—A comet appeared —its perihelion Jan. 17, 11° 19′ A. M.—afcending node II 22° 30′ 30″—inclin. 32° 35′ 50″—direct.— Franking letters began; abridged in 1764 and 1775.— Sir John Marsham, ob. 1685, at. 83. 1662.—Dunkirk restored to the French.—The Royal So-

ciety established, July 15 .- Samuel Butler, ob. 1680,

æt. 68.

1663.-The Royal Academy of Inscriptions and Belles-lettres, established at Paris. - The Portuguese deseated the Spaniards near Evora .- The Turks took Newhafel, in Hungary, Sept. 17, O.S.-Profilia declared to be independent on Poland. - Charles le Brun, ob.

1690, æt. 71.

1664 .- War between the English and Dutch .- A treaty between the French king and the pope at Pisa, Feb. 2, O.S .- The French defeat the Turks in Hungary, July 22.—The observatory at Paris founded.—The treaty of Temeswar, Sept. 7.—The battle of St. Godart, July 22.—The academy for sculpture established in France, Aug. 31 .- A comet appeared-its perihelion, Nov. 24, 11h 52' P.M.—afcending node II, 21° 14' - inclin. 21° 13' 30"—retrograde.—Englifli clergy religned the power of taxing themselves in their convocation .- Lewis Maimbourg, ob. 1686, at. 77.

1665 .- War between France and England .- A comet appeared - its perihelion April 14, 5h 15' P.M. - af-cending node nt 18° 2'-inclin. 76° 5'-retrograde. The English defeated the Dutch sleet near Harwich, June 3.—The plague raged in London.—The magic lanthorn invented by Kircher.—The Portuguele defeated the Spaniards at Villa Viciofa, June 7, O.S .- Rulph

Cudworth, ob. 1688. xt. 71.

1606—An engagement between the English and Dutch sheets near Dunkirk, June 1, 4.—The English deseat the Dutch sleet near the Thames, July 25 and 26.— A fire broke out in London, Sept. 2, which extended to 600 ffreets, confumed 13,200 houles, &c. &c.-A settlement in Antigua by the English .- War declared between England and Denmark .- The Academy of Sciences established in France .- Giles Mcnage, ob. 1692, æt. 79.

1667 .- A treaty of commerce between Great Britain and Spain,

Spain, May 23 .- The peace of Breda, July 31, between Great Britain and France, and also with Holland .- War renewed between France and Spain .-

Charles de St. Evremond, ob. 1703, æt. 90.

1668.—A commercial treaty between Great Britain and Holland, at the Hague, Feb. 17.—The triple alliance of Great Britain, Sweden, and the States General, against France, Jan. 23 .- Peace between Spain and Portugal, after 26 years of war, Feb. 3, O.S.—The peace of Aix-la-Chapelle, between France and Spain, April 22, O.S.—Benedict de Spinofa, ob. 1678, æt. 44.

1669 .- The ifle of Candia taken by the Turks, Sept. 6, O.S .- The commercial treaty of Florence, between Great Britain and Savoy, Sept. 19 .- Huygens, ob.

1695, æt. 66.

1670.-The commercial treaty of Copenhagen, between Great Britain and Denmark, July 11 .- The peace of Madrid, between Great Britain and Spain, July 18 .-Peace between the duke of Savoy and the republic of Venice.-Mengoli observed the obliquity of the ecliptic to be 23° 28' 24" .- Hevelius discovered a new flar, July 15, which foon disappeared, and was again visible in 1672 .- Hevelius observed Saturn in opposition to the fun, at Dantzick, Sept. 8, 8h 56' P. M .- Sir Christopher Wren, ob. 1723, at. 91. 1671.—Caslini discovered four of Saturn's fatellites in the

course of a few years.- Isaac Barrow, ob. 1677, æt.

1672 .- A comet appeared-its perihelion Feb. 20, Sh 37' P. M.-ascending node 19 27° 30' 30"-inclin. 83° 22' 10"-direct. - Richer observed the obliquity of the celliptic to be 23° 28' 54".—The vernal equinox was observed at Paris, March 19, 7" 4t'.—War declared by France against Holland, April 6.—England declared war against Holland, March 17 .- War between the Turks and Poles .- A treaty between the Empire and Holland against France, July 15, O. S .- A bloody engagement between the English and Dutch sleets, in Solebay, May 28.—Louis XIV. overruns great part of Holland, after having taken Utrecht, June 10.—The prince of Orange is made Stadtholder, and J. de Wit put to death, Aug. 12 .- Sir W. Temple, ob. 1700. at. 7

1673 .- The English and French defeat the Dutch fleet. May 28, June 14, and Aug. 11 .- The king of France declares war against Spain, Oct. 9, O. S .- The Poles defeat the Turks, near Choczim, Oct. 31 .- René

Rapin, ob. 1687, æt. 66.

1674.- A treaty between Great Britain, Holland, and Spain, at Westminster, Feb. 19 - Sicily revolted from Spain.—A battle between the prince of Condé and the prince of Orange, at Leneff in Flanders, Aug. 1, O. S .- The first establishment of the French in the East Indies.-The Academy of Soissons established .-Turenne defeats the Imperialits at Ensheim, Sept. 24, O. S .- Turenne defeats the Imperialits at Mulhaufen, Dec. 10, O. S .- Turenne defeats the Imperialitis at Turkeim, Dec. 27, O. S .- A treaty between Great Britain and Holland, at Lordon, Drc. 11 .- Dr. Thomas Sydenham. ob. 1689, at. 66.

1675.—A conference for a peace at Nimeguen.—War between Sweden and Denmark.—Turenne paffed the Rhine, and opposed by Monteculi.-The Prussians defeat the Swedes at Fehrbellin, June 8, O. S .- The battle of Altenheim, July 22, O. S .- A treaty between

Great Britain and Holland, at the Hague, Dec. 30.

-Robert Boyle, ob. 1691, 2t. 65.

1676 .- Carolina planted by English merchants .- The king of France declares war against Denmark, Aug. 28. -The French defeat the fleet of the allies at Palermo, May 23, O. S .- The Royal Observatory at Greenwich built .- Samuel Puffendorf, ob. 1694, æt. 63.

1677 .- The commercial treaty of St. Germain, between Great Britain and France, Feb. 24th .- The French defeat the prince of Orange near Cassel, April 1, O. S .- The Protestants revolt in Hungary .- A comet appeared-its perihelion, April 26, c° 37' P. M .- afcending node 111 26° 49' 10"-inclin. 79' 3' 13"-retrograde.-M. de Navailles defeats the Spaniards feveral times .- The micrometer was invented by Kirch .- The Swedes defeat the Danes at Landscroon, Dec. 4, O.S.-Carlo Maratti, ob 1713, æt. 88.

1678 .- A strange darkness at noon-day, Jan. 12 .- The defensive alliance of Westminster, between Great Britain and Holland, March 3.—The prace of Nimeguen, between France and Holland, July 31, O. S.—Peace between France and Spain, Sept. 17. - The Tartars attack the Russians. - A comet appeared-its perihelion, Aug. 17, 2h 3' A. M.—afcending node me 11° 40'—inclin. 3° 4' 20"—direct.—The popular plot difcovered by Oaks, Sept. 6 .- Daniel George Morhoff,

ob. 1691, xt. 53.

1679 .- The long parliament of England diffolved, Jan 25. -The peace of Nimeguen, between France and Germany, figned Jan. 26, O.S.—The bill of exclusion first read in parliament, May 15 .- Peace between Sweden and Denmark, after a war of four years, Aug. 23, O.S. -The meal-tub plot in England, Oct. 23. - An engagement between the English and Moors, which latted eleven days, at Tangier, Nov. 7 .- John de la Bruyere, ob. 1696, 2t. 57.

1680 .- The first establishment of the French in the East Indies .- The anatomy of plants made known by Grew .- Charles XI. declared absolute by the states of Sweden .- A comet appeared -- its perihelion, Dec. S, o 6' P. M .- afcending node 15 2° 2'-inclin. 60° 56' -direct .- Lord Strafford beheaded for high treason. -

John de la Fontaine, ob. 1695, at. 74.

16S1 .- Contells between the king of England and parliament. -Penny post in London began -established by government in 1711-pollage advanced to 2d. in 1801 .-Sir George Mackenzie, ob. 1691, at. 53 .- James, duke

of Monmouth, ob. 1683, æt. 36. 1682.—The Royal Academy of Nilmes chablished.—A comet appeared—its perihelion Sept. 4, 7h 39' P.M.—afcending node 8 21° 16' 30"—iaclin. 17° 56'—retrograde.—The autumnal equinox observed at Pariz, Sept. 22, 6h 34'.—Bouhours, ob. 1702, at. 74.—Marthal Schamberg, ab. 160 Marshal Schomberg, ob. 1690.
1683.—The Rye house Plot discovered, June 14.—A comet

appeared—its perihelion, July 3, 2h 50' P. M.—af-cending node ng 23° 23'—inclin. 83° 11'—retrograde. -Vienna belieged by the Turks .- Lord Ruffel beheaded, July 21st .- John Dryden, ob. 1701, 2t. 70.

1684.-A truce between France and Spain.-A league between Venice and Poland against the Turks .- The duke of Lorraine defeated 150,000 Turks at Weitzen, June 17, O. S .- Framtlead observed Saturn in apposition to the sun, at Greenwich, Feb. 19, 5° 10' A. M. —A conset appeared—its perihelion, May 29, 16° 16' P. M.-ascending node \$ 28° 15'-inelin. 65° 48' 40' - direct.

-direct .- Racine, ob. 1699, æt. 60 .- George Savill,

marquis of Hallifax, ob. 1695, æt. 62.

1685 .- The edict of Nantes revoked Oct. 12, O.S .- Infurrections in England and Scotland .- Duke of Monmouth defeated in the battle of Sedgemore, July 6. -Charles II. dies, Feb. 6, æt. 55.-Marshal de Vauban, ob. 1707, æt. 74.-N. Boileau Despreaux, ob.

1711, æt. 75. 1686 .- The Newtonian philosophy published .- An embasty from the king of Siam to Lewis XIV .- The grand alliance of Germany, Great Britain, and Holland, against France, at Vienna, May 12 .- A convention of Great Britain and Holland against France, at London, Aug. 22 .- The league of Augsburg against France, July 11, O. S .- A comet appeared-its perihelion, Sept. 7, 2h 33' A. M.—afcending node \times 20° 34' 40"—inclin. 31° 21' 40"—direct.—Humphrey Prideaux, ob. 1724, æt. 77.

1687 .- The kingdom of Hungary declared to be hereditary in the house of Austria .- John George Gravius, ob.

1688 .- Smyrna destroyed by an earthquake, July 10 .- The revolution in England begins, Nov. 5.-France de-clares war against Holland, Nov. 23, O. S.-King James abdicates, and retires to France, Dec. 23 .- A revolution in Siam .- P. Bayle, ob. 1706, æt. 59.

1689.- King William and queen Mary proclaimed, Feb. 16. - James II. landed in Ireland with an army.—The emperor declares war against France.-France declares war against Spain and against England. - The French fleet defeated at Bantry-bay, May 1 .- The grand alliance between the emperor, king William, and the States-general, concluded at Vienna, May 12 .- King William defeated at Killickrankie, July 27 .- Episcopacy abolished in Scotland, July 22 .- Falkland islands discovered .- A treaty between Russia and China .-Louis XIV. declares war against Holland .- A conjunction of Venus with the fun observed at Paris, June 26, 8" 14' A. M .- The Imperialifts defeat the Turks, near Patochin, Aug. 30, and Sept. 24.- John Locke, ob. 1704, æt. 70.

1600. - Peace between the czar of Moscovy and the emperor of China .- The French defeat the English and Dutch fleets off Beachy-head, June 30, O. S.—The French defeat the allies at Fleurus, June 21.—King William defeats James II. at the Boyne, July 1, O. S.—Edward Stillingfleet, bishop of Worcester, ob. 1699,

æt. 64.

1691. - The congress at the Hague, Jan. - Mons taken by the French, March 30, O. S .- The battle of Aghrim in Ireland, July 12. - Limerick furrenders Oct. 3, which finishes the war in Ireland .- The Turks defeated by the Imperialists, Aug. 9, O.S.-A treaty of union between Sweden and Denmark .- 12,000 Irish catholies transported to France.-Flamstead observed the obliquity of the ecliptic to be 23° 28' 32" .- Archbishop Tillotfon, ob. 1694, æt. 65.

1692 .- The fea-fight off la Hogue, May 19, in which the English defeat the French fleet .- The French beliege Namur, and take it, May 25.—The maffacre of Glencoe, in Scotland, Jan. 31.—Luxembourg defeats the English at Steinkirk, July 24.—The duchy of Hanover made the oth electorate of the empire. - Earthquakes in England and in Jamaica, Sept. 8 .- Gilbert Burnet,

bithop of Salifbury, ob. 1715, æt. 72. 1603. – The French defeat the English and the Dutch fleets Vol. VII.

off cape Vincent, June 16 .- The order of St. Lewis instituted in France.-Luxembourg defeats the allies at Landen, July 19 .- The battle of Marfiglia, Sept. 24.-Boffuet, bishop of Meaux, ob. 1704, æt. 78.

1694.- The bank of England incorporated .- Messina destroyed by an earthquake. - Huy taken, Sept. 18 .- The Poles defeat the Turks at Niester, Sept. 26 .- Queen Mary dies, Dec. 28, at. 33 .- Sen. Vinc. de Filicaia, ob. 1707, æt. 65 .- Mad. de Maintenon, ob. 1719, æt.

1695.—War between the allies and the Ottoman Porte.— The allies take Namur, July 25.—Cafal taken by the duke of Savoy, May.—The vote for a new coinage, Dec. 10 .- Nicholas Malebranche, ob. 1715.

1696 .- The Affaffination plot discovered, July 14 .- Peter I. czar of Muscovy, takes Azoph, July 19 .- Cassini, ob.

1712, æt. 87.

1697.-Carthagena taken by the French, May 26.-The Imperialists defeat the Turks in the battle of Zentha. Sept. 1 .- The peace of Ryfwick, Sept. 11, between Great Britain and France-France and Holland-France and Spain .- Oct. 20, between France and the empire.-Henry Dodwell, ob. 1711, æt. 70.

1608 .- The first treaty of partition figured Aug. 19, between France, Great Britain, and Holland .- A comet appeared—its perihelion, Oct. 9, 4^h 57^l A. M.—alcending node ‡ 27° 44^l 15"—inclin. 11° 46'—retrograde—James Gronovius, ob. 1716, xt. 71.—Penfionary

Heinfius, ob. 1720, æt. 79.

1699.—The peace of Carlowitz, Jan. 16, between Poland, Venice, and the Ottoman Porte.—A comet appeared -its perihelion, Jan. 3, 8h 22' P. M .- afcending node 21° 45' 35"-inclin. 60° 20'-retrograde.-The Scots attempt an establishment on the coast of Darien. -A league between Denmark, Poland, and Ruffia, against Sweden .- The Dutch guards fent to Holland. -Dr. W. Lloyd, bishop of Worcester, ob. 1717, 21.

1700 .- The Dutch, and the Protestants in Germany introduce the new flyle, omitting the last eleven days of February .- The Spanish monarchy transferred to the house of Bourbon. - The second treaty of partition, figned at Landen, March 3, and at the Hague, March 25 .- A severe bill against the Papists in England .- A conjunction of Venus with the fun, observed at Paris. Sept. 2, 11h 20'4P. M .- A treaty between Denmark, Sweden, and Holstein, Aug.—The Swedes defeat the Russians, at Narva, Nov. 20.—Mad. Dacier, ob. 1720, æt. 69.

The EIGHTEENTH CENTURY of the Vulgar Christian Æra.

1701 .- The first king of Prussia crowned, Jan. 7 .- An academy of sciences founded at Berlin .- An alliance between Germany, England, and Holland, against France, at the Hague, Sept. 7 .- A league between France, Spain, and Portugal, against the allies .- Sir

Ifaac Newton, ob. 1727, at. 85.

1702 .- A comet appeared-its perihelion March 3, 2h 12' A. M.—ascending node $\simeq 9^{\circ}$ 25' 15"—inclin. 4° 30'—direct.—War declared in England, Germany, and Holland, against France, May 4.- The French defeat the Imperialits at Luzara, Aug. 4.—Landau furrendered to the Imperialits, Aug. 50.—Venloo furrendered to the allies, Sept. 25.—The English and Dutch deltroy the French sleet, &c. in the port of Vigo, O. 12.—The French fend colonies to the Missippi. 51

-An engagement between the English and French fleets in the West Indies, Aug. 19.—King William dies March 8, at. 52.—Prince Engene of Savoy, ob. 1736, æt. 73 .- Fenelon, bishop of Cambray, ob. 1715,

1703 .- Portugal cedes to the league against France and Spain, May 5 .- Bianchini observed the obliquity of the ecliptic to be 23° 28' 25" .- The foundation of Petersburg laid .- A dreadful tempest in England, Nov. 27 .- Godfrey William Leibnitz, ob. 1716, æt. 70.

1701 .- Marlborough defeats the Bavarians at Schellenburg, July 2 .- Gibraltar taken by admiral Rooke, July 24. -The battle of Hochitet or Blenheim, Aug. 2, in which the allies defeat the French .- Narva taken by the czar of Muscovy, Aug. 10.-The sea-fight off Malaga, Aug. 13, in which the English defeat the French fleet .- Flamstead observed Saturn in opposition to the fun, at Greenwich, Oct. 25, 12h o' P. M.— Landau taken by the allies, Nov 23.—Huet, bishop of Avranche, ob. 1721, æt. 91 .- John, duke of Marlborough, ob. 1722, æt. 73.

1705 .- The English defeat the Spanish sleet off Gibraltar, March 21 .- Marlborough forced the French lines in Brabant, July 18 .- Prince Eugene defeated at Cassano by the duke of Vendome, Aug. 5 .- The English reduce Barcelona, Aug. 22 .- Sir Godfrey Kneller, ob.

1723, æt. 77. 1706.—Marlborough defeats the French at Ramillies, May 12, and afterwards takes Bruffels, Louvain, Bruges, Ghent, Oftend, Menin, &c.—The allies become mafters of Carthagena, June 13.—The articles of Union between England and Scotland figned, July 20 .- Prince Eugene defeats the French at Turin, Aug. 27 .-Peace between Sweden and Poland, Sept. 13 .- A comet appeared—its perihelion Jan. 19, 4h 56' P. M. -ascending node ng 16° 22'—inclin. 18° 20' 45" direct .- John Flamstead, ob. 1723, at. 77.

1707 .- The articles of Union ratified by the Scottish parliament, Jan. 16 .- The allies defeated by the French at Almanza, April 14 .- A treaty between the emperor and the king of Sweden in April.—The emperor feizes the kingdom of Naples.—The king of Prussia declared fovereign of Neufchatel, Nov. 3 .- A conspiracy in Geneva .- A comet appeared-its perihelion Dec. 1, 11h 43' A. M.—ascending node & 22° 50' 29"—inclin. 88° 37' 40"—direct.—Andrew Dacier, ob. 1722, æt.

71. 1708.—Marlborough and Eugene defeat the French at Oudenarde, June 30 .- The Mufcovites defeated by the king of Sweden at Holowazen in July .- The allies become masters of Sardinia, Aug. 4.—Minorca taken by general Stanhope, Sept. 18.—Liste furrendered to the allies, Oct. 12.—Ghent taken by Marlborough, Dec. 30.—Jo. Vincent Gravina, ob. 1718, at. 50. 1709.—The Ruffians defeat the Swedes at Pultowa, June

27 .- The allies take Tournay, July 30 .- The allies defeat the French at Malplaquet, Aug. 31.—The allies take Mons, Oct. 21.—Dr. R. Bentley, ob. 1742, æt. 80 .- Marshal Villars, ob. 1734, æt. 82

1710. - Sacheverel fentenced by the parliament of England, March 23 .- Douzy taken by Marlborough and Eugene, June 15 .- The Spaniards defeated by the allies at Almenara, July 27: again at Saragossa, Aug. 9 .-The Academy of Lyons established .- The English defeated by the duke de Vendome at Brihwega, Dec. 9, when general Stanhope was taken prifoner. The

battle at Villa Viciofa, Dec. 10 .- The Spaniards were defeated by Staremberg .- Dr. Hare, bishop of Chichefter, ob. 1740, at. 70 .- R. Harley, earl of Oxford,

ob. 1724, æt. 63.

1711 .- Gironne taken by the duke de Noailles, Jan. 23 .-War declared by Peter, emperor of Russia, against the Turks, March 8; a battle of 3 days between the Turks and Russians .- Bouchain taken by Marlborough, Sept. 13 .- Joseph Addison, ob. 1719, at. 48. -Henry St. John, lord Bolingbroke, ob. 1751, at.

73. 1712.—The English defeated by Vilars at Denain, July 13, who takes Douay, Sept. 8 .- Negotiations for a general peace began at Utrecht .- Sir R. Steele, ob.

1713 .- A treaty of peace and commerce between Great Britain and Holland, at Utrecht, Jan. 29 .- Peace between Ruffia and the Ottoman Porte.-A treaty between Great Britain and Spain, at Madrid, March 26.—Peace between Great Britain and France, at Utrecht, April 11; between France and the duke of Savoy, April 11; between France and Portugal, April 11; between France and Prussia, April 11; between France and the States-General, April 12; between Great Britain and Spain, July 13; and treaty of commerce between them, Dec. 9 .- Matthew Prior,

ob. 1721, æt. 57. 1714.—The bull Unigenitus received in France.—The opposition of Saturn to the fun observed at Paris, Feb. 26, 8h 15' P.M .- The treaty of Rastadt between France and Germany, March 6.—The interest of money fixed in England at 5 per cent.—The king of Spain takes Barcelona, and Cordova.—The treaty of Baden between France, Germany, and Spain, Sept. 7 .- War declared by the Turks against Venice, Dec. 7 .- The accession of George, elector of Hanover, to the kingdom of Great Britain, Aug. 1, when queen Anne dies, at. 50 .- Francis Atterbury, bishop

of Rochefter, banished 1723, ob. 1732, æt. 70.

1715 .- A conjunction of Venus with the fun observed at Paris, Jan. 26, Sh 19' P.M .- Louville observed the obliquity of the ecliptic to be 23° 28' 24".-The treaty of Utrecht between Spain and Portugal, Feb. 13.—A rebellion in Poland.—The Turks conquer the Morea .- The barrier treaty of Antwerp between Germany and Holland, Nov. 15.—The battle of Preston-pans, between the king's forces and the rebels Nov. 13; the battle of Dumblain, or Sheriff-muir, between the same, Nov. 13 .- The Pretender lands near Aberdeen, Dec. 22 .- Louis XIV. dies Aug. 21, æt. 77 .- John Hardouin, ob. 1729, at. 83 .- John, duke of Argyle, ob. 1743, xt. 61.

1716 .- The alliance of Westminster between Great Britain and Holland, Feb. 6.—The rebellion in Scotland suppressed, April 26.—The alliance of Westminster between Great Britain and Germany, May 25 .- War declared between the Germans and Turks .- The Turks invade the island of Corfu; they are defeated by prince Eugene at Peterwaradin, July 25.—John Le Clerc, ob. 1736, at. 79 .- Philip, duke of Or.eans, re-

gent of France, ob. 1723, æt. 51.

1717 .- The triple alliance between Great Britain, France, and Holland, at the Hague, Dec. 24 .- L'Enfant, ob. 1728, at. 68.—Cardinal Alberoni, the Spanish minister, disgraced 1719, ob. 1752, æt. 88.

1718 .- Charles XII. attempts the conquest of Norway .-

The English defeat the Spanish flect near Syracuse, July 31.—The treaty of Passarowitz, between the Germans, Veuetians, and Turks, July 21.—The quadruple alliance, between Germany, Great Britain, France, and Holland, Aug. 2. To this treaty the king of Sardinia acceded, Nov. 8.—Great Britain declares war againt Spain, Dec. 22.—A comet appeared—its perihelion Jan. 4, 1h 15' P.M.—afcending node & 7" 5.5' 20"—inclin. 316 12' 53" retrograde.—Abbe Vertot, ob. 17,35, at. 80.—Earl Macclessield, lord chancellor, ob. 17,32, at. 66.

1710.—The Spanish troops evacuate Sicily.—Peace between Spain and Great Britain, June 26.—Peace between Poland and Sweden; between Hanover and Sweden, at Stockholm, Nov. 20.—The battle of Franca Villa, June 9.—Vigo taken by lord Cobham, Oct. 10.—The Miffilippi feheme at its height in France, in November and December.—John Law, comptroller-general of finances, ob. 1729, mt. 58.—Dr. John

Friend, ob. 1728, æt. 53.

1720.—An offensive and defensive league between Sweden and England, Jan 21.—Peace between Sweden and Pruffia, at Sreckholm, Jan. 21.—The South Sea feheme begins April 7, and ends Sept. 29.—Peace between Sweden and Denmark, June 3.—A great earthquake in China. June 11.—The Mifflippi company in France diffolved, June 27.—Pestilence in France.—The kingdom of Sardinia ceded to the duke of Savoy, Aug. 7.—Bernard de Montfaucon, ob. 1741, at. 86.

1721.—A treaty of peace between Great Britain and Spain, at Madrid, June 13.—A defensive alliance, between Great Britain, France, and Spain, June 13.—A treaty of peace between Sweden and Ruffia, at Nysladt, Aug. 19.—Dr. Samuel Clarke, ob. 1729, xt. 54.—Sir Robert Walpole, earl of Orford, ob. 1745, xt.

71.

1722.—Peace between the English and Moors, Aug. 12.

—A great revolution in Persa, Oct. 12.—The czar
of Muscovy assumed the title of emperor of Russia.

Roggewein makes discoveries in the Pacific ocean.—
The Christians and Jesuts banished out of China.—
The autumnal equinox observed at Paris, Sept. 23, 10^h
20^s A.M.—Dr. Jonathan Swift, ob. 1745, 22, 28, 28

1713.—A comet appeared—its perihelion, Sept. 17, 4^h 10' A.M—afcending node

γ 14° 16'—inclin. 49° 56'
—retrograde.—Dr. Edmund Halley, ob. 1742. æt.

82.

1724 — An earthqua'te in Denmark. — Protesiants perfected in France. — An Academy of Sciences ellabilified at Peterfiburg. — Philip V. refigns his kingdom to his fon Lewis, Jan. 15, who reigns about one year and two months. — John Albertus Fabricius, ob. 1736, æt. 67. — Duke de Riperda, the Spanish minister, disgraced 1726, ob. 1737.

1725.—The treaty of Vienna, between the emperor and the king of Spain, April 31.—War between the Perfians and Turks.—The treaty of Flanover between Great Britain, France, and Pruffia, against Germany and Spain, Sept. 3; acceded to by Holland and Sweden.—Dr. John Arbuthnot, ob. 1735.—Cardinal

Fleury, French minister, ob. 1743, æt. 90. 1726.—The value of current coins fixed in France, in June.—An earthquake at Palermo, Aug. 21.—Her-

mann Boerhaave, ob. 1738, æt. 70.

1727.—The treaty of Copenhagen between Great Britain,

A.D.

Denmark, &c., April 16.—The Spaniards beliege Gibraltar, May 20.—Peace between Perfia and the Ottoman Porte.—The aberration of the fixed flars differenced and accounted for by Bradley.—The fiege of Gibraltar begun by the Spaniards, May 20th, and continued till April 1728.—King George I. dies June 11, ac. 68.—Dr. Edward Chandler, bifhop of Durham, ob. 1750, ac. 83.

1728.—The treaty of Westminster, between Great Britain and Holland, May 27.—The congress of Soissons, June 14.—The university of Holstein founded.—A colony of Danes passed into Greenland.—A great burning in Copenhagen.—An earthquake in China, Sept.—Cardinal Polignac, ob. 1741, at. 80.—Sir R. Temple,

lord Cobham, ob. 1749, æt. 74.

1729.—A comet appeared—its perihelion, June 12, 6h 36'
P. M.—afcending node am 10° 35' 15"—inclin. 77°
1'58"—direct.—The treaty of Seville, between Great
Britain, France, and Spain, Nov. 9.—Dr. Edmund
Gibson, bishop of London, ob. 1743, at. 79.

1730.—War between the Ottoman Porte and Persia.—An earthquake in China.—A revolution at Constantinople, Sept.—The usurpation of the Afghans in Persia ended.—The Persians under Kouli-Khan gain a fignal victory over the Turks.—Dr. Benj. Hoadly, bishop

of Winchester, ob. 1761, æt. 85.

1731.—A treaty between the king of Great Britain and the emperor at Vienna, March 16.—A new treaty between the emperor, and the kings of Britain and Spain, at Vienna, July 22.—A treaty of union and defensive alliance between the electorates of Saxony and Hanover, at Dresden, Aug.—A great earthquake at Naples.

—Alexander Pope, ob. 1741, xt. 80.

1732.—The Spanish sleet defeated the Moors on the coast of Barbary, Junc 20.—The summer solitice observed at Paris, June 21, 7h 28' 30" A. M.—The Pragmatic fanction consirmed by the diet of the empire, Jun. 11.

-Charles Rollin, ob. 1741, æt. 80.

1733.—The Jesuits expelled from Paraguay, Jan.—A double election of a king in Poland.—A war between France and Germany.—A treaty between the kings of France, Spain, and Sardinia.—Abbé du Bos, ob. 1742, at. 72.—Charles lord Taibot, Jord chancellor, ob.

1737, iet. 54.

1734.—A battle between the Perlians and Turks at Babylon, Feb.—The French defeat the Imperialits at Parma, June 18.—Philipfburg furrendered to the French, July 7.—The city of Dantzie fubmitted to Augultus, July 10.—The battle of Gualdalla on Sunday, Sept. 19, in which the king of Sardinia defeats the Imperialits.—A commercial treaty between Great Britan and Ruffia, Dec. 2.—Bernard de Fontenelle, ob. 1756, at. 100.—W. Pultency, earl of Bath, ob. 1764, at. 81.

1735.—A treaty-of alliance between Denmark and Sweden.—The Perfians entirely defeat the Turks, May 20.—The Frenchandtheir allies fuceced against the Imperialnits in Italy.—The preliminaries of peace between France and Austria figured at Vienna, Oct. 3.—Dr. Thomas Sherlock, bishop of London, ob. 1761, at. 84.

1736.—Peace between Spain and the house of Austria.—
War between the Russians and Turks.—Kouli Khaa
makes peace with the Turks, and is proclaimed king
of Persia, by the title of Schah Nadir, Sept. 29.—
Cassini observed the transit of Mercury over the sun's
disk, at Thury, Nov. 11, 10° 43' A.M.—Dr. George
Berkeley, bishop of Cloyne, ob. 1753, 21. 73.

Lo

1737 .- A comet appeared-its perihelien, Jan. 19, 8h 20 P. M .- ascending node, mg 16° 22'-inclin. 18° 20' 45"-direct .- The emperor, in alliance with Ruffia, declares war against the Turks, July 2 .- A dreadful hurricane at the mouth of the Ganges, Oct. 10 .- Colin Maclaurin, ob. 1746, æt. 48 .- Philip earl of Hardwicke, lord chancellor, ob. 1764, æt. 74. 1738.—The Rushians invade Crim Tartary.—The order of St.

Januarius instituted at Naples .- A treaty between the emperor and the French king, at Vienna, Nov. 18 .- The autumnal equinox observed at Paris, Sept. 23, A.M .- the fun's apogee in 5 8° 19' 8" .- James Thomson, ob. 1748, at. 48 .- Lord president Forbes,

ob. 1747, æt. 62.

1739 .- Schah Nadir becomes mafter of the empire of Moguls .- A treaty between Great Britain and Denmark, in May .- A comet appeared - its perihelion, June 6, 10 b o' P. M.—afcending node, γ 27° 25′ 14″—inclin.
55° 42′ 44″—retrograde.—The Ruffians defeat the Turks at Choczim, Aug. 8.—Peace between Germany and the Ottoman Porte, Aug. 21—between Ruffia and the fame, Nov .- War declared between England and Spain, Oct. 23 .- Admiral Vernon took Porto-Bello, Nov. 21.-A treaty between France and Holland, at Verfailles, Dec. 21 .- An intense frost in Britain .-Dr. Joseph Butler, bishop of Durham, ob. 1752, æt.

1740.-War between Poland and Hungary.-Peace between the Perfians and Turks, Oct .- The emperor Charles VI. dies, Oct. 9, which begins the general war in Germany, that continues 8 years.—Henry Fielding, ob. 1754, æt. 48.—Arthur Onflow, ob. 1768, æt.

the Imperialists, March 30 .- War between the Ruffians and Swedes .- Vernon takes Carthagena, June 19. —The Prussians become masters of Silesia, Oct. 20.—A revolution in Russia, Dec. 6 .- Charles de Secondat baron Montesquieu, ob. 1755, æt. 67 .- Frederick prince

of Wales, ob. 1751, æt. 44.

1742 .- A comet appeared-its perihelion, Jan. 28, 4h 21' P. M.—ascending node, \(\text{\pi} 5\sigma 34' 45"\)—inclin. 67° 4' 11"—retrograde.—The battle of Czaslaw, between the Prussians and Austrians, May 6 .- Peace between Auttria and Pruffia.-The Auftrians befiege Prague, Aug. 16-Dec. 16.-A defensive alliance between Great Britain and Pruffia, at Westminster, Nov. 18 .-A comet appeared-its perihelion, Dec. 31, 9h 15' A. M.-ascending node, II 8° 10' 48"-inclin. 2° 15 50"-direct .- Dr. Stephen Hales, ob. 1761, at. 82.

1743.-War between Persia and the Ottoman Porte.-The battle of Campo Santo, Jan. 17, between the Spaniards and Austrians.—The battle of Dettingen, June 16, in which the allied army defeats the French .- A treaty of defensive alliance between the king of Great Britain and the empress of Russia, Feb.—A dreadful plague in Sicily, May .- War in Germany between the Hungarians, British, French, and Austrians .- Peace between Russia and Sweden at Abo, Aug. 17 .- A comet appeared-its perihelion, Sept. 10, 9h 16' A.M.-afcending node, 9 5° 16' 25"-inclin. 45° 48' 21"-retrograde .- An alliance between Great Britain, Hungary, &c. at Worms, Sept. 13 .- The alliance of Mofcow, between Great Britain and Ruffia, Dec. 11. -G. Frederick Handel, ob. 1759, at. 56.

1744.- A comet appeared-its perihelion, Feb. 19, 8h 17'

P. M .- afcending node, & 15° 45' 20"-inclin. 47° 8' 36"-direct .- The French attempt to invade Britain defeated, Feb. 24 .- A fea-fight off Toulon, bctween the French and English fleets, Feb. 22 .- War of Great Britain against France declared, 31 .- War of Hungary and France declared, April 17 .- Siege and furrender of Menin, June.-Prague taken by the king of Prussia, Sept. 16 .- Friburgh furrendered to the French, Nov. 1 .- Commodore Anfon arrives at St. Helens, after having completed his voyage round the world.—Dr. James Bradley, ob. 1762, æt. 70.—Henry Pelham, English minister, ob. 1754, æt. 00. 1745.—The quadruple alliance of Warsaw, between Great

Britain, Austria, Holland, and Poland, Jan. 8 .- The French defeated by the Austrians at Pfaffenhofen, April 4 .- The battle of Fontenoy, between the French and allies, April 30 .- Schah Nadir defeats the Ottoman army at Erzerum in May .- The Pruffians defeat the Austrians at Striegau, June 4 .- The French took Tournay, June 8-Ghent, June 12-Bruges, July 18 -Oudenarde, July 21-Dendermonde, Aug. 12-Oftend, Aug. 23-Newport, Sept. 5-Aeth, Oct. 9. -The English become masters of Louisbourg and Cape Breton, June 6 .- The rebellion in Scotland begins in July .- The Prussians defeat the Austrians at Sohr, Sept. 19 .- The rebels defeat the king's army at Prefton-pans, Sept. 21 .- The king of Sardinia almost stripped of his dominions by the Spaniards, Oct .- The treaty of Dresden, between Prussia, Poland, Austria, and Saxony, Dec. 25 .- Carlifle taken by the duke of Cumberland, Dec. 30 .- Dr. Convers Middleton, ob. 1750, æt. 67 .- Count de Saxe, marshal of France, ob. 1750, æt. 54.

1741. The battle of Molwitz, in which the Pruffians defeat 1746. The rebels defeat the royal forces at Falkirk, Jan. 17.-Peace between Persia and the Ottoman Porte in Jan .- Count Saxe takes Bruffels, Feb. 20, and foon after Antwerp.-The royal army defeated and difperfed the rebels at Culloden, April 16 .- The defenfive alliance of Petersburg, between Austria and Russia, May 22 .- The prince of Conti takes Mons, July 10-Charleroi, Aug. 2 .- Count Clermont takes Namur, Sept. 19.—Count Saxe defeats the allies at Roucoux, Oct. 11.—Lima destroyed by an earthquake, Oct. 17 .- William Hogarth, ob. 1764, æt. 67 .- William Augustus, duke of Cumberland, ob. 1765, at. 45.

-The French fleet defeated by Anfon and Warren, May 3 .- A comet appeared-its perihelion, Feb. 17, 11h 45' P. M.—afcending node, \$26° 58' 27"—inclin, 77° 56' 55"—retrograde.—The prince of Orange elected fladtholder of the United Provinces, May 2 .-The defensive alliance of Stockholm, between Prussia, Poland, and Sweden, May 29 — The French defeat the allies at Laffeldt, July 2.—The French fleet defeated by admiral Hawke, Oct. 14. - Bergen op-Zoom taken by the French, Sept. 5.—Kouli-Khan murdered.—A revolution in Perlia.—Jacques Cassini, ob. 1756, æt. 79 .- George lord Anfon, ob. 1762, æt.

1748.—A comet appeared—its perihelion, April 18, 7h 25' A. M.-ascending node, mg 22° 55' 16"-inclin. 85° 26' 57"-retrograde. - A comet appeared-its perihelion, June 7, 1h 24' P. M .- ascending node 8 40 39' 43"—inclin. 56' 59' 3"—direct.—Maettricht taken by the French, May 7.—The peace of Aix-la-Cha-pelle, between Great Britain, France, Spain, Austria, Sardinia, and Holland, Oct. 7 .- Benjamin Robins,

ob. 1751, æt. 44. - Sir John Barnard, ob. 1764, æt.

1749.-Nova Scotia peopled.-A league between the pope, Venetians, &c. against the Corfairs of Algiers and

Tunis .- Pierre Bouguer, ob. 1758, at. 61 .- Philip,

carl of Chesterfield, ob. 1773, æt. 79.

1750. - Two shocks of an earthquake in England, Feb. 8. and March S .- Interest on the public funds reduced to 3 per cent. Feb. 28.—An academy of sciences founded at Stockholm.—The commercial treaty of Madrid, between Spain and Great Britain, Oct. 5 .-Bernard de Belidor, ob. 1761, at. 64 .- Allen, earl Bathurlt, oh. 1775, æt. 91.

1751.-Peace between Spain and Portugal.-Frederic, prince of Wales, dies, March 20, at. 44.-Thomas

Simpson, ob. 1761.

1752 .- The new flyle introduced into Great Britain, Sept. 3 counted the 14th .- N. Louis de la Caille, ob. 1762,

1753. - The British Museum established at Montague-house by act of parliament. - Dr. Edward Young, ob. 1765,

1754 .- A dreadful eruption of Ætna .- A great earthquake at Constantinople, Grand Cairo, &c. Sept. 2.— The French attack an English sleet on Monongahela, &c. on the Ohio, April 17 .- Mr. Wathington intercepts a small body of French, June 1 .- Dr. John Leland, ob. 1766, æt. 75.-John duke of Bedford, ob.

1771, æt. 61.

1755 - War declared between the Dutch and Algerines, April 10 .- Quito in Peru destroyed by an earthquake, April 28 .- Braddock defeated and killed near Fort du Quefne, July 9 .- The French defeated near lake George, Sept. 8 .- A convention between Great Britain and Russia, at Petersburg, Sept. 30 .- Lisbon destroyed by an earthquake, Nov. 1 .- Dr. Thomas Birch, ob. 1766, at. 61 .- Admiral Edward Boscawen, ob. 1761, æt. 50.

1756 .- A treaty between Great Britain and Pruffia, Feb. 16 .- War declared in England against France, May 17 .- An engagement between the English and French ficets off Minorca, May 20.—Blakeney furrendered Minorca to the French, June 28.—Calcutta taken by the viceroy of Bengal, June 20 .- Ofwego taken, Aug. 14 .- Dr. Robert Smith, ob. 1768, æt. 79 .- William Pitt, earl of Chatham, ob. 1778, æt. 70 .- The king of Prussia defeats the Austrians at Lowoschutz,

Oct. 1.

1757 .- Calcutta re-taken, Jan. 2 .- Damien's conspiracy against the king of France, Jan. 5 .- The king of Prussia invades Bohemia .- Chandenagore taken, March 23 .-The battle of Prague, May 6, in which the king of Prussia defeats the Austrians.—The battle of Kollin, June 18, in which the king of Prussia is repulsed by count Daun .- The battle of Plaisty, in the East Indies, June 23.—The battle of Haftenbeck, July 26, in which the French defeat the allies.—The French take Verdun, Aug. 26, and Bremen, Aug. 29.—The convention of Closter-seven, Sept. 8.—A comet appeared -its perihelion, Oct. 21, 7h 55' P. M.—ascending node my 4° 12' 50"—inclin. 12° 50' 20"—direct.—The battle of Rosbeck, Nov. 5, in which the Prussians defeat the French and Austrians .- The Austrians defeat the Prussians near Breslaw, Nov. 22 .- The Prusfians defeat the Austrians at Lessa, Dec. 5 .- The king of Pruffia takes Breslaw, Dec. 21, and becomes

mafter of Silefia .- Dr. Thomas Secker, archbishop of

Canterbury, ob. 1768, at. 75.

1758 .- Minden reduced by prince Ferdinand, March 14 .-A treaty between Great Britain and Pruffia, April 11. -The English take Senegal, May 1.—The French take fort St. David's, June 2.—The French defeated by prince Ferdinand at Crevelt, June 23. Count Daun compelled by the king of Prussia to raise the fiege of Olmutz, July 1.—The English repulsed at Ticonderago, July 8.—The Hanoverians defeated by the French at Sangarhaufen, July 23 .- Louisbourg taken by the English, July 27.—Cherburg taken by British troops, Aug. 8.—The Prussians deseated by the Austrians at Frankfort on the Oder, Aug. 12 .- The Ruffians defeated by the king of Prussia, at Zorndorf, Aug. 25 - The allies defeated by the French at Landwernhagen, Oct. 10 .- The king of Prussia defeated by count Daun at Hockkirchen, Oct. 14 .- The king of Prussia and his generals raise the sieges of Colberg, Neifs, Cofel, Torgau, Leipfic, and Drefden, in October .- The English take fort du Quesne, Nov. 25. - A treaty between Great Britain and Prussia, Dec. 7 .-Goree taken by commodore Keppel, Dec. 29-P. Francis Courayer, ob. 1776, æt. 95 .- General James Wolfe, ob. 1759, at. 33. 1759.—A comet appeared—its perihelion, March 13, 14 50'

A. M .- ascending node 8 23° 45' 35"-inclin. 17" 40' 15"-retrograde.-The French defeated by prince Ferdinand at Bergen, April 13.—Guadaloupe furrendered to the English, May 1 .- Fort Niagara reduced by Sir William Johnson, July 24 .- The French defeated by the allies at Minden, Aug. 1 .- The Ruffians defeated by the king of Prussia, at Cunersdorf, Aug. 12 .- The Jesuits expelled from Portugal, Sept. 3 .-An engagement between the English and French fleets near Pondicherry, Sept. 10 .- General Wolfe defeats the French and takes Quebec, Sept. 17.—Boscawen defeats the French fleet off Gibraltar, Aug. 18.— Hawke defeats the French fleet off Belleisle, Nov. 20. - A comet appeared-its perilielion, Nov. 27, 2h 19' P.M .- ascending node & 19° 39' 24"-inclin. 78° 59' 22"-direct .- Balbec and Tripoli destroyed by an carthquake, Dec. 5. - A comet appeared - its perihe-lion, Dec. 17, 0^h 41' A. M. - afcending node, 118° 65' 10' - inclin. 4° 37' 24''-retrograde. - Dr. Zachary Pearce, bishop, of Rochester, ob. 1774, xt 84. - Hen-

ry Fox, lord Holland, ob. 1774, at. 69. 1760. The English defeated by the French at Quebec, Ap. 28 .- A transit of Venus over the sun, June 6 .-

The French defeated by the allies at Lydorff, July 16. -The Pruffians defeated by the Austrians at Land-flut, June 23 .- The allies defeated by the French at Corbach, July 10 .- The French defeated by the allies at Warbourg, July 31 .- The Austrians defeated by the king of Proffia at Pfaffendorf, Aug. 15 .- The Pruffians defeat the Austrians in Saxony, Aug. 30 .- The English become masters of Montreal, and of Canada, Sept. S .- Berlin taken and plundered by the Austrian and Rustian troops, Oct. 9 .- Earthquakes in Syria, Oct. 13 .- The prince of Brunswick defeated near Rhineberg, Oct. 16. - The king of Proffia defeats the Austrians at Torgau, Nov. 3.—King George 1L. dies, Oct. 25, æt. 77.—Fr. Ar. de Voltaire, ob.

1778, æt. 84. 1761 .- Pondicherry taken by Col. Coote, Jan. 15 .- The French defeat the Hanoverians, &c. near Grunberg,

March 21 .- Belleifle furrenders to the English, June 7 .- The allies defeat the French at Kirchdenckern, July 15 .- A league between France and Spain, Aug. 15 .- The Ruffians defeated at Colberg, Sept. 16. -King George III. married, Sept. 8; crowned Sept. 22. A process against the Jesuits in France. - George Lord Lyttelton, ob. 1773. at. 64 .- Charles Townf-

hend, ob. 1767, æt. 42.

\$762 .- War against Spain, Jan. 3 .- Czarina dies, Jan. 5 .- Martinico furrenders, Feb. 4; Grenada, &c. March 4 .- Peace between Ruffia and Pruffia, March 5.—War between Portugal and Spain, May 23.—A comet appeared—its perihelion, May 29, 3h 10 A.M.—afcending node, 76 19" 23"—inclin. 84" 45"—direct.—War declared by France and Spain against Portugal, June 20 .- The allies defeat the French at Grabenitein, June 24 .- A revolution in Ruffia, July 0.- Havannah furrenders to the English, Aug. 12.-Prince of Wales born, Aug. 12 .- The Jefuits banished from France in August .- Prince Ferdinand defeated by the French at Johannesberg, Aug. 30 .- A battle between the allies and French at Brucher-muhl, Sept. 21 .- Manilla taken by the English, Oct. 6 .-Schweidnitz furrenders to the king of Prussia, Oct. 9 .- Prince Henry defeats the allies at Freyberg, Oct. 29 .- The allies befiege and take Cassel, Nov. 1 .-Peace between Great Britain and France, at Fontainbleau, Nov. 3 .- M. de Condamine, ob. 1774, xt. 74.

1763 .- The peace of Paris, between Great Britain, France, and Spain, acceded to by Portugal, Feb. 10 .- The peace of Hubersburg between Hungary and Prusia, Feb. 15 .- Peace between Pruffia and Poland, Feb. 15.

-The expulsion of the Jesuits from France completed. 1764.—A comet appeared, Jan. 3, 8h P.M.—its ascending node, St. 29° 20' 6"—inclin. 53° 54' 19"—retrograde.

—A treaty between Ruffia and Pruffia, April 15. -Count Stanislaus Poniatowsky unanimously elected king of Poland, Sep. 6 .- Famine and pettilence in Italy .- An earthquake at Lisbon, Dec. 26 .- Monro defeats Sujah Dowlah, at Buxar, Oct. 23 .- Byron makes discoveries in the Pacific ocean .- C. V. Linnæus, ob. 1778, æt. 70.

1765 .- The regency bill passed in England, May 15. -Sujah Dowlah defeated by general Carnac, May 3; and foon after, Bengal established by lord Clive under the British government .- Duke of Cumberland dies, Oct. 31 .- Dauphin dies, Dec. 20 .- Chevalier de St. George dies, Dec. 31 .- Dr. Thomas Rutherforth,

ob. 1771 .- James Stewart, Pretender, ob.

2766 .- A comet appeared, March 8-its afcending node A 4° 10' 50"-inclin, 40° 50' 20"-retrograde. The American stamp act repealed, March 18. An insurrection in Spain compelled the king to leave Madrid, March 25.—A comet appeared, April 8—its afcending node 8 17° 22′ 19"—inclin. 8° 18' 45"—direct.

—A treaty of commerce and navigation between Great Britain and Russia, at Petersburg, June 20.—A great earthquake at Constantinople.—The Jesuits expelled from Bohemia and Denmark. - David Hume, ob. 1776,

1767 .- The Jesuits expelled from Spain, Genoa, and Venice, April 2 .- Martinico almost destroyed by an earthquake .- The Protestants tolerated in Poland, Nov. 2. -Wallis and Carteret make discoveries in the Pacific

ocean .- Jean Jacques Rousseau, ob. 1778.

1768.—The Royal Academy of Arts established in Lon-

don .- The Turks declare war against the Russians. -The Jefuits expeded from Naples, Malta, and Parma,-Act, making the Irish parliament octennial, passed Feb. 3 .- Bougainville makes discoveries in the Pecific ocean .- Violent commotions in Poland .-David Garrick, ob. 1779, æt. 63 .- Robert lord Chive ob. Nov. 22, 1774.

1769 .- First battle of Choezim, April 30; fecond battle of Choczim, July 13; third battle of Choczim, Sept. 17 .- The Ruffian fleet enters the Mediterranean, in December.—Cook makes discoveries in the Pacific ocean.—Paoli fled from Corfica, June 13, which was reduced.—Thou as Gray, poet, ob. July 30, 1771.—Capt. James Cook, ob. Feb. 14, 1779.

The Ruffians defeat the Turks, near the river

Pruth, Aug. 1 .- An earthquake at St. Domingo. -The right of Falkland island fettled .- Bender taken by storm, Sept. 28 .- Oliver Goldsmith, poet, ob. April 14, 1774 .- Edward lord Hawke, ob. Oct. 17,

1771.-An emigration of 500,000 Tourgouths from the coasts of the Caspian sea to the frontiers of China .-Lord Mayor of London committed to the Tower, March 27.—The Turkish sleet burned by the Russians at Cifme, Natolia, July 5.—Dr. Warburton, bishop of Gloucester, ob. July 7, 1779.—John (Dunning) lord Ashburton, ob. Aug. 18, 1783.

1772 .- A revolution in Denmark, when the queen was imprisoned, Jan. 17 .- Augusta, princess of Wales, dies Feb. 8, æt. 53 .- Infurrection at Christianstadt, which ended in a revolution in Sweden, that made the king absolute, Aug. 13, and completed at Stockholm, Aug. 19.—Poland dismembered by the empress of Russia, the king of Prussia, and the house of Austria. -Dr. William Hunter, anatomist, ob. March 15, 1788 .- Sir George Saville, ob. Jan. 1784.

1773 -Cook makes discoveries in the Pacific Ocean, and failed to 71° 10' S. lat .- The order of the Jesuits suppreffed by the pope's bull, Aug. 25 .- Diffurbances in America begin by the destruction of tea on board three floops at Boston, Dec. 18 .- Mons. d'Alembert, ob.

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1774 .- Dr. Franklin's petition dismissed, Jan. 29 .- Literary property determined, Feb. 22.—Grenville's act for elections made perpetual, March 31.—Bofton port-bill paffed, March 31.—Louis XV. dies May 10, at. 64.—Turkish army ruined, June 20.—Peace between the Russians and Turks. July 21.—The ancient parliament of Paris reflored, Nov. 12 .- A comet appeared—its perihelion Aug. 15, 11h 11' P. M.—ascending node ≈ 0° 49'—inclin. 83° 0'—direct.—L. Euler, mathematician, ob. Sept. 1783 .- Charles Stewart, Pretender, ob. March 3, 1788.

1775 .- Hostilities in America begin at Lexington, April 19—Action at Bunker's hill, June 17.—The Spanish troops land near Algiers, July 8.—St. John's taken by Montgomery, Nov. 2.—The assume of Quebec, Dec. 31.—Dr. Samuel Johnson ob. Dec. 13, 1784.

1776 .- General Howe quits Botton, March 17 .- Congress assumes independence, May 15, and declares it July 4 .- Attack on Charlestown, June 28 .- General Howe lands on Staten island, July 3 .- Battle on Long island, Aug. 27.-New York taken, Sept. 15, and Fort Washington, Nov. 16 .- Rhode island occupied, Dec. 8.—The affair at Trenton, Dec. 26.—Austria granted religious toleration, and abolished torture—also in Poland.

Poland .- Dr. Robert Lowth, bishop of London,

ob. Nov. 1787.

1777 — Ticonderoga taken by general Burgoyne, July 6.—
General Howe embarks his army off Staten island, July
24—and lands in Chefapeak buy, Aug. 30.—Battle
on the Brandywine, Sept. 11.—Philadelphia taken
by the British, Sept. 26.—Battle of German town,
Oct. 4.— General Burgoyne's army surrenders at
Saratoga, Oct. 16.—Monf. Busson, ob. April 16,
1788.

1778.—Treaty between France and the Americans, Feb. 6.—Philadelphia evacuated, June 18.—Action in the Jerfeys, June 28.—Authrians and Pruffians begin hostilities, July 7.—Action at fea between the English and French fleets, July 27.—Siege of Rhode ifland, Aug. 9 and 30.—Pondicherry taken, Oct. 17.—French routed at St. Lucia, Dec. 18.—Americans defeated in Georgia, Dec. 29.—Monf. Diderot, ob.

April 1785.

1779.—Peace between the Imperialifts and Pruffians, May 13.—St. Vincent's taken by the French, June 17.—Grenada taken, July 3.—An engagement between Byron and d'Estaing off Grenada, July 6.—A tremendous eruption of Vefuvius, Aug. 8.—The fiege of Gibraltar begun by the Spaniards in July.—Sir George Collier takes many American veffels in Penobfoot bay,

Aug. 14.

1780.—Sir George Rodney took 22 fail of Spanish ships, Jan. 8.—Engagement with Langara, Jan. 16, near Cape Vincent.—An engagement between the English and French sleets off Martinico, April 17.—Charlestown in America surrendered to the British arms, May 12.—An insurection and riot in London in June.

—Five British East India ships and a large sleet of West India ditto, captured by the combined sleets of France and Spain, in lat. 36° 40°, and long. 15° W. from London, Aug. 9.—Lord Cornwallis gains a signal wictory over the American forces at Cambden, South Carolina, Aug. 16.—Torture abolished in France by cdick, Aug. 25.—A most dreadful hurricane in the Leeward islands, in October.—War declared against Holland, Dec. 20.

1781.—Sir George Rodney and general Vaughan took the island of St. Eustatia, Feb. 3—re-taken, Nov. 17.—Lord Cornwallis defeated the American forces, at Guildford, March 15.—An engagement between the English and Dutch fleets, near the Dogger bank, Aug. 5.—The English army, commanded by Lord Cornwallis, surrendered to the united forces of America

and France, at York town, October 19.

1782.—Minorca furrendered to the Spaniards, Feb. 4.—An engagement between the English and French steets near Trincomale in the East Indies, Feb. 17.—Sir George Rodney defeated the French steet commanded by count de Grasse, off Dominica, April 12.—An engagement between the English and French steets near Trincomale in the East Indies, April 12.—Another engagement near Trincomale in September.—Gibraltar besieged by the Spaniards from 1780 to Sept. 13, of this year, when their sloating batteries were burnt by red-hot ballsfrom the garrison, commanded by general Elliot.—Independence of America admitted N. v. 30.

1783.—Preliminaries of peace between Great Britain, France, and Spain, Jan. 20, and America declared independent.—Armiflice between England and HolA.D.

land, Feb.—Definitive treaty, Sept. 8 .- A dreadful carthquake in Sicily.—Messina, and many other

cities, destroyed, Feb. 5.

1784.—Peace ratified with America, March 24—with Holland, May 24.—First commemoration of Handel, performed in Westminster Abbey by 600 performers, May 26.—Archindchan, in Turkey, destroyed by an carthquake, and 12,000 inhabitants buried in the ruins, July 18.—Printing re-established in Constantinople.—Protestants allowed churches in Hungary.—Crimea fettled by Russia. First bishop in America consecrated Nov. 14.

1785.—The emperor of Germany Suppress 2000 religious houses.—An earthquake in Calabria, April 10.—A fevere frost in Germany, which lasted 115 days.— Inundations in different parts of England, in Sept. and Oct.—A violent storm in France, Aug. 5, which laid waste 131 villages and farms.—New method of making bar-iron from pigsiron invented by Mr. Cort of Gosport, reckoned superior to Swedish iron.—A ferry-boat was lost in passing the Menai, between Carnarvon and Anglesea, and 50 persons drowned,

1786.—Torture abolished in Sweden, by order of the king.
—Cardinal Tourlone, high-inquisitor at Rome, hung on a gibbet 50 feet high.—Droit d'Aubaine abolished in France.—Commercial treaty with France, figned Oct. 29.—An earthquake in Scotland, and different parts of the north of England, Aug. 11.—A plague in the Levant.—Exports from Great Britain amounted to

5,600,0001.

1787 .- Botany-bay fettlement first failed from England, March 21.—A bishop appointed in Nova Scotia by the king of England, Aug. 11.—Banks first begun in the East Indies.—Cotton wool used in English manufactures at this time, valued at 7,500,000l. and weighed 22,000,000lbs. In this manufacture there were in England and Scotland 163 water-mills, 550 mule-jennies of 50 spindles each, and 20,070 handjennies of 80 spindles each. See Cotton manufacture. -Exports from Great Britain amounted in this year to 5,700,000l .- Earthquake in Mexico, and other parts of New Spain, April 18 .- Amtterdam taken possession of by Prussia, Oct. 9 .- Agreement between France and England to difarm, Oct. 9 .- Conteil between the king of France and parliament begins .- Fire dettroyed one fourth of Christiana in Denmark, April 9, to the value of 100,000 rix dollars .- Export of woollen cloth from Great Britain in this year amounted to the value of 3,687,7951. 128. 2d.—An inundation from the Liffey in Ireland, Nov. 12, which did very confiderable damage in Dublin and its environs.

1788.—War between the Turks, Germans, and Russians.

—Treaty between Great Britain and Russia, Jan. 13.

—Life-guards and horfe-guards disbanded by the English government, May 26.—Stadtholdership guaranteed to the prince of Orange by the United States of Holland, June 27.—Russia declares war against Sweden, June 30.—Choezim taken, Sept. 29.—Inundation at Kirkwald in Scotland, by the irruption of the dam-dykes, Oct. 4, which nearly deltroyed the town.—French notables affembled, Nov. 6.—Oczakow taken, Dec. 17.—Animal magnetism introduced in France, and foon exploded—and in the following year introduced into England.—Formosa, in the Chinese sea, shakes off the Chinese yoke, when 10,000 chinese were massistered.

maffacred, and the rest driven into the woods? and

rocks of the island.

1789.-Infurrections in France, March.-States-general of France convened, May 5 .- French attempt to invade Ireland in January, when their forces were dispersed by a florm in Bantry bay .- Nobility in France renounced their pecuniary privileges, May 23 .- The French king makes concessions, June 28 .- Revolution in France, July 3—and declared a republic.—Bath. at Paris destroyed, July 14.—Infurrection in Brabant, Aug. 10 .- Bender taken, Oct. 8 .- Ghent furrendered, Nov, 23-and Bruffels, Dcc. 12 .- Nootka, in the N.W. of America, fettled by the English .- Earthquake at Bergo-di-fan-Sapoloro, in Tufcany, Sept. 20, which deltroyed the cathedral, bishop's palace, with the adjacent town of Castello, &c.; and Borgo had 150 houses destroyed, and 30 houses, &c. swallowed up by an opening of the earth .- An inundation in Scotland, and the north of England, in July .-Sunday-schools first established in Yorkshire in 1784, became about this time general in England and Scotland.—At Corfu, a magazine of gunpowder and bomb-shells blew up, and killed 180 men, March

\$700.-Affignats first issued in France, April 17 .- New confederation at Paris commemorated, July 14, in the field of Mars .- Religious houles suppressed by the national affembly in France, amounting to 4,500 .-Titles of honour abolished in France by the national affembly .- Canal of Bourbon, between the Oife and Paris, is begun. See Canal.—Earthquake in West-moreland, at Arnside, March 6.—Inundation of the river Don, near Doncaster, and the Derwent and Trent,

Nov. 20.

1791 .- Riot in Birmingham, July 14, in which feveral houses and meetings were destroyed, on occasion of the commemoration of the French revolution, by a few perfons affembled at a tavern for that purpose.-The king, queen, and royal family, of France attempted to escape out of the kingdom, but were detained by force, June 21, and brought back prisoners to Paris; fanctioned the national conflitution, Sept. 15 .- Infurrection of the negroes at St. Domingo, amounting to 35,000, against the whites, of whom above 300 were massacred, in September; again in 1794.-Protestants permitted to have churches in France.-Bangalore in the East Indies taken by earl Cornwallis.—Battle of Seringapatam —The Auftrians defeat the French near Mous, April 30.—At Confantinople 32,000 houses were deltroyed between March and July .- Earthquake in Scotland, in October -in Sicily and Calabria, October-at Lifbon, Nov. 27-at Zant, in the Adriatic, Dec. 2 .- Avignon declared by the national affembly to belong to France. -Washington city in America founded.-Roman Catholics relieved in England by an act passed in 1776 and this year.

2792 .- The title of citizen only allowed in France .- France declared itself a republic. The king of France at- 1794. Insurrection of the negroes at St. Domingo. tended on the national affembly, and renounced the fovereignty, Aug. 10, when he was compelled to claim their protection, and they fent him to the Temple, where he was confined as a prisoner, separate from the queen, &c .- Battle of Seringapatam, in which Tippoo was reduced by earl Cornwallis. The Austrians defeated at Longwy, Aug. 14 .- The

French defeated at Grand-pre, Sept. 10 .- Battle of Valory between the French and Austrians, Sept. 20-of Menehould between the Prussians and French, Oct. 2-of Condé, Oct. 2-of Hanau, Oct. 27-of Boffu, Nov. 4.-of Jemappe, Nov. 6, when Dumourier entered Brabant-of Arderlecht, Nov. 13-of Thirlemont, Nov. 17-of Varoux, Nov. 27-Flanders over-run by the French this year, and in 1794,

acrewards declared part of that republic.-Liege taken by the French .- Fire at Constantinople, Sept. which deftroyed 7000 houses .- Earthquake in the counties of Bedford, Leicelter, Lincoln, Nottingham, &c. March 2 .- The cultom-house at Seville destroyed by fire, May 7, with 40,000l. damage.
—Sheffield cotton manufactory, valued at 45,000l., destroyed by fire, Feb. 9 .- Leopold, emperor of Germany, poiloned, March 1 .- King of Sweden affaffinated, March 16 .- The lake of Harentoren, in the county of Kerry, Ireland, a mile in circuit, funk into the ground with all its fish, March 25.

1793.—Dumourier, French general, seized the commissioners from the national convention, and quitted the army, April 2 .- Holland invaded by the French. -French king brought to trial, Jan. 19, condemned, Jan. 20, and put to death, Jan. 12 .- Queen beheaded, Oct. 16.—War with France by the English, Prussians, Austrians, Sardinians, and Italian states.—Toulon taken by admiral Hood. - Battle of Hockheim, between the Austrians and French, Jan. 7-of Aldenhoven, Feb. 28-of Aix-la-Chapelle, Jan. 15-of Tongres, March 4-of Jurvienden, near Thirlemont, March 18-of Thirlemont, March 19-of Lovaine, or the Iron mountain, March 22-of Coblentz, April 1-of Cassel, April 7-of Tournay, between the Austrians and English, and the French, May 8-of St. Amand and Maulde, May 10-of Valennes, between the allies and French, May 23-of Manheim, May 30-of Furnes, between the Dutch and French, June 21, and between the Austrians and French, June 26-of Villiers, July 18-of Cambray, or Cæfar's camp, Aug. 9-of Lincelles, Aug. 18-of Furnes, Aug. 21-of Rexmond, Aug. 29-of Dunkirk, between the English and French, Sept 7of Quesnoy, Sept. 11 - of Limbach, between the Austrians and French, Sept. 12-of Menin, Sept. 15-of Toulon, between the English and French, Oct. 1-of Weissenburgh, between the Austrians and French, Oct. 14-of Maubeuge, between the allies and the French, Oct. 16-of Birlemont, Oct. 16-of Orchies, Oct. 20-of Wanzenaw, Oct. 25 -of Landau, Nov. 29-of Toulon, when it furrendered to the French, Nov. 19-of Lebach, Nov. 27of Rouhllon, between the Spaniards and French, Dec. 11-of Perpignan, Dec. 20 .- Ypres furrendered to the French, under Moreau, June 17 .- Earthquake at Domingo, April-at Shaftesbury and Salisbury, Sept. 29 .- A piece of land in Finland, 4000 square ells in extent, funk 15 fathoms in Feb.

Slave trade abolished by the French convention, Feb. 4.-Aix-la-Chapelle taken by the French, Sept. 21. -Antwerp taken in 1792, and also this year. July 24.—Battle of Oppenheim, allies and French, Jan. 8 of Waterloo, Jan. 23-of Werwick, March 1-of Bayonne, Spaniards and French, March 10-of Perle. allies and French, March 22-of Cateau, March 28-of

Cracow, Russians and Poles, April 4-of Durkheim, ailies and French, April 5-of Piedmont, Sardinians and French, April 6-of Crombeck, allies and French, April 14-of Arlon, April 17-of Warfaw, Ruffians and Poles, April 21-of Landrecy, allies and French, April 24-of Cambray, English and French, April 24 -of Cateau, April 26-of Courtray, allies and French, April 29-of O.tend. May 5-of Montesquan, Spaniards and French, May 1-of Aott, --French, May 2-of Storgia, May 8-of Tournay, English and French, May 18-of Bouillon, allies and French-of Tournay, May 22-of Lautern, May 23 of Lithuania, Ruffians and Poles, June 3-of Piliczke-of Barcelona, Spaniards and French, June 14 -of Charleroi, Dutch and French, June 17-of Cracow, Pruffians and Poles-of Aoft, Sardinians and French, June 26-of Puycerda, Spaniards and French, June 26—of Blonie, Ruffians and Poles, July 7—of Manheim, allies and French, July 12—of Dorbilos, Pruffians and Poles, July 19-of Fontarabia, Spaniards and French, Aug. 2-of Zogre, Pruffians and Poles, 'Aug. 22-of Bellegarde, Spaniards and French, Aug. 26-of valley of Leira, Sept. 8-of Maestricht, allies and French, Sept. 18-of Clermont, Sept. 20-of Piedmont, Sept. 23-of Posnania, Prussians and Poles, Sept. 24-of Kophir Bazfee, Ruffians and Poles, Sept. 25-of Milan, Sardinians and French, Sept. 31 of Emmerick, allies and French, Oct. 2-of Warfaw, in which the Poles are totally defeated by the Prussians, &c. Oct. 12—of Druten, English and French, Oct. 20-of Pampeluna, Spaniards and French, Oct. 28-of Nimeguen, allies and French, Nov. 4-of Sendomir, Poles and Pruffians, &c. Nov. 16-of Navarre, Spaniards and French, Nov. 25-of Mentz, allies and French, Dec. 1.—Bergen-op-Zoom, taken by the French .- Bois le duc taken .- Breda taken .- Bruffels taken .- Charleroi furrenders to the French, June 26. -Cleves taken by the French .- Landrecy furrenders to the French, July 15 .- St. Lucia taken by the English .- Maestricht taken by the French, Nov. 4 .-Namur taken by the French, July 13 .- Treves taken by the French.-Telegraphs, invented in 1687, put into practice by the French this year, and by the English Jan. 23, 1796 .- Sea fight June 1, in which lord Howe totally defeated the French fleet, took fix Thips of war, and funk feveral. - Craton furrendered to the Prussians, June 15 .- Dieppe laid in ashes by the English, July 14 .- Martinico taken from the French, March 23 .- Earthquake in Turkey, July 3, which dethroyed three towns containing 10,000 inhabitants—also near Naples, June 13, which almost destroyed the city of Torre-del-Greco.—Copenhagen had its royal palace, &c. destroyed by fire, Feb. 26, to the amount of 4,500,000/. fterling; above 100 persons lost their lives. - At Grenelle, near Paris, an explosion of feveral buildings, Sept. 3.

powder-mills proved fatal to 3000 persons, and destroyed 1705 .- Louis XVII. of France died in prison, June S, and the princefs Maria Therefa Charlotte was delivered up in exchange for deputies, Dec. 26 .- Amtterdam taken possession of by the French, Jan. 18 .- Stadtholder and family obliged to quit Holland, when the French took possession of the United States, Jan. 21, and retired to England. - Warren Haltings, after 7 years trial, acquitted April 23 .- Battle on the Waal, allies and French, Jan. 11-of Nantes, Chouans and re-VOL. VII.

publicans, Jan. 13-of Catalonia, March 5-of Neve Muniter, March 5 and 18—of Figura, when the Span ards were defeated, April 5—of Piedmont, when the Piedmontele were defeated, April 12—of Pontas in Catalonia, when the French were defeated, June 14-of Piedmont, when the French were defeated, June 24, 27, and July 1-of Pampeluna, when the French were defeated, July 9-of Bilboa, when the Spaniards were defeated, July 17-of Quiberon, the emigrants defeated, July 21-of Urutia, the French defeated, July 30-of Vittoria, the Spaniards defeated, Aug. 14-of Piedmont, the Austrians defeated, Aug. 20-of La Pietra, the French defeated, Aug. 31on the Lahn, ditto, Sept. 19—of Muhleim, the Auftrians defeated, Sept. 23—of Piedmont, the French defeated, OA. 1—on the Mayne, the French defeated, Oct. 11-of Mentz, the French defeated, Oct. 29of Worms, ditto, Nov. 8-of Môfeile, ditto, Nov. 22 -of Deux Ponts, ditto, Nov. 28-of Alfentz, ditto, Dec. 8 .- Breda taken by the French .- Brief feized by them in January .- Cape of Good Hope taken by the English in June, and again in 1806 .- Dort taken by the French, Jan. 10 .- Dusseldorp surrendered to the French, Sept. 6 .- I rankendal re-taken from the French, Nov. 12 .- Luxembourg furrendered to the French, after a fevere fiege, June 7. - Malacca furrendered to the English, Aug. 17. - Manheim re-taken by the Austrians, Nov. 23, with 10,338 prisoners and 4 generals, &c .- St. Maccou illes taken by Sir Sidney Smith, in July .- Sir Edward Pellew took 15 fail, and burned 7, out of a fleet of 35 fail of transports, March 8 .- The French fleet defeated, and two ships of war taken by admiral Hotham, March 14 .- Admiral Cornwallis took 8 transports under convoy of 3 French men of war, June 7 .- II Dutch East Indiamen were taken by the Sceptre man of war and fome armed Indiamen. June 19 .- The French fleet defeated by lord Bridport, June 25, and 3 ships of war taken near L'Orient .-Sierra Leone nearly destroyed by a French frigate .-Trincomale in Ceylon taken by the English .- Utrecht furrendered to the French, Jan. 18 .- The fovereignty of Poland dissolved, and the kingdom divided between Russia, Austria, and Prussia, Nov. 25, and the king retired on a pension of 200,000 ducats. - Peace between Prussia and France-also between France and Spain .- 7000 houses deltroyed by fire at Constantinople, August .- The arfenal, admiralty, &c. with near 50 threets, containing 1363 houses, in Copenhagen, were destroyed by fire, June 5 .- A dreadful cruption of Mount Vesuvius.

1796.—Subscription loan to government for 18 millions for carrying on the war against France was filled in lefs than 10 hours, Dec. 5.—Bamberg taken by the French, Aug. 4.—Battle of Piedmont, the Sardinians totally defeated by the French, April 14-of Lodi, between the French and Austrians, May 11-of Mantua, May 29-of Wetzlaer, French defeated, June 4-near Kirpen, French under Jourdan, defeated by general Kray, June 20 -Austrians defeated by Jourdan, July 6 -Archduke repulfed by the French, July S .- Siege of Mantua raifed, July 23. - Auftrians defeated by Jourdan, Aug. 11 .- Jourdan defeated by the archduke near Nuremberg, Aug. 18 .- French defeated by the Austrians, near Neuwied and Amberg, Aug 24 --Jourdan defeated near Munich, Sept. 11-near Limberg, Sept. 18; and at Ishy on the Leck, Sept. 19. 5 M

-Bengau on the Danube taken by the French, August 17 .- Bonaparte seized Egypt, July 1 .- Calvi, in Corfica, furrendered to the French .- Columbo, in Ceylon, furrendered to the English, June 12 .- Con-Stance feized by the French, Aug. 2 .- Corfica quitted by the English .- Demerara, &c. surrendered to the English, April 23; and again Sept. 23, 1803 .- Isle of Elba, near Leghorn, taken possession of by the English, July 6; and relinquished in 1797.—Florence taken possession of by the French in July, and in March 20, 1799, and evacuated in July 18 following. - Frankfort frized by the French in July .- Goza, near Malta, furrendered to the French, June 11, but taken by the English for the Neapolitans, in Nov. following .- Milan feized by the French, May 18 .-Minorca furrendered to the English, Nov. 14 .- Munich taken by the French, Aug. 25.—Nuremberg feized by the French, July 9, and by the Austrians in the following August .- Trent taken by the French. -The Dutch fleet under admiral Lucas, in Saldanna bay, Africa, confifting of 5 men of war and feveral frigates, furrendered to fir George Keith Elphin-flone, Aug. 19.—Infurrection at St. Vincent's fupproffed.—Peace between France and Naples—the French and Sardinians—England and Spain.—Amboyna feized by the English, Nov. 28 .- Telegraphs

used in England. 1707 .- Bank of England declined paying their notes in specie, except the fractional parts, Feb. 25-iffued 20-shilling notes and dollars, in payment, March 6 -and called in the dollars in the following October. -Ireland invaded by the French.-Mutiny on board the fleet at Portsmouth for advance of wages, &c. April 18, which subfided May 10, when an act passed to raife their wages, and the king pardoned the mu-tineers.-Another mutiny at the Nore, which, after blocking up the trade of the Thames, subfided June 10, when feveral of the mutineers were executed .-Penny and two-penny pieces of copper first iffued in England, June 26-a die of a reduced fize was cut for them in 1806 .- Revolution in Venice, May 17 .-Battle between the Austrians and Bonaparte, in Italy, Jan. 19 and 27, when the Austrians were defeated .-Bonaparte defeated the archduke, April 1 .- The Auftrians again defeated on the Upper Rhine, May 7, when the French took Frankfort, Kehl, &c .- The English relinquish the isle of Elba.—The French in-vade South Wales without success, Feb. 22.—Ireland put under martial law, May 19.—The Spanish sleet defeated by sir J. Jervis, and 4 line of battle ships taken, Feb. 14.—The Dutch sleet defeated by admiral Duncan, on the coast of Holland, when their 2 admirals and 15 ships of war were captured or destroyed, Och. FI .- Trinidad taken by the English with 4 ships of the line. - Trieft feized by the French, but retaken by the Austrians, April 14 .- Verona taken by the French, and great part destroyed by fire, April 28 .- Venice feized, and their republic abolished by the French, and soon after part of their territories seized by the Austrians, and furrendered to them by the French .- Seditious focieties and reading-rooms suppressed by an act of parliament, June 21 .- Seven-shilling pieces were issued in England in December of this year.—
The total exports of British manufacture in this year amounted to 29,217,0411., and in the next year, 1798, to 34 millions. - Newspapers first published at Constan-

tinople this year .- An earthquake at Sumatra did great damage, and above 300 persons perished, Feb. 20 .- The whole country between Santa Féé and Panama destroyed by an earthquake, including the cities of Cuzco and Quito, with 40,000 inhabitants, in February .- In the same month several violent shocks were felt in the West Indies.—St. Domingo declared itself independent, in January.—Tyrol seized by the Freuch. - Loretto pilaged by a French army, and the Madona fent to Paris, Feb. 6.

1798 .- Louis XVIII. retired to Peterfourgh, and was alfion of the city, Feb. 26, and Rome declared itself inand he died their prisoner in Sept. 1799.—Alexandria in Egypt taken by the French.—Alessandria in Italy frized by the French, and furrendered to the Austrians end Ruffians, July 24, 1799.—Malta taken by the French, July 11.—The Swifs troops totally defeated by the French, and their independency abolished, Sept. 19 .- Battle between the Irish rebels and the king's forces, at Kilculien, May 22-and at feveral other places, in all which the infurgents were defeated -in Connaught where the French sided the Irish rebels, they were all taken prisoners, Sept. 7 .- The basons, gates, and fluices of the canal at Bruges, destroyed by the English, May 19. - Genoa seized by the French, who were repulsed, Aug. 17, 1799taken by the English and Austrians in May 1820, and surrendered to the French in the following July. -The French invaded Ireland, and landed at Killala bay, Aug. 22, 1500 men, who furrendered themselves prisoners on Sept. 7 following.—Marcou isles defended against the French troops, May 7.—Piedmont furrendered to the French, Dec. 6-recovered in 1799. -The French fleet of 17 ships of war, totally defeated, and 9 of them taken, by fir Horatio Nelfon, Aug. 1, near the Nile in Egypt .- The French off the coast of Ireland, confilting of 9 ships, by fir J. B. Warren, Oct. 12, when he took 5 of them.—War between France, Naples, and Eardinia, Nov.—Earthquake at Sienna in Italy, when 50 persons lost their lives, May 25 .- Voluntary contributions for the support of government against the French invasion amounted to upwards of 21 millions - besides 139,3321. 15s. 2d. remitted from Bengal.

1799.-Coin in circulation in England, 44,000,0001.-Corfica, which put itself under the protection of England. in June 1794, and in Nov. 1798, relinquished this year. -Ancona taken possession of by the French in July 1796, and furrendered to the Imperialists, Nov. 13, this year .- Battle near Naples between the French and Neapolitans, Jan. 18 .- The archduke Charles totally defeated the French, and took 2000 prisoners, March 14 and 26, near Stockach. The French defeated near Verona, March 5, 25, and 26; and again 30, and April 5 .- The French defeated by the Austrians, April 19 and 20, near Cremona—by the Russians near Milan, April 27, 11,000 killed and taken prisoners—near Cassano, April 27. - Bonaparte repulsed at Acre by the Turks and sir Sidney Smith, April 16-defeated near the Adda, March 26, 31, and May 5-defeated by Suwarrow near Alessandria, May 17-defeated at Zurich, with the loss of 4000 men, June 4-by Suwarrow, June 19, when the French loft 18,268 men, 7 can-

non, and 8 flandards .- Tippo Saib defeated and flain near Periapatam in the East Indies by the English forces, May 4 .- The Austrians defeated near Coire by general Maffena, May 7 .- The archduke defeated Jourdan, April 2 .- General Kray defeated general Scherer, commanding the French in Italy, April 18 .-Suwarrow defeated the French in forcing the passage of the Adda, May 23 .- Bonaparte defeated before Acre by fir Sidney Smith, May 27 .- The French defeated at Naples by cardinal Ruffo, June 5 .- Suwarrow defeated Macdonald near Parma, with the loss of 10,000 men, and four generals, July 12 .- Suwarrow defeated general Moreau, July 18.—Suwarrow defeated general Joubert, who was killed, Aug. 15, at Novi, with 10,000 killed, 400 prisoners, and the whole artillery .- The French defeated near Tranto, June 19, near Manheim, Aug. 12.—The Imperialists deseated near Zurich, Sept. 21.—The French deseated near Mendovi, Nov. 6—near Philipsburg, with the loss, on the fide of the French, of 4,000 men, Dec. 3near Coni, which place furrendered to the Austrians, Dec. 4 .- The Austrians defeated near Genoa, and lost 3000 men, Dec. 12 .- Corfu, which had been feized by the French in 1797, was taken by the Russians, March 3 .- St. Elmo furrendered to the royal troops of Naples, July 12 .- Capua furrendered to the allies, July 26 .- Ceva and Cazale abandoned by the French, June 15 .- Mantua, which furrendered to the French, Feb. 1, 1797, retaken July 28, by the Russians and Austrians, after a long siege.-Naples taken possession of by the French, June 21; retaken by cardinal Russo, July 10, and again possessed by the French, April 8, 1801 .- The Dutch fleet in the Texel furrendered to admiral Mitchell, on his taking the Helder, Aug. 29 .- Tortona taken by the French, July 5, abandoned, July 20, and furrendered to the Imperialists, Aug. 11 .- Turin taken by the French, Dec. 6, 1798, furrendered to the Auftrians and Ruffians in June following, and the citadel, May 17.—Urbino, in Italy, furrendered to the Auftrians, July 10 .- Holland invaded by the English, Aug. 27-abandoned by a convention, Oct. 19 .- Printingpresses in England licensed, July 12.

1800 .- Bonaparte's life attempted by an explosion of combustibles, Dec. 24 .- Union of Great Britain with Ireland debated .- Battle of Novi, Austrians and French, Jan. 8-of Savona, in Italy, April 8-of Veragio, -April 10, the French defeated-of Stockach, May 1, the Austrians defeated-of Moskirch, May 3, dittoof Rifs, May o, Austrians lost 500 men-of Broni, June 10, which gave the French possession of Italy from Milan to Placentia-of Marengo, 6000 Austrians killed, 8000 prifoners, and 45 pieces of cannon taken, June 21-of Hohenlinden, Austrians defeated, Nov. 3-on the Mincio, Dec. 25, Austrians defeated .-Genoa taken by the English and Austrians in May, and furrendered to the French in July following. Tufcany feized by the French .- Union act for Ireland passed, July 2, and took place Jan. 1, 1801 .- Batavia taken by the English, Sept. 12 .- Earthquake at Constantinople, Oct. 24, which destroyed the royal palace, and many buildings .- Curaçoa taken by the English, Sept. 14 .- Inundation at St. Domingo, in October, which deltroyed 1400 persons-Gold mine

discovered at Waterford in Ireland. 1801 .- Union with Ireland carried into effect, Jan. 1.

-Aboukis in Egypt furrendered to the English forces March 18 .- Battle of Rhamonia in Egypt, French defeated by the English, March 21 .- Cairo taken by the English and Turks from the French, June 21 .- The island of Madeira taken by the English, July 25.-Naples possessed by the French, April 8.- The Danish fleet of 28 fail taken and deftroyed by Lord Nelfon off Copenhagen, Sept. 2, and Copenhagen bombarded. -An engagement between the French and English in the bay of Gibraltar, when the Hannibal of 74 guns was loft, July 5 .- The French fleet defeated near Cadiz, July 16, two French 74's burnt and one taken .-Ternate in the East Indies captured by the English, June 21 .- Peace between Austria and France, Feb. 9 .- War between Spain and Portugal, Feb. 28 .-Peace between Naples and France, March-between Portugal and Spain, June 10-between France and Portugal, Sept. 29 .- Alexandria in Egypt taken by the English, Aug. 22 .- War between France and the Porte, Oct. 17 .- St. Bartholomew, in the West Indies, taken from the Danes by the English, March 20 .-The first imperial parliament in England in January. -An inundation on the coast of Holland and Germany in November .- Armed neutrality of the northern powers against England, by the empress of Russia, commenced in 1780, and was renewed in 1800, disfolved by a British fleet in this year .- St. Martin's, a Danish island in the West Indies, taken by the English, March 24.-Porter raised 2d. per gallon, Jan. 10, 1762, and again this year.

1802. Sir Ralph Abercromby, commanding the British army in Egypt, completely repulfed the French forces before Alexandria in Egypt, March 21-the brave general was wounded in this contest, which terminated fo honourably to himself and the army, and died a few days after, univerfally lamented .-Peace between England, France, Spain, and Holland, March 27 .- First stone of the London Docks in Wapping laid, June 26.—West India Docks, in the Isle of Dogs, opened Aug. 21.—An earthquake nearly destroyed Crema, in Upper Hungary, June 12. -An inundation in Dublin and parts adjacent, Dec. 2 and 3 .- Stockholm nearly destroyed by fire in June 1795, and again Nov. 15 this year .- Statdholderate of Holland, &c. renounced by the prince of Orange, in a formal treaty with France, July .- Life-boats invented by Mr. Greathead, who received a premium from parliament in May.

1803 .- Prisoners of war, all the persons who happened to be in France at the commencement of the war, detained, contrary to the usage of nations, in May .- Bonaparte offers fums to Louis XVIII. on condition of his relinquishing the crown in his favour, Feb. 26 .- Goree restored to the French :- War between England and France.-Battle in the East Indies, between Scindiah and the English, the former defeated, Aug. 11.— Domerara surrendered to the English, Sep. 23.— Lubec taken by the French, June.—Tobago taken by the English, June 30 .- Hanover taken by the French, June 14 .- A very bright meteor, which illuminated the atmosphere almost a minute, and rendered legible the writing on the figns in London, a patt S in the evening, Nov. 18.

1804 .- France formed into an empire May 5, and Bonaparte, a Corfican of moan extraction, crowned emperor December 2 following .- A fleet of India ships under the com-5 M 2

mand of Capt. Dance beat off a fquadron of French men of war, Feb. 15.—The celebrated boring machine in the iron foundery at Hanover, valued at 2,000,000 crowns, earried away by the French, Jan.—Goree taken by the English, March 9.—Poor-rate in England eltimated, including donations, at near 4 millions.—Earthquake in Holland, fo violent as to cause the chandeliers in Maassin church to vibrate two or three feet, Jan.—The present emperor of Germany affumed the title of emperor of Austria, Aug. 11.—War between England and Spain, Dec. 14.

1805. - War between England and Spain .- Letters of marque and reprifal islued against Spain, Jan. 11.
—The London Wet Docks at Wapping opened Jan. 31 .- A French fquadron from Rochfort levied contributions on some of the West India islands, Feb. 21 .- A French squadron, confilling of the Marengo of 80 guns, admiral Linois, and two throng frigates, beaten off by the Centurion of 50 guns, in Vizagapatam road in the East Indies .- Bonaparte assumes the title of king of Italy, March 18 .- Battle of Bhurtpore in the East Indies, Jeswunt Rao Holkar deseated by the English, April 2 .- A change in the Dutch constitution, and Schimmelpenninck placed at the head of the government, under the title of Penfionary, May 1 .-- The Genoefe fenate decree the union of the Ligurian republic with France, May 25.—Lord Melville impeached, June 26.—Sir Sidney Smith attempted to burn the Boulogne flotilla with the fire machines called carcaffes, Aug. 31 .- Treaty of offence and defence made between France and Naples at Paris, and ratified at Portici, Oct. S .- Marquis Cornwallis dies at Ghauzepore in the province of Benares, Oct. 5, æt. 67 .- Battle of Guntzburg, French and Austrians, the former victorious, Oct. 2-of Uim, French and Austrians, the latter taken prisoners, Oct. 19, and Ulm surrendered by general Mack with 30,000 men -- of Moelk, the Austrians beaten, Nov. 10 - of Loeben, Austrians repulfed, Nov. 13—of Diernstein, Austrians and French, former defeated, Nov. 14.—Vienna taken by the French, Nov. 13.—The imperial palace of Shoenbrunn taken by the French, Nov. 14 .- Presburg taken by the French, Nov. 15 .- Battle of Tinterdorff, Auftrians and Ruffians against the French, former beaten, Nov. 16-of Austerlitz, French against the Austrians and Ruffians, French victorious, Dec. 2 .- Sir Robert Calder, with 15 fail of the line, fell in, off Ferrol, with the combined fleets of the enemy, confilling of 20 fail of the line, and after an action of more than 4 hours, captured two fail, both Spanish ships. - French and Spanish combined fleets engaged by Lord Nelson off Cape Trafalgar, Oct. 21, and after a dreadful conflict of 4 hours, the gallant admiral took, funk or destroyed, 19 fail, made the French commander in chief, admiral Villeneuve, and two Spanish admirals priloners; one Spar ish admiral was killed, and another badly wounded. The British force consisted of 27 fail of the line (in cluding three 64's). The enemy had 33 fail of the line, 13 French and 15 Spanish. The much-lamented Nelson, whose flag was hoisted on board the Victory, fell at the close of the engagement, and was succeeded by rearadmiral (now lord) Collingwood .- French fleet engaged off Cape Ortegal by Sir R. Strachan, Nov. 4, who captured 4 French fail of the line .- Treaty of peace between France and Austria figned at Presburg, Dec. 27.-Treaty of peace with Scindiah in the East

A.D.

Indies, concluded by general Lake, Nov. 22.—Peace concluded with Holkar, Dec. 24.—An carthquake at Eifenhartz in Styria, July 24.—An earthquake at Naples and in the adjacent towns and country, to a confiderable extent, so lowed by the loss of 20,000 lives, and a damage cflimated at 240 millions of francs, July 26.—A flock felt in many parts of Rome, July

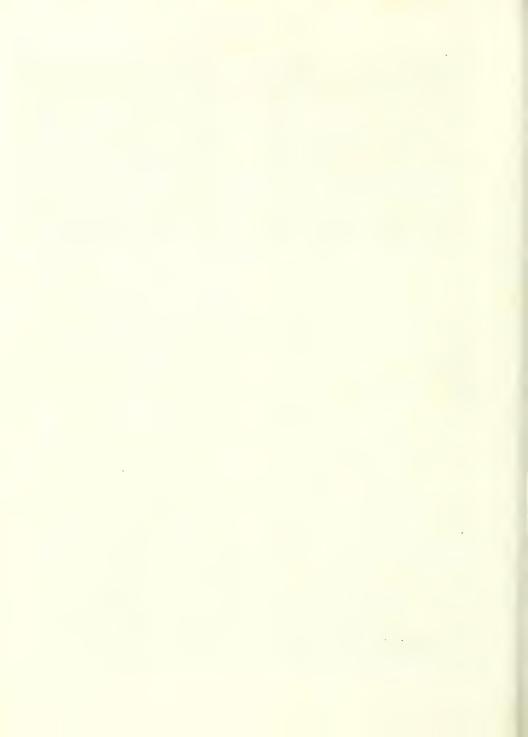
1806 .- The remains of lord Nelson, after a grand funeral procession, solemuly interred in St. Paul's cathedral, Jan. o -Admiral Duckworth captured and destroyed 5 French fail of the line in the bay of St. Domingo, an 80 gun ship and two 74's taken, a three-decker and a 74 driven ashore and burnt .- Public funeral of the Right Hon. Wm. Pitt, (who died Jan. 23,) Feb. 22 .-French fquadron, confifting of the Marengo, rear-admiral Linois, and the Belle Poule of 40 guns, captured, on their return from India, by Sir J. B. Warren, March 13. -Prince of Orange died, April 22. The proceedings on the impeachment of lord Melville commenced in Westminster-hall. April 29 .- The island of Capritaken by Sir Sidney Smith, April 22 .- Holland erected into a kingdom, and Louis Bonaparte, the French emperor's brother, proclaimed king of it, by Bonaparte, with great ceremony at St. Cloud, Paris, June 5.-A reformion to take effectual measures for abolithing the flave trade adopted, on the motion of Mr. Fox, by the house of commons, June 10 .- A fimilar resolution adopted, on the motion of lord Grenville, in the house of lords, June 24 .- Lord Melville's trial terminated, June 12his lordship being acquitted by the peers. - The brilliant victory of Maida, in Calabria, obtained by fir John Stuart, at the head of about 5000 British troops, over general Regnier, who commanded an army of more than 8000 French .- A treaty figned at Paris, between France on the one hand, and Bavaria, Wirtemberg, Baden, and feveral fmailer German states on the other. by which the latter renounced their connection with the empire, and under the name of the " Confederation of the Rhine," placed themselves under the protection of France, July 12 .- Gæta furrenders to the French army, July 13 .- A treaty of peace between France and Russia, signed at Paris on the part of the latter power by M. d'Oubril, July 20 - refused to be ratified by the emperor of Russia, with the advice of his council, Aug. 13 .- Surrender of Buenos Ayres and its dependencies to major general Beresford and fir Home Popham, July 28 .- In confequence of the confederation of the Rhine, Francis II. published his refignation of the office of emperor of Germany, which diffolved that ancient confliction, Aug. 7.—Brilliant naval achievement by his majesty's ships Arcthusa and Anson, in an attack on the enemy near Moro caltle in the island of Cuba; the Spanish frigate Pomona, of 38 guns and 347 men, being captured; twelve 24-pounder gun-boats being destroyed, each having a crew of 100 men, and the fort, mounting fixteen 36-pounders, blown up .- A manifesto against the French government, published by the emperor of Russia, at Petersburg, Aug. 30 .- A tremendous hurricane at Dominica and Martinico, which did great damage to the islands, and destroyed many of the inhabitants, Sept. 9 .- The Right Hon. Charles James Fox died, Sept. 13-and after a grand and impressive procession, his remains were deposited in Westminster Abbey, Oct. 10 .- Sir Samuel Hood, having under his command

command the Centaur and Monarch, fell in with a French (quadron, confifting of five frigates and two brigs from Rochefort, and captured four of the frigates, but loft his right arm in the action .- Hostilities commenced between the French and Pruffians, by a fkir-mish near the bridge of Saalfeld, in which prince Ferdinand Louis of Pruffia, who defended that bridge, was killed, Oct. 10.-A general action took place near Jena between the French and Pruffians, in which the latter were defeated with immense loss, and the consequences of which were the almost complete annihilation of the army of the king of Pruffia, and the occupation of almost the whole of his dominions by the enemy, Oct. 14 .- Defeat, and furrender of the corps of the Pruffian army, under prince Hohenloe, to the French divifion, commanded by Murat, Och. 21; foon after which the French' gained possession of Stettin and Cuffrin .- A proclamation addressed to the Poles from the French head-quarters, announcing the advance of the French army to Poland, and promiting, in the name of Bonaparte, to render that country indeA.D.

pendent, if the people would fliew themselves worthy of becoming a nation, Nov. 3 .- The electors of Saxony and Hesse acceded to the confederation of the Rhine, Nov. 5 .- The Pruffian corps commanded by general Blucher, after a brave and skilful retreat, maintained against the three divisions of Bernadotte, Soult, and Murat, was attacked near Lubeck by a much fuperior force, and obliged to capitulate, Nov. 7.- The Magdeburg furrendered to the French, Nov. 7.- The duke of Brunswick died at Ottenson, near Altona, in confequence of a wound received in the battle of Jena, Nov. 9 .- General Davoust, with a French corps, enters Pofen, Dec. 2 .- Louis, king of Holland, issues a decree for enforcing Bonaparte's pretended blockade of the British ifles through all the countries occupied by the Dutch troops, December 2. - The French cross the Viltula, and occupy Praga, December 5. - Surrender of Thorn, Grandentz. Warfaw, &c .- Proclamation of the independence of Poland .- War between Ruffia and the Porte.

END OF VOL. VII.

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